

*Fiscal Year 2021*  
Cooperative Funding Initiative Applications  
**Southern Region**

Southwest Florida  
Water Management District





## Coop Funding By Region For FY2021

### Southern Region

<b>Project</b>	<b>Project Name</b>	<b>Project Cost</b>
N823	AWS - PRMRWSA Regional Loop System Phase 3B	\$16,700,000
N842	DAR - City of Bradenton Aquifer Protection Recharge Well	\$5,050,000
N854	Partially Treated Water Aquifer Storage and Recovery	\$7,755,000
Q050	ASR - City of Venice Reclaimed Water ASR	\$5,240,000
Q139	City of North Port Utilities Direct Potable Reuse Feasibility Study	\$250,000
Q141	Bowlees Creek Flood Mitigation	\$559,410
Q143	Anna Maria stormwater Improvement - Phase K	\$600,000
Q145	Conservation - The Resort at Longboat Key - Intelligent Controlled Irrigation System	\$1,884,348
Q148	Cow Pen Slough	\$540,000
Q151	South County Watershed	\$1,488,000
Q153	Pearce Drain Gap Creek Water Quality Plan	\$110,000
Q154	Sarasota County Groundwater Denitrification Study	\$300,000
Q157	City of Bradenton Village of the Arts South Drainage Improvements from 13th Ave. W. to 17th Ave. W.	\$2,340,000
Q159	Bee Ridge Water Reclamation Facility Floridan Aquifer Recharge Wells MIA Recovery Project	\$10,000,000
Q160	Honore Ave. Alternative Water Supply - Reclaimed Main Extension	\$3,000,000
Q165	Desoto County 760A Chemical Feed System	\$209,900
Q168	Manatee County Toilet Rebate Project, Phase 14	\$2,498,582
Q179	Conservation – City of Venice Toilet Rebate and Retrofit Project – Phase 8	\$436,050
Q180	Centre Lake Flood Mitigation	\$8,444,000
Q185	North Port Water Distribution System Looping	\$415,000
Q191	North County Watershed	\$1,534,500
Q202	Regional Integrated Loop System - Southern Regional Loop (Segments 2B and 2C) Feasibility and Routing Study	\$400,000
Q204	COV - Water Quality Improvements - Outfalls 1 & 2	\$500,000
Q205	Regional Integrated Loop System Phase 3C Routing and Feasibility Study	\$600,000
Q208	Sarasota Bay Watershed Water Quality Improvement	\$5,000,000
Q212	Peace River Reservoir No. 3 Siting and Feasibility Study	\$1,500,000
Q214	Palmetto Toilet Rebate Program- Phase II (Q073)	\$100,000
W639	SW IMP - Water Quality - Bradenton Beach BMPs Avenue B and C	\$530,930
W641	SW IMP - Water Quality - Northern Holmes Beach BMPs - Basins 10 and 12	\$515,576
<b>Region Total</b>		<b>\$78,501,296</b>



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** AWS - PRMRWSA Regional Loop System Phase 3B  
**Project Number** N823  
**Cooperator** PRMRWSA  
**Department**  
**Contact Person** Mike Coates  
**Address** 9415 Town Center Parkway  
**City State Zip** Lakewood Ranch, FL 34202  
**Phone #** 941-316-1776  
**Email** mcoates@regionalwater.org

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

☐ Water Quality Maintenance and Improvement ☐ Water Quality Monitoring  
☒ Alternative Water Supply ☐ Conservation  
☐ Reclaimed Water ☐ Regional Water Supply Planning  
☐ Emergency Flood Response ☐ Floodplain Management  
☐ Minimum Flows and Level Establishment and Monitoring ☐ Minimum Flows and Levels Recovery  
☐ Natural Systems Conservation and Restoration ☐ Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

☒ Charlotte ☐ Citrus ☒ Desoto ☐ Hardee ☐ Hernando ☐ Highlands ☐ Hillsborough ☐ Lake  
☐ Levy ☒ Manatee ☐ Marion ☐ Pasco ☐ Pinellas ☒ Sarasota ☐ Sumter ☐ Polk

### Project Description/Benefit/Cost

#### Description:

The Regional Phase 3B Interconnect project [SR 681 to Clark Road] is part of the Authority's Regional Integrated Loop Pipeline System providing a regional water transfer and delivery system for existing and future water sources within the Authority's service area. Specifically, the Phase 3B Interconnect project will extend the regional transmission system from its current northern terminus, located immediately west of the Sarasota County landfill along Cow Pen Slough, north about 5 miles to Clark Road [SR 72]. This transmission main extension will facilitate delivery of regional water supplies to the northern portion of Sarasota County's service area and, in conjunction with future transmission main expansion, will enable interconnection of Manatee County's water system with the regional water supply system. The Project is included in the Authority's Integrated Regional Water Supply Plan 2015, the District's 2015 Regional Water Supply Plan (Southern Planning Region), and the Authority's 5-year Capital Improvements Plan which was adopted in May 2019. The District and Authority have executed a co-funding agreement (17CF0000379) for this project, with funding through construction. The State of Florida also committed grant funds to the Project. The Authority Board approved contracts for Phase 3B construction and engineering services during construction at the July 31, 2019 Board meeting. Notice to proceed with construction will be issued in October 2019.

#### Benefit:

Development of the Regional Integrated Loop Pipeline System will promote regional resource management efforts and support water supply goals within the four county area including; maximizing use of alternative water sources such as seasonal surface water for public drinking water supply; improving rotational capacity and the ability to rest sources; providing reserve capacity for emergency transfers; limiting the development of groundwater in the Southern Water Use Caution Area (SWUCA); and optimizing financial investments in water supply infrastructure on a regional basis. In addition to the benefits mentioned for the Regional Integrated Loop Pipeline System, specific benefits of the Phase 3B Interconnect project include significant progress toward interconnection of Manatee County's water system with the regional water supply system, and improved supply conditions in northern Sarasota County. This Project is included in the Authority's *Integrated Regional Water Supply 2015*, the District's *2015 Regional Water Supply Plan (Southern Planning Region)*, and the Authority's *5-year Capital Improvements Plan*, which was adopted in May 2019. It also supports the SWUCA recovery strategy, and the Alternative Water Supplies, MFL Establishment and Recovery (in SWUCA) strategic initiatives laid out in the District's Strategic Plan.

**Cost:**

The District and Authority have executed a co-funding agreement 17CF0000379, (including Amendment No. 1 to that agreement) for a total estimated project cost of \$16,700,000. The Authority received \$500,000 from the State of Florida for this project which reduced the SWFWMD/Local share to \$16,200,000, or \$8,100,000 for each party. Design, permitting and bidding work has been completed at a cost of \$1,092,180, leaving \$13,881,690 in remaining funding required for project completion by April 2021.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Authority is a wholesale supplier of potable water to the customers of Charlotte, DeSoto, Manatee and Sarasota Counties and the City of North Port. These utilities are retail suppliers for their respective public water systems. The Authority cooperatively participates with Customer Utilities and the District in public awareness and education regarding water conservation including broadcast public service announcements, newspaper advertisements and inserts and public presentations. As reported in the Authority's Draft *Integrated Regional Water Supply Plan 2020*, gross per capita water use for Authority Customers has declined from 104 gpc/day in 2003 to 84.9 gpc/day in 2017 based on the 2017 PS forms. Supporting this conservation ethic has been the Authority's Water Policy Summits with the Water Alliance in 2009, 2010, 2011, 2012, 2015, 2016 and 2017. The Water Alliance is a voluntary assembly of 13 local municipalities, including the Authority's Customers, dedicated to water conservation, and providing water customers/residents a cost effective, high-quality, reliable and environmentally sustainable drinking water supply. The Summits have been well attended and focused on; water conservation/demand management; optimization of supply capacity, resource sharing and interconnecting supplies, and the value of high-quality public water supply to the economic vitality of the region. In addition, the Authority's *Integrated Regional Water Supply Plan 2020 (draft)* includes recommendations for the region to incorporate water conservation savings into future demand and supply planning; investigation of regional opportunities to reduce flushing in the consecutive potable system; and regional support for expansion and more efficient use of reclaimed water.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share	6,930,000	1,100,000	70,000		8,100,000
Manasota	6,930,000	1,100,000	70,000		8,100,000
State of Florida	500,000				500,000
Total	14,360,000	2,200,000	140,000		16,700,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**Phase 3B**

**Milestone**

Construction Services & Materials  
Construction Engineering Services

**Projected Date**

04/01/2021  
04/01/2021

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** DAR - City of Bradenton Aquifer Protection Recharge Well  
**Project Number** N842  
**Cooperator** City of Bradenton  
**Department** Public Works  
**Contact Person** Susan Hochuli  
**Address** 1411 9th St. W.  
**City State Zip** Bradenton, FL 34205  
**Phone #** 941-708-6300 ext231  
**Email** susan.hochuli@cityofbradenton.com

### Project Type:

☒ Water Supply  
 ☒ Water Quality  
 ☒ Flood Protection  
 ☒ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input checked="" type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input checked="" type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input checked="" type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input checked="" type="checkbox"/> Minimum Flows and Levels Recovery
<input checked="" type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input checked="" type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The City of Bradenton (City) proposes to construct one (1) Aquifer Protection Recharge Well system capable of recharging the Avon Park High Permeability Zone (APHPZ) of the Upper Floridan aquifer (UFA). This well system will be sited at the City's Wastewater Treatment Facility (City WWTF), southwest corner of 1st St. W. (U.S. 301) and 17th Av. W., which is owned and under the institutional control of the City. The project scope is anticipated to allow up to 15-million gallons per day (MGD) of excess treated wastewater and/or excess storm water to be recharged to the aquifer. The project would add another tool in the City's effluent disposal tool-box; current tools include the existing public access reuse system and surface water discharge when the reclaimed water system demand decreases. Future stages of the City's Aquifer Protection Recharge program may include storm water transmission infrastructure to the City WWTF site to facilitate aquifer recharge with excess storm water.

The feasibility study performed by the City's consultant concludes that an Aquifer Recharge Well system is conceptually feasible for the City WWTF location and can provide a low cost, high volume, high benefit alternative to surface water discharge during wet weather periods. The study notes that the APHPZ of the UFA will likely be considered to be an Underground Source of Drinking Water (USDW).

A Florida Department of Environmental Protection (Department) Underground Injection Control (UIC) permit application for the Aquifer Recharge Well was submitted in February 2018. The Department UIC issued a Class V Group 2 construction and testing permit in April 2019.

The recharge well is proposed to be 24-inches or 16-inch in diameter, and will be cased to 900-feet or 1,400-feet below land surface (bls), respectively, and a total depth of 1,600-feet bls. One deep monitoring well will be completed from 900-feet to 1,100-feet bls. One shallow monitoring well, 600-feet to 650-feet bls, will be completed only if the top of the recharge zone is at approximately 900-feet bls and the 16-inch diameter casing is not used. Monitoring wells to be established in the Floridan aquifer.

The multi-year project tasks include preliminary engineering (basis of design; 30% design and permitting; and third party review), final engineering (60%, 90%, and final design and permitting; and bidding/awarding), services during construction (construction engineering inspection only), construction, testing, and required FDEP operational permits (UIC and Domestic Wastewater). In FY2018 the City began preliminary design and permitting for a system package (well drilling and for surface facilities) to participate in a District-led third party review. Upon a favorable third party review, including District Governing Board approval, the next project steps include final engineering, bidding, construction, testing, and obtaining applicable FDEP operational permits (UIC and Domestic Wastewater).



**Benefit:**

The project's primary goal is to provide for a rise in the elevation of the potentiometric ground water surface of the AHPZ of the UFA. The well system will be constructed within an inland component of the Most Impacted Area (MIA) of the Southern Water Use Caution Area (SWUCA). Project benefits anticipated include: assisting in restoring declining water level elevations within the MIA of the SWUCA; facilitating a substantial increase in ground water quality through freshening; introducing an inland barrier reducing the potential of further salt water intrusion into a USDW aquifer in coastal Manatee County; reducing nutrient loading to the Manatee River and ultimately Tampa Bay from surface water discharge of treated wastewater and potentially, excess stormwater, in the project area; minimizing flooding and ponding within several City drainage basins; providing a regional demonstration of multi-use recharge wells that other utilities within the District can mimic; and, the potential to provide ground water credits to the City by supplementing the groundwater supply in the Avon Park Formation.

**Cost:**

The total cost of this project will be \$5,050,000. The City obtained the FDEP UIC construction permit April 2019. The City anticipates that preliminary design, third party review, final design and permitting, construction, and receipt of an UIC operational permit for the Aquifer Recharge Well can be completed by September 30, 2026. Anticipated summary milestones and cost estimates are provided next. Summary Milestones and Estimate (\$)

Preliminary Engineering (Basis of design; 30% design and permitting; third party review of well and surface facilities' system by District)	\$225,000
Final Engineering (parallel, coordinated tracks for 60%, 90%, 100% design and permitting; bidding and contract awards for well drilling and surface facilities)	\$375,000
Services During Construction (includes staggered, coordinated tracks for consultant services for CEI only throughout the construction of the well drilling and the surface facilities)	\$400,000
Construction, Testing and Operation permits (includes staggered, coordinated tracks for performing well drilling and constructing surface facilities; includes testing of well during construction; independent performance evaluation by District; UIC operation permit; Domestic Wastewater permit or modifications; operation and maintenance plan; and related construction tasks)	\$4,050,000
<b>Total of \$5,050,000</b>	<b>Total project cost \$5,050,000 with City share \$2,525,000 and SWFWMD share \$2,525,000.</b>

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of Bradenton has developed and implemented a Water Demand Management Plan (WDMP) to manage and protect the City's water supply in a way that ensures a safe and adequate supply of water for the citizens of Bradenton. The WDMP is driven by triggering mechanisms developed to initiate specific conservation measures. These conservation measures and District water shortage orders are enforceable pursuant to City Ordinance #2650. The City initially adopted inclining block rates for potable water in 1982. City Ordinance #2679 is for reclaimed water use with provisions for user charges. City Resolution #00-58 provides for adoption of a Floodplain Management Plan developed to comply with the National Flood Insurance Program (NFIP). Currently the City maintains a class 7 status as prescribed by the Community Rating System (CRS) of the NFIP. This favorable rating provides for a 15% reduction in flood insurance premium for City residents. City Land Use Development Regulations (Ordinance #2627) Section 400(c) provides for minimum requirements to be maintained in areas specified as special flood hazard areas. All new and retrofitted projects within the City are subject to the water quality standards as prescribed by 40D-4, 40D-40, and 40D-400, F.A.C.

Funding Source	Prior Funding	FY2020 Budget	FY2021 Budget	Future Funding	Total Funding
Applicant Share	1,500,000	900,000	100,000	25,000	2,525,000
Manasota	1,500,000	900,000	100,000	25,000	2,525,000
Total	3,000,000	1,800,000	200,000	50,000	5,050,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

1	<b>Milestone</b> Preliminary Engineering	<b>Projected Date</b> 03/31/2020
2	<b>Milestone</b> Final Engineering	<b>Projected Date</b> 06/30/2022
3	<b>Milestone</b> Services During Construction (CEI)	<b>Projected Date</b> 12/31/2023
4	<b>Milestone</b> Construction, Testing, and Operational Permitting	<b>Projected Date</b> 09/30/2026

**Data Collection Assessment:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Groundwater or Surface Water Level measurements | <input checked="" type="checkbox"/> Groundwater or Surface Water Quality measurements |
| <input checked="" type="checkbox"/> Rainfall or Other Meteorological measurements   | <input checked="" type="checkbox"/> Monitor Well Installation                         |
| <input checked="" type="checkbox"/> Lithologic/Geophysical data                     | <input checked="" type="checkbox"/> Aquifer Testing                                   |



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Partially Treated Water Aquifer Storage and Recovery  
**Project Number** N854  
**Cooperator** PRMRWSA  
**Department**  
**Contact Person** Mike Coates  
**Address** 9415 Town Center Parkway  
**City State Zip** Lakewood Ranch, FL 34202  
**Phone #** 941-316-1776  
**Email** mcoates@regionalwater.org

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input checked="" type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input checked="" type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input checked="" type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The key to use of seasonally available surface water as a reliable public water supply is the ability to harvest and store large volumes of water during relatively short periods of availability. The Peace River facility utilizes off-stream raw water reservoirs, and an aquifer storage and recovery system (ASR) to support use of supplies skimmed from the Peace River as an alternative water supply, reliably meeting much of the drinking water need in the District's southern water planning area. The ASR system at the Peace River Facility stores fully treated drinking water, and upon recovery from ASR that water is discharged to the surface reservoir system and re-treated. The re-treatment is necessary to remove naturally occurring arsenic picked up in the aquifer while the water is in storage, but full treatment of the ASR water twice adds significant cost and inefficiency. The Partially Treated Water Aquifer Storage and Recovery Project (PTW ASR) will evaluate, and if feasible and permitable implement use of water withdrawn directly from the Authority's reservoir system then passed through a filtration system for recharge and storage in the ASR system. This will significantly reduce costs, improve yield and system efficiency. Pilot testing of the PTW ASR concept was completed in January 2018 and resultant evaluation has been used to support modification of the ASR permit requesting use of PTW in ASR Wellfield 2. Project design work is pending FDEP action on the Authority's February 2018 permit application for PTW ASR. Project completion is currently scheduled for 2023.

#### Benefit:

This project has the potential to significantly improve the performance of the Authority's ASR system, yielding increased reliability and more effective use of the water resources available for this alternative public drinking water supply. It will also serve as a model for ASR in other areas, supporting a means to improve access to, and use of seasonally available water supplies, potentially reducing groundwater pumping. Partial treatment of water recharged to ASR reduces operational costs for the system by nearly 50% through only treating the supply once (upon recovery), instead of twice (on recharge and recovery) before delivery to Customers. Increased recharge rates and total storage volume can be achieved because recharge does not rely on the availability of excess treatment capacity. Recovery efficiency of the ASR system is projected to improve by 15% to 20% because the partially treated supply being recharged has lower total dissolved solids concentrations than the treated water. Because of lower costs there is opportunity to recharge significantly more water than is recovered, which could help mitigate groundwater pumping impacts and yield improved conditions in the Floridan Aquifer. Finally, another 4 MGD in available yield is projected to be made available from

the successful combination of PTW ASR, expansion of ASR System and re-rating of the Peace River Facility treatment facility. This Project is included in the Authority's 5-year *Capital Improvements Plan*, which was adopted in May 2019. The PTW ASR project supports the SWUCA recovery strategy, and the Alternative Water Supplies, MFL establishment and Recovery (in SWUCA) strategic initiatives laid out in the District's Strategic Plan.

**Cost:**

Total estimated cost for the Partially Treated Water Aquifer Storage and Recovery Project is \$7,755,000. This includes pilot testing, permitting, design, third party review, and construction of pumping facilities adjacent to one of the Authority's reservoirs to enable recharge to ASR. Co-funding agreement 18CF0000854 provides \$20,500 from the District to support this project through third party review. The Authority also has received a 2018 grant from the state of Florida for \$1M to support this project. A copy of the page from the Authority's approved 5-year CIP is included with this application.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Authority is a wholesale supplier of potable water to the customers of Charlotte, DeSoto, Manatee and Sarasota Counties and the City of North Port. These utilities are retail suppliers for their respective public water systems. The Authority cooperatively participates with Customer Utilities and the District in public awareness and education regarding water conservation including broadcast public service announcements, newspaper advertisements and inserts and public presentations. As reported in the Authority's Draft *Integrated Regional Water Supply Plan 2020*, gross per capita water use for Authority Customers has declined from 104 gpc/day in 2003 to 84.9 gpc/day in 2017 based on the 2017 PS forms. Supporting this conservation ethic has been the Authority's Water Policy Summits with the Water Alliance in 2009, 2010, 2011, 2012, 2015, 2016 and 2017. The Water Alliance is a voluntary assembly of 13 local municipalities, including the Authority's Customers, dedicated to water conservation, and providing water customers/residents a cost effective, high-quality, reliable and environmentally sustainable drinking water supply. The Summits have been well attended and focused on; water conservation/demand management; optimization of supply capacity, resource sharing and interconnecting supplies, and the value of high-quality public water supply to the economic vitality of the region. In addition, the Authority's *Integrated Regional Water Supply Plan 2020 (draft)* includes recommendations for the region to incorporate water conservation savings into future demand and supply planning; investigation of regional opportunities to reduce flushing in the consecutive potable system; and regional support for expansion and more efficient use of reclaimed water.

Funding Source	Prior Funding	FY2020 Budget	FY2021 Budget	Future Funding	Total Funding
Applicant Share	340,000		15,000	3,189,750	3,544,750
Peace River	5,500		15,000	3,189,750	3,210,250
State of Florida		1,000,000			1,000,000
Total	345,500	1,000,000	30,000	6,379,500	7,755,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**Partially Treated Water ASR**

Milestone	Projected Date
Complete Preliminary Design	03/31/2021
Complete Third Party Review	07/31/2021

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** ASR - City of Venice Reclaimed Water ASR  
**Project Number** Q050  
**Cooperator** City of Venice  
**Department** Utilities  
**Contact Person** Javier Vargas  
**Address** 200 North Warfield Ave.  
**City State Zip** Venice, FL 34285  
**Phone #** 941-882-7310  
**Email** jvargas@venicegov.com

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input checked="" type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The City of Venice (COV) Eastside Water Reclamation Facility (EWRF) has a permitted capacity of 8 MGD. The demand for reclaimed water (RCW) is projected to be 4.8 MGD by 2020 based on the amount of RCW available (i.e., demand is expected to meet or exceed the amount available). The use of this RCW offsets the need for pumping shallow coastal wells to meet irrigation needs or the use of potable water for this purpose. However, during periods of peak irrigation demands, spring and early summer, the demand for RCW is greater than Plant flow and must be met from storage. Current storage is limited to 65 million gallons. Conversely, during low irrigation demand periods the COV must dispose of excess RCW through alternative methods. In order to maximize the availability of RCW for current peak demand periods an estimated additional 31 million gallons of storage is needed. One alternative is to construct storage facilities on the land surface at an estimated cost of \$40 million. The other alternative is the addition of an aquifer storage and recovery well which could provide well in excess of the 31 million gallons currently needed, thus allowing the COV system to meet irrigation demands well into the future. The estimated cost of this alternative would be \$4.4 million. The COV RCW system includes bulk users (golf courses, parks, development common areas) as well as individual commercial and residual properties. The ASR Well will be located on the EWRF site.

#### Benefit:

This project will maximize the use of RCW for irrigation purposes thus reducing the amount of withdraws from shallow wells or using potable water for irrigation. Reduced shallow well withdraws reduces salt-water intrusion in the upper aquifer. Reduced use of potable water for irrigation reduces the demand on the potable water supply system.

#### Cost:

#### Project Cost :

**Phase 3 - ASR Design and Bidding \$300,000 (150,000 COV, 150,000 District)**

Overall Phases: 1) Feasibility Study (ongoing COV funded) \$175,000, 2) Preliminary Design, Permitting, 3<sup>rd</sup> Party Review (CFI Funded 2020) \$165,000 3) ASR Design and Bidding: (Phase 3) \$300,000, 4) ASR Construction: \$4,400,000, 5) Cycle Testing: \$100,000, 6) Operational Permit: \$100,000

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of Venice is actively working to develop additional RCW customers, extending RCW distribution and transmission lines, enforcing shallow irrigation well prohibitions where RCW distribution is available, and enforcing existing RCW use requirements for new development. The COV has self-funded the initial feasibility study of the project that is currently ongoing.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share	175,000	82,500	150,000	2,300,000	2,707,500
Manasota		82,500	150,000	2,300,000	2,532,500
Total	175,000	165,000	300,000	4,600,000	5,240,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

Feasibility Study (On-going) COV	01/31/2020
Preliminary Design and permitting (COV/CFI)	09/30/2020
ASR Design and Bidding	10/01/2021
Construction	09/30/2022
Cycle testing	09/30/2023
Project Complete	09/30/2024
Operational Permit	09/30/2024
Project Closeout and final reporting	12/31/2024

**Data Collection Assessment:**

- ☒ Groundwater or Surface Water Level measurements ☒ Monitor Well Installation
- ☒ Lithologic/Geophysical data ☒ Aquifer Testing

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** City of North Port Utilities Direct Potable Reuse Feasibility Study  
**Project Number** Q139  
**Cooperator** City of North Port - Public Utilities  
**Department** Utilities  
**Contact Person** Nicole Brown  
**Address** 6644 W Price Blvd  
**City State Zip** North Port, FL 34291  
**Phone #** 941-240-8025  
**Email** nbrown@cityofnorthport.com

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

☐ Water Quality Maintenance and Improvement ☐ Water Quality Monitoring  
☒ Alternative Water Supply ☐ Conservation  
☐ Reclaimed Water ☐ Regional Water Supply Planning  
☐ Emergency Flood Response ☐ Floodplain Management  
☐ Minimum Flows and Level Establishment and Monitoring ☐ Minimum Flows and Levels Recovery  
☐ Natural Systems Conservation and Restoration ☐ Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

☒ Charlotte ☒ Citrus ☒ Desoto ☒ Hardee ☒ Hernando ☒ Highlands ☒ Hillsborough ☒ Lake  
☒ Levy ☒ Manatee ☒ Marion ☒ Pasco ☒ Pinellas ☒ Sarasota ☒ Sumter ☒ Polk

### Project Description/Benefit/Cost

#### Description:

The City of North Port currently operates a water treatment plant consisting of a surface water component and groundwater component. The groundwater component is treated via reverse osmosis membrane treatment. The City also operates a wastewater treatment plant that produces high quality public access reclaimed water. The reclaimed water is distributed to customers for irrigation purposes via a distribution system that is approximately 23 miles in length. Despite the maximization of the use of reclaimed water for irrigation purposes, in excess of one million gallons per day, on average, of reclaimed water is disposed of via deep well injection. Despite the high quality of this water it is 'lost' deep underground below the underground sources of drinking water. The use of reclaimed water as a source water for potable uses is being investigated and put into practice around the United States with significant work having been done in Florida. The Potable Reuse Commission has proposed a framework for the regulation of direct and indirect potable reuse projects. This framework will likely establish the beginning of the regulatory approach to these projects. The Commission is currently actively working in this area. The City's wastewater plant effluent generally meets all the primary and secondary drinking water standards with the exception of the total dissolved solids. This project would investigate the feasibility of using reclaimed water as a source water within the City of North Port as well as the treatment technologies that might be required to make this water potable.

#### Benefit:

The use of reclaimed water as a source water for potable purposes would offset current groundwater withdrawals and going forward as growth occurs additional reclaimed water would be available as a source water.

#### Cost:

The cost for the feasibility study is anticipated at \$250,000.

### Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The City of North Port has one of the lowest per-capita water use rates in the region. This can be attributed to an extensive conservation program which includes a tiered rate structure, reclaimed water program, irrigation enforcement, floodplain management both locally and regionally; and, a comprehensive public education and outreach program that promotes water conservation, protection of City and regional resources, and encourages public participation in flood control efforts. The City's outreach program is a year-round effort to involve, inform and inspire all ages to conserve and protect water in their daily activities. The program offers education for all ages through participation at school and community events locally and regionally as well as hosting its own workshops, contests – including a "rain barrel" contest, and annual environmental fair. These efforts are

complimented by print and web-based literature including the City's award-winning web site and its annual Consumer Confidence Report, which provide practical, useful information on water conservation and protection. The City's public education and outreach efforts earned the City the internationally recognized 2014 "WateReuse Public Education Program of the Year" award from the WateReuse organization out of Alexandria, Virginia. In 2019, The City of North Port participated in the Wyland National Mayor's Challenge for Water Conservation. The City finished in 3rd place in our population category. Our City made 6,843 pledges resulting in a water savings of 28.3 million gallons of water! Additionally, North Port pledges resulted in the reduction of 1,616 pounds of hazardous waste from entering watersheds, 790,864 fewer pounds of landfill material, and a carbon dioxide reduction of 124.9 million pounds. The City continues acquisition of land as a protective conservation buffer for the Class I waters of the Myakkahatchee Creek, a potable water and recreational resource. This initiative also helps reduce damage from flooding events. The City's water conservation efforts and other sustainable development activities earned North Port the Florida Green Building Coalition's "Silver" level local government certification in 2016. In accordance with the City's 2008 Reuse Master Plan, the City continues planned expansion of the system to offset potable water use. The study and eventual implementation of the direct or indirect potable reuse project is a natural extension of the City's current efforts. The use of this water, especially that portion that is 'lost' via deep well injection, provides for a more sustainable and drought-resistant future water supply. In addition, the City's Unified Land Development Code (ULDC) includes the following requirement for new developments: "A reuse water system shall be provided in all new subdivisions, and connection shall be required with the City's reuse water system where the City system is within 1/4 mile from a point on the perimeter of the subdivision closest to the source of service and measured along an accessible right-of-way or easement. The order of supply sources of water for irrigation purposes shall be reuse water, storm water then well water." Owing to the City's extensive efforts in stormwater system management, maintenance, information dissemination and outreach efforts, the May 2011 Community Rating System (CRS) audit resulted in North Port receiving an improved CRS rating from 7 to 6. The City is an active participant in the Federal Emergency Agency (FEMA) and SWFWMD's Flood Insurance Rate Map (FIRM) revision activity. The City has adopted new FIRMs which are effective November 4, 2016. The City requires that all applicable Federal and State permits be approved prior to the start of construction.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			125,000		125,000
General Fund-District Wide			125,000		125,000
Total			250,000		250,000

#### **Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

#### **Timelines**

##### **Study**

<b>Milestone</b>	<b>Projected Date</b>
Request for Proposals	04/01/2020
Select Consultant	11/30/2020
Begin Study	01/01/2021
Complete Study	09/30/2021

#### **Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Bowlees Creek Flood Mitigation  
**Project Number** Q141  
**Cooperator** Manatee County  
**Department** Stormwater Engineering Division  
**Contact Person** Kenneth Kohn, P.E.  
**Address** 1022 26th Avenue East  
**City State Zip** Bradenton, FL 34208  
**Phone #** 941-708-7450 ext7254  
**Email** kenneth.kohn@mymanatee.org

### Project Type:

☒ Water Supply 
 ☒ Water Quality 
 ☒ Flood Protection 
 ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input checked="" type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This is a flood protection and stormwater improvement best management practices implementation and water quality improvement project located in Bowlees Creek watershed (design/construction project) . This project is to lower flood stages in Bowlees Creek in the Shady Brook/Sara Bay area. This project will lower the flood stages in this area and connect the Sara Bay Golf Course to reclaimed water that currently relies on Bowlees Creek using existing weirs. Under the CFI policy we also must provide some water quality benefit which will be addressed with a nutrient baffle box for nutrient removal in the watershed. Bowlees Creek is currently undergoing a watershed study and alternatives for flood mitigation analysis (FY2017 Agreement No. N809). Bowlees Creek Watershed is approximately 9 square miles and drains predominantly south toward Lake Brendan and then west into Sarasota Bay. After the 2017 August significant rainfall event (estimated at 50-year storm or greater), County observed significant flooding in this mostly urbanized watershed. The heaviest flooding occurs along the main stem west of 15th Street and south of 63rd with other flood prone areas identified away from the main stem. Highlighting this are attached repetitive loss areas mapped for Community Rating System. The common thread in the alternatives analysis for flood mitigation based on the watershed study included weir removal within the Sara Bay Golf Course. The community in the flood prone area especially west of 15th Street and south of 63rd are keenly aware of the impediment of the two weirs. The weirs exist to provide the Golf Course in Sara Bay with irrigation water and were constructed well before any permitting requirements and therefore grandfathered in. However, County staff has been working with the Golf Course to address the concern with the weirs and it is believed that this proposal satisfies both private golf course and community needs. The watershed study has provided an alternatives analysis for eight (8) alternatives and one combined alternative. Because of the confirmed "flashy" nature of this watershed all of the proposed alternatives proved very costly (i.e., range of costs from \$.875 million to \$42 million). As previously noted, addressing the weir impediments were the common thread for all the alternatives and is therefore proposed in this CFI application. This alternative was also evaluated as Alternative 1.3 but has been modified for this CFI. In addition, Manatee County has performed preliminary modeling and has identified flood stage reductions based on this project. County also proposes water quality improvement to address nutrient removal using one (1) nutrient removal baffle box to treat currently untreated runoff within the Bowlees Creek Watershed. The baffle box will treat approximately 7 acre area up to kg/yr TP and kg/yr TN reduction each. There is an existing 12-inch reclaimed water line located just south of Magellan Drive stubbed specifically years ago for the golf course and a 6 inch line will be extended from there to the existing pump house.

The Bowlees Creek Water Quality Plan (W642) will provide substantive, watershed-specific pollutant load reduction strategies to improve water quality in the project watershed. It is the County's intent to use the resulting guidance to support substantive water



quality improvements within the project watershed. Water quality BMPs will be prioritized on measurable benefit(s), resilience factors and cost effectiveness. Additional water quality BMP selections will be made during project design. An agreement will stipulate that the reclaimed water will only be provided for golf course irrigation and fertilizer applications on the golf course will be reduced to offset nutrients in the reclaimed water.

**Benefit:**

This project will lower the flood stages in Bowlees Creek and connect the Sara Bay Golf Course to reclaimed water that currently relies on Bowlees Creek using existing weirs. Under the CFI policy we also must provide some water quality benefit which will be addressed with a nutrient baffle box for nutrient removal in the watershed. This watershed is impaired for mercury, fecal coliform and nutrients (WBID 1896). Between 0.5 ft and 1 ft flood stage lowering occurs in the area (see attached analysis). In addition, a viable irrigation source is provided to the golf course for utilization of reclaim water and nutrient removal in a nutrient impaired waterbody will occur. Please refer to attached Bowlees Creek Flood Mitigation analysis report.

The Watershed Management phase of this project will represent the findings of the additional WQ elements as a prioritized list of financially feasible - or practically feasible in the event of LID applications - watershed-specific pollutant load reduction strategies to improve water quality in the project watershed. It is the County's intent to use the resulting guidance to support water quality improvement projects in the project watershed, including water quality benefits for flood protection projects. Proposed BMPs will be prioritized on measurable benefit(s), resilience factors and cost effectiveness.

**Cost:**

An opinion of conceptual costs was conducted by staff. The total project cost is estimated at \$559,410. The cost estimate breakdown is provided as an attachment. Please refer to the Bowlees Creek Flood Mitigation analysis report for information. The alternatives mitigation analysis for weir removal as noted in the Flood Mitigation Analysis Report identifies a BCR should be 1 or greater.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Manatee County LDC, Section 801.3.E and Stormwater Manual Section 2.31., authorizes up to a 50% reduction of allowable discharge rate from any new development in a flood prone area. Manatee County has 11 watersheds (including portions of North County Watershed) which have a 50% reduction in allowable runoff for new developments. The policy assists the County with the CRS together with County floodplain policy for discounted flood insurance premium rates. The County has established 25 year 24 hour floodplains that have also been mapped into GIS and for which compensation is required in addition to encroachment that occurs in the 100 year FEMA Floodplain. County LDC 802.6.B establishes floodplain management standards and minimum finished floor elevations to protect from flooding. LDC 801 protects quantity and quality of ground and surface waters, groundwater recharge, prevent and reduce salt water intrusion, prevents adverse impacts on adjacent property from diverting flow of surface water, and prevent flood hazards and flood proofing to prevent property damage and loss of life. In addition to reductions noted above, County requires conformance with SWFWMD ERP regulations and special protection within watershed protection areas such as Evers Watershed and Lake Manatee Reservoir. The County also implements the MS4 NPDES permit which includes various BMPs, protects from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDL related. County maintains GIS database including stormwater inventory and FEMA floodplain areas. The County stormwater inventory has also been converted into the GWIS format utilized by the SWFWMD including an electronic copy of existing stormwater system and ERP related record drawings. County requires conformance with SWFWMD ERP regulations and provides special water quality protections within the watersheds of potable water reservoirs such as the Evers Reservoir and Lake Manatee. The County also implements all elements of a Phase-I NPDES MS4 permit which includes various BMPs, protection from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDLs. The SWMP provides the following water quality improvement services: 1) County-wide (jurisdictional) street sweeping and data collection and analyses to estimate pollutant load reduction benefits from this program; 2) County-wide MS4 inspection and maintenance program for structural controls and roadway collection systems, 3) Public education and outreach elements including storm drain stenciling, support for Florida Friendly Landscaping (tm) and specialized outreach channels such as the Manatee Water Atlas and 5) Miscellaneous services such as Adopt-a-Road, litter collection and household hazardous waste collection. SWMP effectiveness is formally evaluated annually. The County has adopted Ordinances regulating Illicit Connections and Discharges through the MS4 (00-02), Fertilizer use (11-21) and Solid Waste (Pet Waste) disposal (85-11) that limit nutrients to receiving water bodies. The County cooperatively operates a countywide network of 18, combined, continuous stream/rain gauges that provide information for the watershed studies. A stream/rain gauge exists in several locations in North County Watershed and two additional stations are proposed to assist with the calibration/verification effort. Long- term environmental monitoring programs (about 80 stations total, periods of record up to 30 years) provide the data used to evaluate the success of regional environmental management initiatives. Manatee County is a participant in the Tampa Bay Nitrogen Management Consortium.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			139,852	139,853	279,705
Manasota			139,852	139,853	279,705
Total			279,704	279,706	559,410

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

Preliminary Design	10/30/2020
Full Design and Permitting acquire easements	10/31/2021
RFB Advertisement and Bid	04/30/2022
Construction	10/31/2022
Complete Construction	04/30/2023

**Data Collection Assessment:**

☒ No data will be collected for this project

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# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Anna Maria stormwater Improvement - Phase K  
**Project Number** Q143  
**Cooperator** City of Anna Maria  
**Department** Public Works  
**Contact Person** Fariborz Zanganeh  
**Address** 7185 Murrell Rd, Suite 101  
**City State Zip** Melbourne, FL 32940  
**Phone #** 321-622-4646 ext111  
**Email** fzanganeh@infrastructuress.com

### Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This application is for Phase K of a multi-year funding agreement and is for the purpose of Flood Protection and Water Quality best management practices and improvement within the City of Anna Maria. The objective of this Phase K Project is to improve water quality of the stormwater runoff that serves the proposed improvement phase and attenuate the historical flooding by improvements to the City's stormwater collection and conveyance system. The Phase K Project is located in a coastal watershed and will improve several areas within City where BMPs have not been installed and/or being included in previously permitted and approved phases. The basins have multiple outfall location that either directly discharge or are in the vicinity of the man-made canals receiving water body that discharges into the Tampa Bay which is designated as an estuary of National significance and a SWIM priority water body. The implementation of BMPs will include the following project components: survey work with field locates, design calculations, permitting, preparation of the construction plans, construction administration and construction observation, and construction of the project. All the improvements will be at the existing city owned alleys right-of-way and drainage easement granted to the City. The proposed stormwater management system will consist of grass swales and conveyance through rock media to provide infiltration treatment and recovery through the natural vegetation and soils. To improve flood protection, additional inlets and pipes will be installed in specific areas to create a positive outfall and/or provide a hydraulic connection to the City's existing conveyance system where required for discharging to the existing structures or outfall pipes.

#### Benefit:

The resource benefit of the Water Quality project is the reduction of Pollutant Loads to Tampa Bay, a SWIM water body by an estimated 178 lbs/yr TN, 36 lbs/yr TP and 5943 lbs/yr TSS. These values are based on a BMP model run removal efficiency of 40% for TN, 52% for TP, and 61% for TSS. The measurable benefit is the construction of LID BMPs to treat approximately 53 acres of urbanized stormwater runoff with 46.5 acres from residential contributing areas and 12.3 acres from low intensity commercial areas.

#### Cost:

The total cost for the project is \$600,000 split equally between the Manasota Basin and the City, with \$300,000 grant requested during FY2021 from the Manasota Basin. The estimated SWFWMD grant cost/lb of TSS and TN removed is estimated at an annual average value of \$168/lb TN/yr, \$820/lb TP/yr, and \$5/lb TSS/yr, which might be expected with the increased construction cost for similar stormwater projects. The grant cost/acre treated is estimated an average value of \$566/acre/yr treated for Coastal/LID projects based on the 53 total acres in Phase K. The funding will be used with the goal of water quality improvement, and some flood protection will occur inherently related to the project. The project CFI Water quality cost effectiveness ranking should be

considered as high for the single-family swale systems, and is solely an analysis of the estimated project cost as compared to the costs of similar projects. The estimated project costs are based on similar City projects recently completed in the City of Anna Maria limits and Sarasota region.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of Anna Maria has an adopted Stormwater Utility Fee which is collected annually and is designated for new stormwater related capital improvement projects. With the Stormwater Utility Fee as the foundation, the City has adopted a 5-year Capital Improvement Plan for Stormwater Improvements which incorporate LID measures to reduce pollutant loads to Tampa Bay and minimize flooding impacts where possible. The City has worked to incrementally elevate the publicly owned lands to account for sea level rise where possible. The City works closely with private property owners to help them develop individual plans to elevate their properties and implement flood protection measures for their structures. The City also adopted more stringent Land Development Regulations in 2013 which were established to implement flood reduction and protection measures and to reduce pollutant loadings into Tampa Bay. With the extensive development of the island in recent decades – this has become a critical piece to the long-term solution.

The City performs maintenance on their systems on an annual basis and tracks the progress for NPDES reporting practices. The City also adopted the Florida Friendly Yards Ordinance which regulates the use of fertilizers and maintain drain labels on all of their outfalls.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			300,000		300,000
Manasota			300,000		300,000
Total			600,000		600,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**SWFWMD AWARDS CITY PHASE K AWARD 10/01/2020 - DATA COLLECTION-SURVEY**

<b>Milestone</b>	<b>Projected Date</b>
ASBUILT SURVEY AND RECORD DRAWINGS PHASE K 10/01/2021 10/31/2021	11/05/2021
PROJECT CLO	

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Conservation - The Resort at Longboat Key - Intelligent Controlled Irrigation System  
**Project Number** Q145  
**Cooperator** Longboat Key  
**Department** Engineering  
**Contact Person** John Reilly  
**Address** 3289 Harbourside Drive  
**City State Zip** Longboat Key, FL 34228  
**Phone #** 941-219-9602  
**Email** rebecca.picasso@longboatkeyclub.com

### Project Type:

☒ Water Supply  
 ☐ Water Quality  
 ☐ Flood Protection  
 ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input checked="" type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

In an effort to reduce the Resort at Longboat Key Club's well water usage we have commissioned irrigation designer James White to design a water and cost efficient plan for our final 18 holes at our Harbourside site. Over the last 6 years, the club has invested north of 3 million dollars on new irrigation for 27 of its 45 holes. The installation on the remaining 18 holes is crucial to the overall well water usage savings because of it's current connection to the new piping and controls. The existing system is circa 1984, industry standards for PVC pipe is 25 years. The sprinkler type currently is a 90 gallon per minute sprinkler head that is hydraulically controlled which is no longer at industry standard. The advanced age of the system leads to immeasurable resource loss due to improper spacing, undetectable subterranean leakage and a connection to the outside HOA loop for homeowner irrigation at certain spots. Along with the massive inadequacies of this dated system, it is controlled hydraulically using potable water to manage the over 7 miles of irrigation heads. The new system will employ state of the art sprinklers using just 35 GPM on proper spacing. The total number of sprinkler heads will increase in our plan but they will be on a partial circle application which will not only reduce the GPM but also significantly reduce the run times necessary. Another benefit of this design will almost 100% reduce the irrigation system's watering of impervious surfaces and/or bodies of water on the golf course. The new system will be retro fit to our newest control system that is self monitoring for sprinkler malfunction and flow overages and programmed to distribute water most efficiently based on multiple pump communication and configuration.

#### Benefit:

The property in question is a 27 hole golf facility and pursuant to the 12 month running average pumpage document from your agency, see the attached, overall water reduction pre-dates the initial 9 hole new irrigation system installed in 2017. As you can see from the aforementioned document, post 2017, average pumping has reduced close to 25%. Taking the remaining 18 holes and looking at 3 different scenarios, A 100 year drought, B Average rainfall for Longboat Key, and C Wettest year on record; we anticipate reductions on those 18 holes specifically with new irrigation to be A 17-19.5%, B 24.25-29.75% and C 33-36.5%. We feel that these projections are extremely conservative and obviously as we get closer to the project, we can dial these numbers in more specifically based on sprinkler choices and infield modifications.

#### Cost:

The estimated remaining cost for the 18 hole project designed by a licensed irrigation engineer, installed by licensed contractors and bid to both Toro and Rainbird irrigation companies is projected currently to be \$1,362,000.00. HDPE Pipe and fitting approx. \$412,000.00. Labor approx. \$475,000.00. Remote communication to pump stations, sprinkler heads, wire and update to control system. \$475,000.00. At this time, we recognize that our choice of high density piping is above industry standard, our intention is to

back that out of our original request for cost sharing and we are looking at the request of sharing the overall \$950,000.00 left on the project at this time.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The golf course management staff will actively participate in the District's water conservation and public education programs in addition to training provided by the equipment supplier. The golf course manager will prepare and implement a detailed water conservation program whereby irrigation system programming and utilization is constantly monitored for maximum water use efficiency and conservation. The City promotes water conservation on their website with both Water Conservation Tips and by recommending the District's water saving program "Skip a week" irrigation watering during the winter months. In addition, 100% of the City's wastewater is beneficially reused by providing cooling water to Duke Energy which reduces their groundwater withdrawal quantities.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share		412,000	475,000	522,348	1,409,348
Manasota			475,000		475,000
Total		412,000	950,000	522,348	1,884,348

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

Advertise for Bids	05/01/2020
Receive Bids	06/01/2020
Award Contract	09/01/2020
Begin Construction	11/01/2020
Complete Construction	05/01/2021

**Data Collection Assessment:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Groundwater or Surface Water Quality measurements | <input checked="" type="checkbox"/> Rainfall or Other Meteorological measurements |
| <input checked="" type="checkbox"/> Monitor Well Installation                         | <input checked="" type="checkbox"/> Land Survey                                   |
| <input checked="" type="checkbox"/> Aerial Imagery                                    | <input checked="" type="checkbox"/> Biological (vegetation, benthic, fish, etc.)  |
| <input checked="" type="checkbox"/> Other data collection: Pump Station Monitoring    |   |



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Cow Pen Slough  
**Project Number** Q148  
**Cooperator** Manatee County  
**Department** Stormwater Engineering Division  
**Contact Person** Kenneth Kohn, P.E.  
**Address** 1022 26th Avenue East  
**City State Zip** Bradenton, FL 34208  
**Phone #** 941-708-7450 ext7254  
**Email** kenneth.kohn@mymanatee.org

### Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This project is to perform 1) Watershed Evaluation, and 2) Watershed Management Plan elements of the District's Watershed Management Program (WMP); 3) Alternatives Analysis for flood mitigation and Surface Water Resource Assessment for the Cow Pen Slough. Watershed plan elements include: Development of a watershed model; Floodplain analysis; Alternatives Analysis; Water Quality analysis; Peer review of preliminary floodplain and water quality analysis results; Public Meeting; Board approval; Final floodplain, alternatives, and water quality improvement analysis results; and other related elements. The Cow Pen Slough Watershed comprise roughly 12 square miles (portion in Manatee County) and is depicted on the attached Site Map and Watershed Map. The purpose of this study is to determine floodplain delineation resulting from a 100-year/24-hour storm frequency rainfall event, flood mitigation alternatives and for water quality improvement analysis.

This project completes a Surface Water Resource Assessment (SWRA) and BMP (Best Management Practices) Alternatives Analysis (referred to as a 'BA', collectively) for the project area. The principal product of this study will be guidance on pollutant load reduction strategies within the project watershed, including structural, non-structural or natural systems BMPs to improve water quality in this system and receiving waters. Guidance will include BMP cost effectiveness estimates, but in highly developed areas may preferentially focus on Low Impact Development (LID) retrofits.

The project watershed is a tributary to Sarasota Bay, a SWIM priority waterbody. The project is compatible with WQ improvement objectives of the Sarasota Bay SWIM plan. Results from the joint Estuary Program Tidal Creek Numeric Nutrient Criteria study linking water quality to natural systems should be included in project guidance. Work products should be compliant with the Tampa Bay Regional Resiliency Coalition guidance for community resiliency to climate change and sea level rise

#### Benefit:

Watershed model and floodplain analysis and cost effective flood mitigation alternatives provide information that is critical to better identify risk of flood damage and cost effective flood mitigation alternatives as well as for planning and future development. Currently, flood analysis models are not available and are over 20 years old. This watershed includes regional or intermediate stormwater systems. Resource benefit includes analysis of flooding and water quality problems that exist in the watershed. The study also assists in obtaining lower ranking in the FEMA CRS which may lead to lower flood insurance premiums.

The Watershed Management phase of this project will represent the findings of the additional WQ elements as a prioritized list of financially feasible - or practically feasible in the event of LID applications - watershed-specific pollutant load reduction strategies to improve water quality in the project watershed. It is the County's intent to use the resulting guidance to support water quality improvement projects in the project watershed, including water quality benefits for flood protection projects. Proposed BMPs will be prioritized on measurable benefit(s), resilience factors and cost effectiveness.

#### **Cost:**

Total project cost: \$540,000. Manatee County Cost-\$270,000. District Cost \$270,000. Cost was estimated based on on-going Watershed Studies and assistance from SWFWMD staff with estimate of \$45,000 per square mile (\$15K each for Watershed Eval., Floodplain Analysis, and Alternatives Analysis), for the 12 square mile watershed (LiDAR from 2016 Braden River LiDAR project is being used).

#### **Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Manatee County LDC, Section 801.3.E and Stormwater Manual Section 2.31., authorizes up to a 50% reduction of allowable discharge rate from any new development in a flood prone area. Manatee County has 11 watersheds (including portions of North County Watershed) which have a 50% reduction in allowable runoff for new developments. The policy assists the County with the CRS together with County floodplain policy for discounted flood insurance premium rates. The County has established 25 year 24 hour floodplains that have also been mapped into GIS and for which compensation is required in addition to encroachment that occurs in the 100 year FEMA Floodplain. County LDC 802.6.B establishes floodplain management standards and minimum finished floor elevations to protect from flooding. LDC 801 protects quantity and quality of ground and surface waters, groundwater recharge, prevent and reduce salt water intrusion, prevents adverse impacts on adjacent property from diverting flow of surface water, and prevent flood hazards and flood proofing to prevent property damage and loss of life. In addition to reductions noted above, County requires conformance with SWFWMD ERP regulations and special protection within watershed protection areas such as Evers Watershed and Lake Manatee Reservoir. The County also implements the MS4 NPDES permit which includes various BMPs, protects from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDL related. County maintains GIS database including stormwater inventory and FEMA floodplain areas. The County stormwater inventory has also been converted into the GWIS format utilized by the SWFWMD including an electronic copy of existing stormwater system and ERP related record drawings. County requires conformance with SWFWMD ERP regulations and provides special water quality protections within the watersheds of potable water reservoirs such as the Evers Reservoir and Lake Manatee. The County also implements all elements of a Phase-I NPDES MS4 permit which includes various BMPs, protection from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDLs. The SWMP provides the following water quality improvement services: 1) County-wide (jurisdictional) street sweeping and data collection and analyses to estimate pollutant load reduction benefits from this program; 2) County-wide MS4 inspection and maintenance program for structural controls and roadway collection systems, 3) Public education and outreach elements including storm drain stenciling, support for Florida Friendly Landscaping (tm) and specialized outreach channels such as the Manatee Water Atlas and 5) Miscellaneous services such as Adopt-a-Road, litter collection and household hazardous waste collection. SWMP effectiveness is formally evaluated annually. The County has adopted Ordinances regulating Illicit Connections and Discharges through the MS4 (00-02), Fertilizer use (11-21) and Solid Waste (Pet Waste) disposal (85-11) that limit nutrients to receiving water bodies. The County cooperatively operates a countywide network of 18, combined, continuous stream/rain gauges that provide information for the watershed studies. A stream/rain gauge exists in several locations in North County Watershed and two additional stations are proposed to assist with the calibration/verification effort. Long- term environmental monitoring programs (about 80 stations total, periods of record up to 30 years) provide the data used to evaluate the success of regional environmental management initiatives.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			270,000		270,000
Manasota			270,000		270,000
Total			540,000		540,000

#### **Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

#### **Timelines**

Contract Watershed Consultant	12/31/2020
Watershed Evaluation Project Development	03/31/2021
Watershed Evaluation	12/31/2021

WMP Project Development	03/31/2022
Watershed Model Parameterization	12/31/2022
SWRA and Alternatives BMPs and Flood Mitigation	12/31/2023
Peer Review	03/31/2024
Public Notification/Presentation to Gov Board	06/30/2024
Final Approval Deliverables	09/30/2024

**Data Collection Assessment:**

- ☒ Groundwater or Surface Water Level measurements ☒ Rainfall or Other Meteorological measurements
- ☒ Mapping/GIS data

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# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** South County Watershed  
**Project Number** Q151  
**Cooperator** Manatee County  
**Department** Stormwater Engineering Division  
**Contact Person** Kenneth Kohn, P.E.  
**Address** 1022 26th Avenue East  
**City State Zip** Bradenton, FL 34208  
**Phone #** 941-708-7450 ext7254  
**Email** kenneth.kohn@mymanatee.org

### Project Type:

☐ Water Supply ☒ Water Quality ☒ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This project is to perform 1) Watershed Evaluation, and 2) Watershed Management Plan elements of the District's Watershed Management Program (WMP); 3) Alternatives Analysis for flood mitigation and Surface Water Resource Assessment for the South County Watershed. Watershed plan elements include: Development of a watershed model; Floodplain analysis; Alternatives Analysis; Water Quality analysis; Peer review of preliminary floodplain and water quality analysis results; Public Meeting; Board approval; Final floodplain, alternatives, and water quality improvement analysis results; and other related elements. The South County Watershed comprise roughly 32 square miles and is depicted on the attached Site Map and Watershed Map. The purpose of this study is to determine floodplain delineation resulting from a 100-year/24-hour storm frequency rainfall event, flood mitigation alternatives and for water quality improvement analysis. The South County Watershed consists primarily of mixed residential areas with commercial/industrial development and has existing flooding problems. Areas remain for both future residential and commercial/industrial development. Given the known flooding, and future development it is critical to establish updated flood stages to protect from adverse impacts from flooding as well as to propose flood mitigation alternatives and water quality assessment. South County Watershed sub-basins are already established as a flood prone areas under Land Development Code, Section 802.1 and the Stormwater Management Design Manual. The County has established a 25 year 24 hour flood plain from a 1998 CDM Engineering 25 year Flood Study of the watersheds (refer to attached 25 year Flood Study map) and sub-basin areas (Gates Creek, Cypress Strand, Williams Creek, Sugarhouse/Glenn Creek). The County also has significant historical watershed stormwater inventory from record drawings and related developments (reference attached map for stormwater inventory and ERP coverage areas). The flood mitigation alternatives analysis will provide cost/benefit options for reduction in flood stages in flood prone areas. County also will use this information to update FEMA FIRM Maps which for this area are 30 years old.

This project completes a Surface Water Resource Assessment (SWRA) and BMP (Best Management Practices) Alternatives Analysis (referred to as a 'BA', collectively) for the project area. The principal product of this study will be guidance on pollutant load reduction strategies within the project watershed, including structural, non-structural or natural systems BMPs to improve water quality in this system creek and receiving waters. Guidance will include BMP cost effectiveness estimates, but in highly developed areas may preferentially focus on Low Impact Development (LID) retrofits. The project watershed is a tributary to Tampa Bay a SWIM priority waterbody. The project is compatible with WQ improvement objectives of the Tampa Bay SWIM plan. Results from the joint Estuary Program Tidal Creek Numeric Nutrient Criteria study linking water quality to natural systems should be included in

project guidance. Work products should be compliant with the Tampa Bay Regional Resiliency Coalition guidance for community resiliency to climate change and sea level rise

#### **Benefit:**

Watershed model and floodplain analysis and cost effective flood mitigation alternatives provide information that is critical to better identify risk of flood damage and cost effective flood mitigation alternatives as well as for planning and future development. Currently, flood analysis models are not available and are over 10 years old. This watershed includes regional or intermediate stormwater systems. Resource benefit includes analysis of flooding and water quality problems that exist in the watershed. The study also assists in obtaining lower ranking in the FEMA CRS which may lead to lower flood insurance premiums.

The Watershed Management phase of this project will represent the findings of the additional WQ elements as a prioritized list of financially feasible - or practically feasible in the event of LID applications - watershed-specific pollutant load reduction strategies to improve water quality in the project watershed. It is the County's intent to use the resulting guidance to support water quality improvement projects in the project watershed, including water quality benefits for flood protection projects. Proposed BMPs will be prioritized on measurable benefit(s), resilience factors and cost effectiveness.

#### **Cost:**

Total project cost: \$1,488,000. Manatee County Cost-\$744,000. District Cost \$744,000. Cost was estimated based on on-going Watershed Studies and assistance from SWFWMD staff with estimate of \$46,500 per square mile (\$1.5K for LiDAR, \$15K each for Watershed Eval., Floodplain Analysis, and Alternatives Analysis), for the 32 square mile watershed.

#### **Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Manatee County LDC, Section 801.3.E and Stormwater Manual Section 2.31., authorizes up to a 50% reduction of allowable discharge rate from any new development in a flood prone area. Manatee County has 11 watersheds (including portions of North County Watershed) which have a 50% reduction in allowable runoff for new developments. The policy assists the County with the CRS together with County floodplain policy for discounted flood insurance premium rates. The County has established 25 year 24 hour floodplains that have also been mapped into GIS and for which compensation is required in addition to encroachment that occurs in the 100 year FEMA Floodplain. County LDC 802.6.B establishes floodplain management standards and minimum finished floor elevations to protect from flooding. LDC 801 protects quantity and quality of ground and surface waters, groundwater recharge, prevent and reduce salt water intrusion, prevents adverse impacts on adjacent property from diverting flow of surface water, and prevent flood hazards and flood proofing to prevent property damage and loss of life. In addition to reductions noted above, County requires conformance with SWFWMD ERP regulations and special protection within watershed protection areas such as Evers Watershed and Lake Manatee Reservoir. The County also implements the MS4 NPDES permit which includes various BMPs, protects from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDL related. County maintains GIS database including stormwater inventory and FEMA floodplain areas. The County stormwater inventory has also been converted into the GWIS format utilized by the SWFWMD including an electronic copy of existing stormwater system and ERP related record drawings. County requires conformance with SWFWMD ERP regulations and provides special water quality protections within the watersheds of potable water reservoirs such as the Evers Reservoir and Lake Manatee. The County also implements all elements of a Phase-I NPDES MS4 permit which includes various BMPs, protection from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDLs. The SWMP provides the following water quality improvement services: 1) County-wide (jurisdictional) street sweeping and data collection and analyses to estimate pollutant load reduction benefits from this program; 2) County-wide MS4 inspection and maintenance program for structural controls and roadway collection systems, 3) Public education and outreach elements including storm drain stenciling, support for Florida Friendly Landscaping (tm) and specialized outreach channels such as the Manatee Water Atlas and 5) Miscellaneous services such as Adopt-a-Road, litter collection and household hazardous waste collection. SWMP effectiveness is formally evaluated annually. The County has adopted Ordinances regulating Illicit Connections and Discharges through the MS4 (00-02), Fertilizer use (11-21) and Solid Waste (Pet Waste) disposal (85-11) that limit nutrients to receiving water bodies. The County cooperatively operates a countywide network of 18, combined, continuous stream/rain gauges that provide information for the watershed studies. A stream/rain gauge exists in several locations in North County Watershed and two additional stations are proposed to assist with the calibration/verification effort. Long- term environmental monitoring programs (about 80 stations total, periods of record up to 30 years) provide the data used to evaluate the success of regional environmental management initiatives. Manatee County is a participant in the Tampa Bay Nitrogen Management Consortium.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			744,000		744,000
Manasota			744,000		744,000
Total			1,488,000		1,488,000

#### **Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

## Timelines

Contract Watershed Consultants	12/31/2020
Watershed Evaluation Project Development	03/31/2021
Watershed Evaluation	12/31/2021
WMP Project Development	03/31/2022
Watershed Model Parameterization Development	12/31/2022
SWRA and Alternatives BMPs and Flood Mitigation	12/31/2023
Peer Review	03/31/2024
Public Notification/Presentation to Gov. Board	06/30/2024
Final Approval Deliverables	09/30/2024

## Data Collection Assessment:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Groundwater or Surface Water Level measurements | <input checked="" type="checkbox"/> Groundwater or Surface Water Quality measurements |
| <input checked="" type="checkbox"/> Rainfall or Other Meteorological measurements   | <input checked="" type="checkbox"/> LIDAR/Elevation data                              |
| <input checked="" type="checkbox"/> Mapping/GIS data                                |   |



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# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Pearce Drain Gap Creek Water Quality Plan  
**Project Number** Q153  
**Cooperator** Manatee County  
**Department** Natural Resources  
**Contact Person** Gregory Blanchard  
**Address** 202 6th Ave. E.  
**City State Zip** Bradenton, FL 34208  
**Phone #** 941-742-5980 ext1873  
**Email** greg.blanchard@mymanatee.org

### Project Type:

☐ Water Supply  
 ☒ Water Quality  
 ☐ Flood Protection  
 ☒ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input checked="" type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This project completes a Surface Water Resource Assessment (SWRA) and BMP (Best Management Practices) Alternatives Analysis (referred to as a 'BA', collectively) for the previously approved Pearce Drain/Gap Creek Watershed Management Plan (WMP), Project Number N759. It is the intent of this project to synchronize with the WMP and add additional detail to support water quality planning within the Pearce Drain/Gap Creek watershed. The principal product of this study will be guidance on pollutant load reduction strategies within the Pearce Drain/Gap Creek watershed, including structural, non-structural or natural systems BMPs to improve water quality in Gap creek and receiving waters. Guidance will include BMP cost effectiveness estimates, but in highly developed areas may preferentially focus on Low Impact Development (LID) retrofits.

Gap Creek presents many water quality management challenges due to its location between the Pearce Drain, a major County MS4 element, and the tidal Braden River, a tributary to the tidal Manatee River and Lower Tampa Bay. The watershed has a mix of residential and commercial/industrial development. There are existing flooding problems. County ambient water quality data is collected in adjacent waterbodies and a new station will be established in Gap Creek. The County has two, automated stage gage and rainfall stations within the project area.

Pearce Drain/Gap Creek is a tributary to Tampa Bay, a SWIM priority waterbody. The project is compatible with WQ improvement objectives of the Tampa Bay SWIM plan. Results from the joint Estuary Program Tidal Creek Numeric Nutrient Criteria study linking water quality to natural systems should be included in project guidance. Work products should be compliant with the Tampa Bay Regional Resiliency Coalition guidance for community resiliency to climate change and sea level rise

#### Benefit:

The Watershed Management phase of this project will represent the findings of the additional WQ elements as a prioritized list of financially feasible - or practically feasible in the event of LID applications - watershed-specific pollutant load reduction strategies to improve water quality in the Pearce Drain/Gap Creek watershed. It is the County's intent to use the resulting guidance to support water quality improvement projects in the Pearce Drain/Gap Creek watershed, including water quality benefits for flood protection projects. The Pearce Drain/Gap Creek watershed encompasses an "old urban" area of Manatee County and opportunities for non-LID WQ improvements are limited. Proposed BMPs will be prioritized on measurable benefit(s), resilience factors and cost effectiveness.

#### Cost:

Total project cost: \$110,000. Manatee County Cost: \$55,000. District Cost: \$55,000. Cost was estimated with the assistance of District staff from informational quotations for a template SWRA (Surface Water Resources Assessment) + BMP Assessment (BA). Quotations received were about \$11,000 per square mile. The 10 square mile delineated watershed used by the Pearce Drain/Gap Creek Watershed Management Plan, project N759, was used for cost estimation.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Manatee County Land Development Code, Section 801.3.E and Stormwater Management Design Manual Section 2.31., authorizes up to a 50% reduction to the allowable discharge rate from any new development in a flood prone area. Manatee County has 11 watersheds (including nearby Bowlees Creek) which have a 50% reduction in allowable runoff from new developments and one watershed with a 25% reduction (Braden River). This policy assists the County with the CRS together with County floodplain policy for discounted flood insurance premium rates. The County has established 25 year, 24 hour floodplains and requires compensation; in addition to that required by encroachment in the 100 year FEMA Floodplain. County Land Development Code 802.6.B establishes floodplain management standards and minimum finished floor elevations to protect from flooding. Land Development Code 801 protects quantity and quality of ground and surface waters, groundwater recharge, prevent and reduce saltwater intrusion, prevents adverse impacts on adjacent property from diverting flow of surface water, prevents flood hazards and promotes flood proofing to prevent property damage and loss of life. The County requires conformance with SWFWMD ERP regulations and provides special water quality protections within the watersheds of potable water reservoirs such as the Evers Reservoir and Lake Manatee.

The County maintains a GIS database including a stormwater inventory and FEMA floodplain areas (including 25 year, 24 hour floodplains). The County stormwater inventory has also been converted into the GWIS format utilized by the SWFWMD including an electronic copy of existing ERP record drawings.

The County also implements all elements of a Phase-I NPDES MS4 permit which includes various BMPs, protection from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDLs. The Storm Water Management Program (SWMP) provides the following water quality improvement services: 1) County-wide (jurisdictional Manatee County) street sweeping and data collection and analyses to estimate pollutant load reduction benefits from this program; 2) County-wide MS4 inspection and maintenance program for structural controls and roadway collection systems, 3) Public education and outreach elements including storm drain stenciling, support for Florida Friendly Landscaping (tm) and specialized outreach channels such as the Manatee Water Atlas and 5) Miscellaneous services such as Adopt-a-Road, litter collection and household hazardous waste collection. SWMP effectiveness is formally evaluated annually.

The County has adopted Ordinances regulating Illicit Connections and Discharges through the MS4 (00-02), Fertilizer use (11-21) and Solid Waste (Pet Waste) disposal (85-11) that limit nutrients to receiving water bodies.

The County cooperatively operates a countywide network of 18, combined, continuous stream/rain gauges that provide information for the watershed studies. Long-term environmental monitoring programs (about 80 stations total, periods of record up to 30 years) provide the data used to evaluate the success of regional environmental management initiatives. Manatee County is a participant in the Tampa Bay Nitrogen Management Consortium.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			55,000		55,000
Manasota			55,000		55,000
Total			110,000		110,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

Contract Watershed Consultant	12/31/2020
Draft WMP+WQ Report	11/30/2021
Final WMP+WQ Report	01/31/2022

**Data Collection Assessment:**

- ☒ Groundwater or Surface Water Level measurements ☒ Groundwater or Surface Water Quality measurements
- ☒ Rainfall or Other Meteorological measurements

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Sarasota County Groundwater Denitrification Study  
**Project Number** Q154  
**Cooperator** Sarasota County  
**Department** Environmental Services  
**Contact Person** Patricia Wilken  
**Address** 1660 Ringling Blvd  
**City State Zip** Sarasota, FL 34236  
**Phone #** 941-861-5365  
**Email** pwilken@scgov.net

### Project Type:

☐ Water Supply ☒ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

☒ Water Quality Maintenance and Improvement ☒ Water Quality Monitoring  
☐ Alternative Water Supply ☐ Conservation  
☐ Reclaimed Water ☐ Regional Water Supply Planning  
☐ Emergency Flood Response ☐ Floodplain Management  
☐ Minimum Flows and Level Establishment and Monitoring ☐ Minimum Flows and Levels Recovery  
☐ Natural Systems Conservation and Restoration ☐ Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

☒ Charlotte ☐ Citrus ☐ Desoto ☐ Hardee ☐ Hernando ☐ Highlands ☐ Hillsborough ☐ Lake  
☐ Levy ☐ Manatee ☐ Marion ☐ Pasco ☐ Pinellas ☒ Sarasota ☐ Sumter ☐ Polk

### Project Description/Benefit/Cost

#### Description:

Stormwater systems receive nutrients from several anthropogenic sources such as wastewater, reclaimed wastewater, stormwater runoff, failing septic systems and fertilizer, as well as from atmospheric deposition. In Sarasota County, dissolved inorganic nitrogen (i.e. nitrate) can enter the stormwater system through seepage from the surficial aquifer, and is in a form that is readily available for problematic algae growth.

Sarasota County recognizes the importance of protecting human and environmental health by reducing the levels of nutrients in county waterbodies. A promising and innovative technology being employed to remove nutrients from groundwater is biological denitrification. Biological denitrification is a natural process in which a carbon source is provided as a food source for microorganisms that convert nitrate to nitrogen gas in an oxygen deficient environment, completing the natural nitrogen cycle. As surficial groundwater passes through subsurface trenches containing carbonaceous material colonized by denitrifying bacteria, the nitrogen is converted and dissipates.

This application seeks cooperative funding for a study to design, construct and monitor four subsurface denitrification systems in the Alligator Creek Basin in southern Venice, Florida. They will be situated adjacent to the public stormwater system at locations receiving elevated nitrate concentrations. Monitoring will allow County staff to compare nutrient removal efficiencies of up to three types of carbon-based denitrifying media with the objectives of reducing nitrate loads. Other forms of nitrogen and phosphorus will also be monitored. A map of the study area is provided.

#### Benefit:

Completion of a groundwater denitrification study that compares nutrient removal efficiency of two types of carbon-based denitrifying media with the objective of identifying the approach that provides the greatest nutrient reduction.

Nitrate nitrogen removal per year by each medium.

#### Cost:

This FY2021 funding request of \$300,000 is for a background surface and groundwater quality study and design, construction, and monitoring of four groundwater denitrification systems in the Alligator Creek Basin. This application seeks District funding of \$150,000 with a County match of \$150,000.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

Sarasota County has been a leader in both the State and nation for higher floodplain management regulations voluntarily joining the national Flood Insurance Program (NFIP) in 1971. The County voluntarily applied for participation in FEMA's Community Rating System (CRS) and was accepted into the program in 1992. For the last fifteen years the CRS program has had a robust public outreach strategy and annually hosts flood zone workshops and other presentation and daily answers a flood hotline as well as emails. The County has sustained compliance with the recent 2018 Community Assistance Visit. The County was upgraded to a Class 5 in 2007, which it continues to sustain, saving NFIP policy holders \$7m in discounts annually. The County was awarded the James Lee Witt Award for Excellence by the Association of State Floodplain Managers Association (ASFPM) in 2002 for exemplary local programs/projects. Sarasota County obtained Flood Insurance Rate Maps (FIRMs) and studies with a datum update to NAVD88 and obtained a Digital FIRM product as a Community Technical Partner (CTP) with FEMA and SWFWMD in 2016 as part of the FEMA Map modernization Program. The County is continuing to update drainage basins with FEMA through the Physical Map Revision (PMR) process. The County is anticipating to receive preliminary maps from an updated coastal study and PMRs for the Phillippi Creek, Little Sarasota Bay and Lemon Bay Basins in December 2019 as part of the FEMA Risk MAP program. Updated FIRM panels and additional Risk MAP products may be issued by FEMA in 2021. The County received the Florida Stormwater Association's 2008 Excellence Award for having the best Stormwater Utility Program in Florida. This prestigious award concentrates on four major areas: Flood Protection, Water Quality, Operations & Maintenance and the Capital Improvement Program. A Land Development Ordinance to further the objectives of floodplain management requires all new developments have stormwater management systems and finished floor elevations designed at or above the 100-year flood elevation. Developments over 35 acres or over 8 acres of impervious area are required to demonstrate that they will not result in adverse increases in off-site flood stages within the appropriate county watershed model. The Water-Efficient Landscape Ordinance won a statewide award for innovation. Irrigation restrictions that allow for once-a-week irrigation are enforced by code enforcement officers. Reduction of potable water use is encouraged with our rain barrel harvesting program. By Ordinance, developers are required to install reuse lines throughout new development if a reuse system exists within one hundred and fifty feet of any property line of a subdivision, single or multi-family residence or any non-residential lot or use.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			150,000		150,000
Manasota			150,000		150,000
Total			300,000		300,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**01/01/2022**

**Milestone**

Denitrification System Design and Construction

**Projected Date**

12/31/2022

**01/01/2023**

**Milestone**

System Monitoring

**Projected Date**

12/31/2023

**01/01/2024**

**Milestone**

Draft Report and Final Report

**Projected Date**

06/30/2024

**04/01/2021**

**Milestone**

Consultant Selection

**Projected Date**

08/30/2021

**09/01/2021**

**Milestone**

Data Collection and Analysis

**Projected Date**

12/31/2021

**10/01/2020**

**Milestone**

Execute Agreement

**Projected Date**

03/31/2021

**Data Collection Assessment:**

- ☒ Groundwater or Surface Water Level measurements ☒ Groundwater or Surface Water Quality measurements
- ☒ Monitor Well Installation ☒ Other data collection: Nutrients

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** City of Bradenton Village of the Arts South Drainage Improvements from 13th Ave. W. to 17th Ave. W.  
**Project Number** Q157  
**Cooperator** City of Bradenton  
**Department** Public Works  
**Contact Person** Kim Clayback  
**Address** 1411 9th St W  
**City State Zip** Bradenton, FL 34205  
**Phone #** 941-708-6300 ext224  
**Email** kim.clayback@cityofbradenton.com

### Project Type:

☐ Water Supply ☐ Water Quality ☒ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The total benefits seen within the project area total \$1.55M and the cost of the project is approximately \$2.34M. While the ratio is 0.66, the unseen benefit outside of the project area is the reduction of approximately 2.0 ac-ft of runoff (unburdening the system) diverted away from Wares Creek, opening space for runoff from other parts of the watershed to reach the Creek more quickly as well as the nutrient removal benefits of now treating the stormwater.

#### Benefit:

Structures removed from floodplain - 37  
Reduced stage and duration of flooding in roadway  
Reduced runoff to Wares Creek - 2.0 ac-ft TN removal - 517 lb/yr - 20,000 lb/40 yr TP removal - 82 lb/yr - 3300 lb/40 yr

#### Cost:

Project Cost Total: Phase 1 Survey, Design and Permitting - \$200,000 Phase 2 Pond Construction - \$600,000 Phase 3 Collection System Construction - \$1,540,000 Total: \$2,340,000

### Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

The City continues to operate a stormwater utility (enacted in 1996) which funds primarily maintenance activities. Several activities directly impact water quality and are monitored in some cases weekly, continually updated for improved compliance and reported annually to FDEP. Activities include catch basin and storm pipe cleanout using a flush truck, operating three street sweepers,

weekly inspection of storm structures, annual training for Public Works personnel, and partnering with Keep Manatee Beautiful. In addition, the City will completed a Watershed Management Plan during FY2017 which will identify and prioritize capital improvement projects.

City Resolution #00-58 provides for adoption of a Floodplain Management Plan developed to comply with the National Flood Insurance Program (NFIP). Currently the City maintains a class 7 status as prescribed by the Community Rating System (CRS) of the NFIP. This favorable rating provides for a 15% reduction in flood insurance premium for City residents. City Land Use Development Regulations (Ordinance #2627) Section 400(c) provides for minimum requirements to be maintained in areas specified as special flood hazard areas. All new and retrofitted projects within the City are subject to the water quality standards as prescribed by 40D-4, 40D-40, and 40D-400, F.A.C.

The City of Bradenton has developed and implemented a Water Demand Management Plan (WDMP) to manage and protect the City's water supply in a way that ensures a safe and adequate supply of water for the citizens of Bradenton. The WDMP is driven by triggering mechanisms developed to initiate specific conservation measures. These conservation measures and District water shortage orders are enforceable pursuant to City Ordinance #2650. The City initially adopted inclining block rates for potable water in 1982. City Ordinance #2679 is for reclaimed water use with provisions for user charges.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			100,000	1,070,000	1,170,000
Manasota			100,000	1,070,000	1,170,000
Total			200,000	2,140,000	2,340,000

#### **Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

#### **Timelines**

##### **FY 2021 Phase 1**

###### **Milestone**

Survey

###### **Projected Date**

12/31/2020

##### **FY2021 Phase 1**

###### **Milestone**

Design and Permitting

Bid Solicitation - Pond

###### **Projected Date**

07/31/2021

09/30/2021

##### **FY2022 Phase 2**

###### **Milestone**

Pond Construction

Construction Close Out - Pond

Bid Solicitation - Collection System

###### **Projected Date**

03/31/2022

04/30/2022

09/30/2022

##### **FY2023 Phase 3**

###### **Milestone**

Construction - Collection System

Construction Close Out - Collection System

###### **Projected Date**

04/30/2023

05/30/2023

#### **Data Collection Assessment:**

☒ Land Survey



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Bee Ridge Water Reclamation Facility Floridan Aquifer Recharge Wells MIA Recovery Project  
**Project Number** Q159  
**Cooperator** Sarasota County  
**Department** Environmental Services  
**Contact Person** Patricia Wilken  
**Address** 1660 Ringling Blvd  
**City State Zip** Sarasota, FL 34236  
**Phone #** 941-861-5365  
**Email** pwilken@scgov.net

### Project Type:

☒ Water Supply  
 ☒ Water Quality  
 ☐ Flood Protection  
 ☒ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input checked="" type="checkbox"/> Alternative Water Supply	<input checked="" type="checkbox"/> Conservation
<input checked="" type="checkbox"/> Reclaimed Water	<input checked="" type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input checked="" type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input checked="" type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

Sarasota County Bee Ridge Water Reclamation Facility (WRF), located at 5550 Lorraine Road, Sarasota, FL, is one of three wastewater treatment facilities Sarasota County owns and operates to process wastewater into reclaimed water, which is used as an irrigation water supply for residential developments and golf courses. The WRF has a capacity to treat 12 million gallons of wastewater per day (MGD) and is accompanied with a reclaimed water storage pond having a maximum capacity of 170 MG. Reclaimed water demand is at its highest during the dry season and as its lowest during the rainy season, making it a challenge to balance seasonal needs and storage requirements. To address this challenge, Sarasota County Completed an exploratory well phase on November 14, 2016 and received a permit from the Florida Department of Environmental Protection on December 26, 2017 to construct aquifer recharge wells at the facility. The County plans to fund 100% of the design and permitting of the Bee Ridge WRF Recharge Wells Project in FY2020 and bid the project to begin construction in FY2021.

This cooperative funding application is to cost share the construction of two (2) non-hazardous Class V Aquifer Recharge Injection Wells with capacities of up to 18.5 MGD, three (3) monitor wells, and other necessary appurtenances to recharge reclaimed water meeting high-level disinfection standards into the Upper Floridan Aquifer for a maximum wet-weather backup disposal of up to 18 million gallons per day (MGD). The project is located just outside of the Eastern Tampa Bay Most Impacted Area (ETB MIA) and will aid in the ETB MIA recovery efforts by providing a source of water to recharge the Upper Floridan Aquifer and potentially reverse the current trends of landward and upward migration of mineralized water into the aquifer zones used for the projection of potable water.

#### Benefit:

The recharge of up to 18 MGD of highly treated reclaimed water to the Upper Floridan Aquifer will counteract the effects of regional withdrawals and help to prevent landward migration of saline groundwater from the Gulf Coast and upward migration of mineralized groundwater from deeper zones within the aquifer. These recharge wells, along with conventional storage and the cooperatively funded Central County ASR well, are part of the County's overall strategy to increase beneficial reuse and reduce discharge to deep injection wells where possible.

#### Cost:

The total project cost for construction is estimated to be \$10,000,000. This application seeks \$3,000,000 in SWFWMD funds for FY2021 and \$2,000,000 in SWFWMD funds in FY2022, with County match in each fiscal year.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

Sarasota County has long been a leader in the SWFWMD and the State of Florida in water conservation projects. Per capita usage rates are among the lowest of any public utility in the region. The Water-Efficient Landscape Ordinance won a statewide award for innovation. Irrigation restrictions that allow for once-a-week irrigation are enforced by code enforcement officers. Reduction of potable water use via the implantation of the County's Alternative Water Supply (AWS) Program is accomplished through the County's extensive North & South Master Reuse Systems, providing commercial end-users with approximately 8.0 MGD of highly treated reclaimed water. By Ordinance, developers are required to install reuse lines throughout new development if a reuse system exists within one hundred and fifty feet of any property line of a subdivision, single or multi-family residence or any non-residential lot or use. The Phillippi Creek Septic System Replacement Program has replaced over 10,000 aging septic systems with central sewers within the Phillippi Creek basin. Phillippi Creek is a TMDL Priority Water body. This septic system replacement program primarily addressed an urbanized portion of Sarasota County built out with single-family homes. Sarasota County's septic system replacement program is part of a multi-faceted approach to address watershed protection, protect public health, create great public spaces, and improve the quality of life within the community. The Siesta Key Master Pump Station and Force Main Project consisted of design, permitting and construction of a master pump station and transmission force main to allow for the decommissioning of the County's Siesta Key Wastewater Treatment Plant. This treatment plant was permitted to discharge to Sarasota Bay. The decommissioning of the Siesta Key plant is estimated to have resulted in the removal of 5,800 Lbs of Nitrogen and 2,000 Lbs of Phosphorous per year from Sarasota Bay at a total project cost of \$11.5 million dollars. The 1.5 million gallons per day of contributing flow from the Siesta Key service area will then be treated and beneficially reused in the county's reclaimed water system. This project will increase availability of reclaimed water and will reduce the need for groundwater withdrawals to meet irrigation needs on the mainland. Additionally, the County works closely with the USF/IFAS Extension Service. Staff have been working together to create a comprehensive education and outreach plan that utilizes cross-county services and expertise to target high water users throughout the county. To date staff have promoted April as Water Conservation Month through: a county-wide mailer to utility customers explaining the irrigation schedule, to check their timers, and to get a free irrigation evaluation; a proclamation in front of the Board declaring April as Water Conservation Month; and through the use of several social media and blog posts. Staff have also received a tutorial of the H2OSAV program (a program used to identify geographic areas with high water use) by University of Florida, and are working in coordination with the USF/IFAS Extension Service to answer repeated complaints by neighbors in one particular community about overwatering. Regular free irrigation evaluations are conducted by Extension Agents and Master Gardeners that have helped residents save up to 70% of their outdoor water use. Throughout the year educators attend events where they use an educational display and a fact sheet to showcase the importance of protecting and saving water in Sarasota County.

Funding Source	Prior Funding	FY2020 Budget	FY2021 Budget	Future Funding	Total Funding
Applicant Share			3,000,000	2,000,000	5,000,000
Manasota			3,000,000	2,000,000	5,000,000
Total			6,000,000	4,000,000	10,000,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**03/01/2021**

**Milestone**

Procurement for Construction Contractor

**Projected Date**

11/30/2021

**10/01/2020**

**Milestone**

Execute Agreement

**Projected Date**

02/28/2021

**12/01/2021**

**Milestone**

Construction

**Projected Date**

12/31/2023

**Data Collection Assessment:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Groundwater or Surface Water Level measurements | <input checked="" type="checkbox"/> Groundwater or Surface Water Quality measurements |
| <input checked="" type="checkbox"/> Monitor Well Installation                       | <input checked="" type="checkbox"/> Lithologic/Geophysical data                       |
| <input checked="" type="checkbox"/> Aquifer Testing                                 | <input checked="" type="checkbox"/> Land Survey                                       |

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Honore Ave. Alternative Water Supply - Reclaimed Main Extension  
**Project Number** Q160  
**Cooperator** Sarasota County  
**Department** Environmental Services  
**Contact Person** Patricia Wilken  
**Address** 1660 Ringling Blvd  
**City State Zip** Sarasota, FL 34236  
**Phone #** 941-861-5365  
**Email** pwilken@scgov.net

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☒ Natural Systems

### Strategic Initiatives:

☐ Water Quality Maintenance and Improvement ☐ Water Quality Monitoring  
☒ Alternative Water Supply ☐ Conservation  
☒ Reclaimed Water ☒ Regional Water Supply Planning  
☐ Emergency Flood Response ☐ Floodplain Management  
☐ Minimum Flows and Level Establishment and Monitoring ☒ Minimum Flows and Levels Recovery  
☐ Natural Systems Conservation and Restoration ☐ Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

☐ Charlotte ☐ Citrus ☐ Desoto ☐ Hardee ☐ Hernando ☐ Highlands ☐ Hillsborough ☐ Lake  
☐ Levy ☐ Manatee ☐ Marion ☐ Pasco ☐ Pinellas ☒ Sarasota ☐ Sumter ☐ Polk

### Project Description/Benefit/Cost

#### Description:

Sarasota County's North Master Reuse System (NMRS) provides up to 6 million gallons per day (MGD) to golf courses and other centralized irrigation systems at developments throughout the northern half of the County. Future planned development extending south of SR 72 towards the Osprey/Nokomis/Venice corridor brings with it an increase in sanitary sewer service connections and opportunities for increase beneficial use of reclaimed wastewater.

The subject of this cooperative funding application is a PROJECT which entails a reuse service main extension planned as a multi-year, multi-phase project to extend reclaimed service to future development south of SR 681 in Sarasota County including Palmer Ranch, Calusa Lakes Development, Calusa Lakes golf course, and Mission Valley golf course. The first phase of the project involves the construction of a reclaimed main from north of Oscar Scherer State Park along Honore Ave. to just south of SR 681. Subsequent phases will include extending additional reclaimed lines along Honore Ave. to the intersection of Ranch Road. A Utility agreement with Palmer Ranch will be required to address oversizing a phase of the reclaimed line that is required to be built by the development. In addition, Sarasota County Public Utilities will be working with the golf courses and the developments in the area to extend service, which will require additional funding, once the scope and timing of the project are developed.

#### Benefit:

The supply of 2.0 MGD of reclaimed water for irrigation to the new portions of Sarasota County's reclaimed service area will offset the need for irrigation water to be withdrawn from a higher-value resource. This project was identified as one of the Potential large Reclaimed Water Users in the County's 2013 Reclaimed Water Master Plan, which identified Palmer Ranch, Calusa Lakes and Mission Valley as having the potential for using 2.0 MGD of reclaimed water treated to Advanced Wastewater Treatment (AWT) levels.

#### Cost:

The total project cost (design, permitting and construction) is estimated to be \$3,000,000. This application seeks \$500,000 in SWFWMD funding with a County match for design and permitting in FY2021, and \$1,000,000 in SWFWMD funding with a County match for construction in FY2022.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

Sarasota County has long been a leader in the SWFWMD and the State of Florida in water conservation projects. Per capita usage rates are among the lowest of any public utility in the region. The Water-Efficient Landscape Ordinance won a statewide award for innovation. Irrigation restrictions that allow for once-a-week irrigation are enforced by code enforcement officers. Reduction of potable water use via the implantation of the County's Alternative Water Supply (AWS) Program is accomplished through the County's extensive North & South Master Reuse Systems, providing commercial end-users with approximately 8.0 MGD of highly treated reclaimed water. By Ordinance, developers are required to install reuse lines throughout new development if a reuse system exists within one hundred and fifty feet of any property line of a subdivision, single or multi-family residence or any non-residential lot or use. The Phillippi Creek Septic System Replacement Program has replaced over 10,000 aging septic systems with central sewers within the Phillippi Creek basin. Phillippi Creek is a TMDL Priority Waterbody. This septic system replacement program primarily addressed an urbanized portion of Sarasota County built out with single-family homes. Sarasota County's septic system replacement program is part of a multi-faceted approach to address watershed protection, protect public health, create great public spaces, and improve the quality of life within the community. The Siesta Key Master Pump Station and Force Main Project consisted of design, permitting and construction of a master pump station and transmission force main to allow for the decommissioning of the county's Siesta Key Wastewater Treatment Plant. This treatment plant was permitted to discharge to Sarasota Bay. The decommissioning of the Siesta Key plant is estimated to have resulted in the removal of 5,800 Lbs of Nitrogen and 2,000 Lbs of Phosphorous per year from Sarasota Bay at a total project cost of \$11.5 million dollars. The 1.5 million gallons per day of contributing flow from the Siesta Key service area will then be treated and beneficially reused in the county's reclaimed water system. This project will increase availability of reclaimed water and will reduce the need for groundwater withdrawals to meet irrigation needs on the mainland.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			500,000	1,000,000	1,500,000
Manasota			500,000	1,000,000	1,500,000
Total			1,000,000	2,000,000	3,000,000

#### **Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

#### **Timelines**

**03/01/2021**

##### **Milestone**

Design of Reclaimed Main

##### **Projected Date**

11/30/2021

**04/01/2020**

##### **Milestone**

Execute Agreement

##### **Projected Date**

08/31/2020

**06/01/2022**

##### **Milestone**

Construction of Reclaimed Main

##### **Projected Date**

12/31/2023

**09/01/2020**

##### **Milestone**

Procurement for Design Engineer

##### **Projected Date**

02/28/2021

**12/01/2021**

##### **Milestone**

Procurement for Construction Contractor

##### **Projected Date**

05/31/2022

#### **Data Collection Assessment:**

☒ Land Survey ☒ Mapping/GIS data

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Desoto County 760A Chemical Feed System  
**Project Number** Q165  
**Cooperator** DeSoto County  
**Department** Administration  
**Contact Person** Mandy Hines  
**Address** 201 East Oak Street, Suite 201  
**City State Zip** Arcadia, FL 34266  
**Phone #** 863-993-4800 ext201  
**Email** m.hines@desotobocc.com

### Project Type:

☒ Water Supply 
 ☒ Water Quality 
 ☐ Flood Protection 
 ☐ Natural Systems

### Strategic Initiatives:

☒ Water Quality Maintenance and Improvement 
 ☐ Water Quality Monitoring  
☐ Alternative Water Supply 
 ☒ Conservation  
☐ Reclaimed Water 
 ☐ Regional Water Supply Planning  
☐ Emergency Flood Response 
 ☐ Floodplain Management  
☐ Minimum Flows and Level Establishment and Monitoring 
 ☐ Minimum Flows and Levels Recovery  
☐ Natural Systems Conservation and Restoration 
 ☐ Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

☐ Charlotte 
 ☐ Citrus 
 ☒ Desoto 
 ☐ Hardee 
 ☐ Hernando 
 ☐ Highlands 
 ☐ Hillsborough 
 ☐ Lake  
☐ Levy 
 ☐ Manatee 
 ☐ Marion 
 ☐ Pasco 
 ☐ Pinellas 
 ☐ Sarasota 
 ☐ Sumter 
 ☐ Polk

### Project Description/Benefit/Cost

#### Description:

The purpose of this project is to reduce flushing by installing a new remote chlorination station. Desoto County's pumping system includes more than 25 miles of water main up to 16inch and two booster stations. The county historically has difficulty maintaining chlorine residual within the pumping and distribution portion of the system due to long transmission mains and relatively low customer consumption. Based on analysis, the water age at the far North-east end of town was projected to be 4.7 days. A supplemental approach to reduce the flushing demands is to install a chemical feed trim facility (bleach/ammonia). This option would increase the chlorine residuals in the north east area and reduce flushing requirements.

#### Benefit:

The completed project would conserve 23,000 MGD or estimate 8.4 MGY.

#### Cost:

The total project cost for installing the chemical feed injection system is estimated to be \$209,900

Cost estimate breakdown: Engineering and permitting \$6500; Electric Service \$1500; Vault \$45000; Flow meter \$7500; Sample Line \$9000; Concrete Pad \$3000; FRP Building \$25000; NaOCl Double Wall Tank \$4600; NaOCl Feed Equipment \$7600; Ammonium Sulfate Storage \$2900; Ammonium Sulfate Feed Equipment \$7600; Chlorine Analyzer \$6000; Moore Controller \$5000; Chemical injection piping \$9500; Start up and training \$2800; safety shower/ eyewash \$6400 and in line mixer \$60,000.

### Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

1. Tiered conservation rate structure, see attached
2. Inter-local agreement between the County and the City of Arcadia, see attached
3. Desoto County Comprehensive Plan conservation element, see attached.
4. Black & Veatch water system assessment, file to large to upload.

Funding Source	Prior Funding	FY2020 Budget	FY2021 Budget	Future Funding	Total Funding
Applicant Share			52,475		52,475
General Fund-District Wide			157,425		157,425

Total	209,900	209,900
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**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**760A Chlorination Station**

**Milestone**

planning 90%

Design 60%

Permitting 0%

Bidding 30%

**Projected Date**

10/01/2019

01/01/2020

02/01/2020

03/01/2020

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Manatee County Toilet Rebate Project, Phase 14  
**Project Number** Q168  
**Cooperator** Manatee County  
**Department** Utilities  
**Contact Person** Olga Wolanin  
**Address** 4410 66th Street W.  
**City State Zip** Bradenton, FL 34210  
**Phone #** 941-792-8811 ext5416  
**Email** olga.wolanin@mymanatee.org

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input checked="" type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The Manatee County Utilities Department planning to implement Phase 14 of the Toilet Rebate Program in FY 2021. This Ultra Low-Flow Toilet (ULFT) rebate will serve as an indoor conservation component to the County's Water Conservation Incentive Program for the County's retail water customers (residential, multi-family and commercial/industrial). The County is currently serving over 120,000 potable water accounts and anticipates continued growth over the next 20 years. The objectives of the retrofit program are to reduce water demand and provide financial incentives for the replacement of an estimated 1,000 toilets during FY 2021. The program addresses the Manatee County Board of County Commissioners' policies on water conservation and is supported by the County's water conservation rates for potable water use. Any program participant that replaces a 3.5 gallons per flush (gpf) or more toilet with an ultra-low flow (ULF) that uses 1.6 gpf or less and/or High Efficiency Toilets (HET), will receive up to a \$100.00 rebate for each toilet with a maximum limit of two toilets per dwelling unit. This program will also focus on educating the new low volume toilet owners on the proper maintenance, specifically flappers and leak detection, necessary to ensure that each toilet remains a water conserving fixture. Rebate payments are subject to the recipient's submittal of the completed application, documented cost and will be distributed after personal inspection of the completed installation and verification that the old toilets are ready for disposal.

#### Benefit:

The project will replace approximately 1,000 high-volume toilets producing a water savings of approximately 26,380.26 gallons per day.

#### Cost:

The project's estimated cost/benefit ratio is \$1.72 per thousand gallons (20 years at 8% interest). The County is requesting \$82,500 from the SWFWMD Board. The total cost of the project is \$165,000.

### Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.

Manatee County's overall conservation program includes existing metering and loss reduction program, water conservation rate structures, urban and agricultural reclaimed water irrigation supply, public education, SWUCA based level of service for water

supply at =110 gpcpd, land development codes requiring non-potable sources for irrigation in new developments, water supply protection ordinances and the use of aquifer storage and recovery for potable and potentially reclaimed waters.

Manatee County has adopted Ordinance 89-10 (Floodplain Management) as required to participate as a community in the National Flood Insurance Program, administered through FEMA. Ordinance 90-01 (Land Development) was adopted to further the floodplain management objectives. All development is required to receive the proper building and site alteration permits. All finished floor elevations are required to be at or above the 100-year flood elevation. Manatee County is also a participant in FEMA's Community Rating System and has a Class 6 rating.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share	1,091,291	75,500	82,500		1,249,291
Manasota	1,091,291	75,500	82,500		1,249,291
Total	2,182,582	151,000	165,000		2,498,582

#### **Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

#### **Timelines**

Executive Agreement with the District	09/30/2020
Begin Toilet Rebate Program, Phase 14	04/01/2021
Complete Toilet Rebate Program, Phase 14	03/31/2022
Final Report Due	06/01/2022

#### **Data Collection Assessment:**

☒ No data will be collected for this project



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Conservation – City of Venice Toilet Rebate and Retrofit Project – Phase 8  
**Project Number** Q179  
**Cooperator** City of Venice  
**Department** Utilities  
**Contact Person** Javier Vargas  
**Address** 200 North Warfield Ave.  
**City State Zip** Venice, FL 34285  
**Phone #** 941-882-7310  
**Email** jvargas@venicegov.com

### Project Type:

☒ Water Supply  
 ☐ Water Quality  
 ☐ Flood Protection  
 ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input checked="" type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The City of Venice Toilet Rebate and Retrofit Program consists of offering financial incentives to potable water customers for replacing conventional toilets and urinals with water-conserving equivalents, providing rebates for certain water saving improvements, providing do-it-yourself kits, and an educational component. The City will provide a \$100 credit to the customer's water bill upon WaterSense toilet or urinal installation and inspection. In order to assure that the replaced conventional toilets or urinals will not be reinstalled at another location, the City will require permanent disposal of the conventional toilet or urinal as a condition of the rebate. It is estimated that 50 percent of the City's water customers are eligible for this component. The other component of the program consists of providing 400 water conservation do-it-yourself kits and educational materials at no charge to City potable water customers. These kits contain such items as a low-flow showerhead, bath and kitchen faucet aerators, toilet flapper valve, toilet tank leak detection dye tablets, and water conservation educational materials. The total project cost is \$58,900, and the City is requesting \$29,450 from the District in FY2020. The City of Venice will match the funding request with funds within the Utilities Department water production budget. The City's per capita water usage for 2011 was 59 gpd per person. The city plans to hire a consultant to administer the project. The consultant will perform the rebate qualifications, educational component, installation inspections, and customer surveys while the City will track actual pre and post water usage. Toilet installation rebates and conservation kit distribution will begin by January 1, 2021. It is anticipated that the project will be complete by December 31, 2021 with project close out and final reporting occurring no later than April 1, 2022.

#### Benefit:

The project will replace approximately 249 high-volume toilets or urinals and provide up to 400 water conservation DIY kits, producing a water savings of approximately 16,330 gpd. The project's estimated cost/ benefit ratio is \$1.44 per thousand gallons (20 years at 8% interest). This cost/benefit ratio is based on the project cost of \$58,900 over a 20 year life of toilets/urinals.

#### Cost:

- Estimated Cost: \$58,900
- 249 Toilet Rebates to include, Single, & Multi-family, and Commercial toilets @ \$100.00, with the total cost of \$24,900.00
- Program Administration, 249 @ \$50.00, with a total cost of \$12,450.00
- 400 DIY Kits at a total cost of \$8,400.00
- Educational Materials and Program Promotion at a total cost of \$13,150.00
- In no instance will the rebate exceed the actual cost of the related toilet(s) and installation(s)

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of Venice makes water conservation a priority. The Utilities Department has in place a comprehensive water distribution and supply system with a tiered water rate structure along with a robust reclaimed water distribution system. Periodic water conservation tips and techniques are disseminated through messages printed on each bill or on separate bill inserts. The city also provides water conservation education and promotional materials, and in prior years provided plumbing retrofit kits. Under the Water Conservation Plan, utilities staff researches other water conservation practices for possible use. The stormwater division oversees flood protection ordinances. New subdivision regulations require all properties with a SWFWMD permit to recertify their system yearly. Public outreach, regular stormwater system inspections and a capital improvement program are just a few of the flood protection and water quality improvement initiatives performed.

The Utilities Department educates the public on water conservation and offers promotional materials

(i.e. toilet leak tablets, water charts, contests and water saver gadgets). Yearly, utilities sponsors a water conservation poster contest with the local schools. The city provides reclaimed water for commercial and residential properties in portions of the city. The watering restriction ordinance is regularly updated to be consistent with the restrictions implemented by SWFWMD and adopted by Sarasota County.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share	114,950	29,450	29,450	29,450	203,300
Manasota	144,400	29,450	29,450	29,450	232,750
Total	259,350	58,900	58,900	58,900	436,050

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

Project Start	01/01/2021
Project Complete	12/31/2021
Project Closeout and Final Reporting	04/01/2022

**Data Collection Assessment:**

☒ Other data collection: Number of rebates and conservation kits

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Centre Lake Flood Mitigation  
**Project Number** Q180  
**Cooperator** Manatee County  
**Department** Stormwater Engineering Division  
**Contact Person** Kenneth Kohn, P.E.  
**Address** 1022 26th Avenue East  
**City State Zip** Bradenton, FL 34208  
**Phone #** 941-708-7450 ext7254  
**Email** kenneth.kohn@mymanatee.org

### Project Type:

☐ Water Supply  
 ☒ Water Quality  
 ☒ Flood Protection  
 ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This is a flood protection and stormwater improvement best management practices implementation and water quality improvement located in Pearce Drain/Gap Creek watershed (design/construction project). Centre Lake Subdivision resides in the Pearce Drain/ Gap Creek Watershed which is currently undergoing a watershed study and alternatives for flood mitigation analysis (FY2017 Agreement No. N759). Centre Lake has 61 homes and was designed based on 1984 effective FEMA FIRM, reviewed and permitted by both Manatee County and SWFWMD. Centre Lake reported flooding from storm events in 1988, 1992, 2001, 2016 and 2017 where all homes had finish floors underwater. The watershed study has provided an alternatives analysis for twelve alternatives and two combined alternatives. Because of the confirmed "flashy" nature of this watershed all of the proposed alternatives proved very costly (i.e., range of costs from \$6.5 million to \$77.5 million) for very minimal 100 year flood stage reduction. The recommended combined alternatives removed only at best 2 out of the 61 homes in Centre Lake which is the residential subdivision in the watershed that experiences the greatest flooding of homes from significant events.

Therefore, County staff initiated additional analysis which includes a floodwall around the entire Centre Lake Subdivision with access via an elevated drive. The proposed flood wall will be elevated to 1 foot above the modeled 100 year flood stage at Centre Lake (elevation 17.0 ft NAVD88). This option is the only option that effectively removes all 61 homes out of the floodplain and for significantly less than the recommended alternatives. In addition, Manatee County has performed preliminary modeling and has identified flood mitigation to off-set the loss in flood storage from the wall. The flood storage of 65 acre-ft will provide a net floodplain compensation volume benefiting the entire watershed of 15 acre-ft using the mitigation measures noted in the alternatives analysis (refer to Mitigation Report). County also proposes a water quality improvement to address nutrient removal using up to two (2) nutrient removal baffle boxes to treat currently untreated runoff within the Pearce Drain Watershed. Each baffle box will treat approximately 2-3 acre area up to 1.00 kg/yr TP and 4.0 kg/yr TN reduction each. In addition it should be emphasized that flooding in Centre Lake is caused by rising flood waters from Pearce Drain, not the internal drainage system or retention pond.

The Pearce Drain Gap Creek Water Quality Plan will provide substantive, watershed-specific pollutant load reduction strategies to improve water quality in the project watershed (Tampa Bay Watershed). It is the County's intent to use the resulting guidance to support substantive water quality improvements within the project watershed. Water quality BMPs will be prioritized on measurable benefit(s), resilience factors and cost effectiveness. Water quality BMP selections will be made during project design.

In summary, this project proposes Flood Mitigation in excess of what is required for Centre Lake (15 acre ft of additional flood storage) and therefore provides a regional benefit. This together with the proposed water quality improvements according to the CFI guideline will make this project eligible for cooperative funding consideration.

#### **Benefit:**

This flood mitigation project will permanently remove 61 residential homes out of the 100 year 24 hour floodplain of Pearce Drain/ Gap Creek, lower flood stages up to the 100 year storm event, and provide nutrient reduction (TN and TP). The flood mitigation alternatives reviewed in the Pearce Drain/Gap Creek Watershed Study proved costly for little flood stage reduction. A three sided wall was evaluated in Alternative No. 3 and received low cost to benefit ration as did all of the alternatives. Therefore, this option County staff believe affords the lowest cost for the most benefit (removal of 61 residential homes). In addition, the flood mitigation proposed will be above and beyond that required for Centre Lake (estimated at 50 acre-ft) by providing a total of 65 acre-ft live storage as identified in this application and the current alternatives analysis. Please refer to the Centre Lake Flood Mitigation Analysis report attached.

The project watershed is a tributary to Tampa Bay, a SWIM priority waterbody. The project is compatible with WQ improvement objectives of the Tampa Bay SWIM plan. Work products should be compliant with the Tampa Bay Regional Resiliency Coalition guidance for community resiliency to climate change and sea level rise Tampa Bay Climate Science Advisory Panel, 2019.

#### **Cost:**

An opinion of conceptual costs was conducted by staff. The total project cost is estimated at \$8,443,491. The cost estimate breakdown is provided as an attachment. Please refer to the engineering report section and the alternatives analysis for cost/ benefit analysis.

#### **Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Manatee County LDC, Section 801.3.E and Stormwater Manual Section 2.31., authorizes up to a 50% reduction of allowable discharge rate from any new development in a flood prone area. Manatee County has 11 watersheds (including portions of North County Watershed) which have a 50% reduction in allowable runoff for new developments. The policy assists the County with the CRS together with County floodplain policy for discounted flood insurance premium rates. The County has established 25 year 24 hour floodplains that have also been mapped into GIS and for which compensation is required in addition to encroachment that occurs in the 100 year FEMA Floodplain. County LDC 802.6.B establishes floodplain management standards and minimum finished floor elevations to protect from flooding. LDC 801 protects quantity and quality of ground and surface waters, groundwater recharge, prevent and reduce salt water intrusion, prevents adverse impacts on adjacent property from diverting flow of surface water, and prevent flood hazards and flood proofing to prevent property damage and loss of life. In addition to reductions noted above, County requires conformance with SWFWMD ERP regulations and special protection within watershed protection areas such as Evers Watershed and Lake Manatee Reservoir. The County also implements the MS4 NPDES permit which includes various BMPs, protects from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDL related. County maintains GIS database including stormwater inventory and FEMA floodplain areas. The County stormwater inventory has also been converted into the GWIS format utilized by the SWFWMD including an electronic copy of existing stormwater system and ERP related record drawings. County requires conformance with SWFWMD ERP regulations and provides special water quality protections within the watersheds of potable water reservoirs such as the Evers Reservoir and Lake Manatee. The County also implements all elements of a Phase-I NPDES MS4 permit which includes various BMPs, protection from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDLs. The SWMP provides the following water quality improvement services: 1) County-wide (jurisdictional) street sweeping and data collection and analyses to estimate pollutant load reduction benefits from this program; 2) County-wide MS4 inspection and maintenance program for structural controls and roadway collection systems, 3) Public education and outreach elements including storm drain stenciling, support for Florida Friendly Landscaping (tm) and specialized outreach channels such as the Manatee Water Atlas and 5) Miscellaneous services such as Adopt-a-Road, litter collection and household hazardous waste collection. SWMP effectiveness is formally evaluated annually. The County has adopted Ordinances regulating Illicit Connections and Discharges through the MS4 (00-02), Fertilizer use (11-21) and Solid Waste (Pet Waste) disposal (85-11) that limit nutrients to receiving water bodies. The County cooperatively operates a countywide network of 18, combined, continuous stream/rain gauges that provide information for the watershed studies. A stream/rain gauge exists in several locations in North County Watershed and two additional stations are proposed to assist with the calibration/verification effort. Long- term environmental monitoring programs (about 80 stations total, periods of record up to 30 years) provide the data used to evaluate the success of regional environmental management initiatives. Manatee County is a participant in the Tampa Bay Nitrogen Management Consortium.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			2,111,000	2,111,000	4,222,000
Manasota			2,111,000	2,111,000	4,222,000
Total			4,222,000	4,222,000	8,444,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

Preliminary Design	10/30/2020
Full Design and Permitting	10/31/2021
RFB Advertisement and award	04/30/2022
Construction	10/31/2022
Complete Construction	04/30/2023

**Data Collection Assessment:**

☒ No data will be collected for this project

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# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** North Port Water Distribution System Looping  
**Project Number** Q185  
**Cooperator** City of North Port - Public Utilities  
**Department** Utilities  
**Contact Person** Nicole Brown  
**Address** 6644 W Price Blvd  
**City State Zip** North Port, FL 34291  
**Phone #** 941-240-8025  
**Email** nbrown@cityofnorthport.com

### Project Type:

☒ Water Supply 
 ☒ Water Quality 
 ☐ Flood Protection 
 ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input checked="" type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input checked="" type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input checked="" type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The City of North Port water supply system contains areas with multiple dead ends, which coupled with seasonal use, requires frequent flushing in order to maintain the required disinfectant residual for water quality in the system. In an effort to promote conservation and reduce flushing, the City has incorporated language in the North Port Utilities water distribution systems standards and specifications, making the looping of water mains mandatory for all commercial, industrial, and residential areas in new development. In addition, the City has identified areas in the potable distribution containing dead end lines for looping project to eliminate dead ends and reduce system flushing in three areas. The first area, in the northwest area of the city, begins at S. Hartsdale Street, runs from S. Hartsdale Street to Irondale Road up to Leopold Avenue connecting Florala Street and finally connecting to Atmore Avenue. This area would be looped together as one area. This project will install 3,000 feet of 6" pipe with associated apparatuses to extend the existing S. Hartsdale Street water line that connects to the existing line on Atmore Avenue. The second area, in the central area of the city, begins at Aldovin Avenue. This project will install 1,550 feet of 6" pipe to connect the existing line running from the end of Aldovin Avenue down Cunliffe Road to Wacoma Avenue and finally end on Abbotsford Street. The third and final area, also in the northwest area of the city, begins at Totem Avenue. This project will install 6" pipe that will run from the existing line at Totem Avenue and connect to Price Blvd. This area will also fill in a small piece of 6" pipe to connect the two dead ends on Perennial Road.

#### Benefit:

The proposed S. Hartsdale Street area will eliminate 2 dead ends, conserving an estimated 4,464,000 gallons of water per year and the need for an existing auto flusher. The proposed Aldovin Avenue area will eliminate 2 dead ends, conserving an estimated 1,500,000 gallons of water per year and the need for an existing auto-flusher. The proposed Totem Avenue area will eliminate 3 dead ends, conserving an estimated 1,200,000 gallons of water per year.

#### Cost:

The cost benefit for all the above projects is at a medium cost effectiveness level with an anticipated project cost of \$415,000.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of North Port has one of the lowest per-capita water use rates in the region. This can be attributed to an extensive conservation program which includes a tiered rate structure, reclaimed water program, irrigation enforcement, floodplain management both locally and regionally; and, a comprehensive public education and outreach program that promotes water conservation, protection of City and regional resources, and encourages public participation in flood control efforts. The City's outreach program is a year-round effort to involve, inform and inspire all ages to conserve and protect water in their daily activities. The program offers education for all ages through participation at school and community events locally and regionally as well as hosting its own workshops, contests – including a "rain barrel" contest, and annual environmental fair. These efforts are complimented by print and web-based literature including the City's award-winning web site and its annual Consumer Confidence Report, which provide practical, useful information on water conservation and protection. The City's public education and outreach efforts earned the City the internationally recognized 2014 "WaterReuse Public Education Program of the Year" award from the WaterReuse organization out of Alexandria, Virginia. In 2019, The City of North Port participated in the Wyland National Mayor's Challenge for Water Conservation. The City finished in 3rd place in our population category. Our City made 6,843 pledges resulting in a water savings of 28.3 million gallons of water! Additionally, North Port pledges resulted in the reduction of 1,616 pounds of hazardous waste from entering watersheds, 790,864 fewer pounds of landfill material, and a carbon dioxide reduction of 124.9 million pounds. The City continues acquisition of land as a protective conservation buffer for the Class I waters of the Myakkahatchee Creek, a potable water and recreational resource. This initiative also helps reduce damage from flooding events. The City's water conservation efforts and other sustainable development activities earned North Port the Florida Green Building Coalition's "Silver" level local government certification in 2016. In accordance with the City's 2008 Reuse Master Plan, the City continues planned expansion of the system to offset potable water use. The study and eventual implementation of the direct or indirect potable reuse project is a natural extension of the City's current efforts. The use of this water, especially that portion that is 'lost' via deep well injection, provides for a more sustainable and drought-resistant future water supply. In addition, the City's Unified Land Development Code (ULDC) includes the following requirement for new developments: "A reuse water system shall be provided in all new subdivisions, and connection shall be required with the City's reuse water system where the City system is within 1/4 mile from a point on the perimeter of the subdivision closest to the source of service and measured along an accessible right-of-way or easement. The order of supply sources of water for irrigation purposes shall be reuse water, storm water then well water." Owing to the City's extensive efforts in stormwater system management, maintenance, information dissemination and outreach efforts, the May 2011 Community Rating System (CRS) audit resulted in North Port receiving an improved CRS rating from 7 to 6. The City is an active participant in the Federal Emergency Agency (FEMA) and SWFWMD's Flood Insurance Rate Map (FIRM) revision activity. The City has adopted new FIRMs which are effective November 4, 2016. The City requires that all applicable Federal and State permits be approved prior to the start of construction.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			207,500		207,500
General Fund-District Wide			207,500		207,500
Total			415,000		415,000

#### **Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

#### **Timelines**

##### **Construction**

<b>Milestone</b>	<b>Projected Date</b>
Bid Construction	10/30/2020
Select Contractor	11/30/2020
Begin Construction	01/01/2021
Complete Construction	09/30/2021

#### **Data Collection Assessment:**

☒ Mapping/GIS data



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** North County Watershed  
**Project Number** Q191  
**Cooperator** Manatee County  
**Department** Stormwater Engineering Division  
**Contact Person** Kenneth Kohn, P.E.  
**Address** 1022 26th Avenue East  
**City State Zip** Bradenton, FL 34208  
**Phone #** 941-708-7450 ext7254  
**Email** kenneth.kohn@mymanatee.org

### Project Type:

☐ Water Supply 
 ☒ Water Quality 
 ☒ Flood Protection 
 ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This project is to perform 1) Watershed Evaluation, and 2) Watershed Management Plan elements of the District's Watershed Management Program (WMP); 3) Alternatives Analysis for flood mitigation and Surface Water Resource Assessment for the North County Watersheds and other related elements. The North County Watersheds comprise roughly 33 square miles and is depicted on the attached Watershed Map. The purpose of this study is to determine floodplain delineation resulting from a 100-year/24-hour storm frequency rainfall event, flood mitigation alternatives and for water quality improvement analysis. The North County Watersheds consists primarily of mixed residential areas with commercial/industrial development and some agricultural and has existing flooding problems. Significant areas remain for both future residential and commercial/industrial development. Given the known flooding, and future development it is critical to establish updated flood stages to protect from adverse impacts from flooding as well as to propose flood mitigation alternatives and water quality assessment. North County Watershed sub-basins are already established as a flood prone areas under Land Development Code, Section 802.1 and the Stormwater Management Design Manual. The County has established a 25 year 24 hour flood plain from a 1998 CDM Engineering 25 year Flood Study of the watersheds (refer to attached 25 year Flood Study map) and sub-basin areas (McMullen Creek, Big Chimney, Canal Drain, Carr Drain, Tampa Gap Drain, Government Hammock, Slaughter Drain, Un-named Chin Road and Old Tamp Road Drain). The flood mitigation alternatives analysis will provide cost/benefit options for reduction in flood stages in flood prone areas. County also will use this information to update FEMA FIRM Maps which for this area are 30 years old.

This project completes a Surface Water Resource Assessment (SWRA) and BMP (Best Management Practices) Alternatives Analysis (referred to as a 'BA', collectively) for the project area. The principal product of this study will be guidance on pollutant load reduction strategies within the project watershed, including structural, non-structural or natural systems BMPs to improve water quality in this system and receiving waters. Guidance will include BMP cost effectiveness estimates, but in highly developed areas may preferentially focus on Low Impact Development (LID) retrofits. The project watershed is a tributary to Tampa Bay, a SWIM priority waterbody. The project is compatible with WQ improvement objectives of the Tampa Bay SWIM plan. Results from the joint Estuary Program Tidal Creek Numeric Nutrient Criteria study linking water quality to natural systems should be included in project guidance. Work products should be compliant with the Tampa Bay Regional Resiliency Coalition guidance for community resiliency to climate change and sea level rise

**Benefit:**

Watershed model and floodplain analysis and cost effective flood mitigation alternatives provide information that is critical to better identify risk of flood damage and cost effective flood mitigation alternatives as well as for planning and future development. Currently, flood analysis models are not available and are over 10 years old. This watershed includes regional or intermediate stormwater systems. Resource benefit includes analysis of flooding and water quality problems that exist in the watershed. The study also assists in obtaining lower ranking in the FEMA CRS which may lead to lower flood insurance premiums.

The Watershed Management phase of this project will represent the findings of the additional WQ elements as a prioritized list of financially feasible - or practically feasible in the event of LID applications - watershed-specific pollutant load reduction strategies to improve water quality in the project watershed. It is the County's intent to use the resulting guidance to support water quality improvement projects in the project watershed, including water quality benefits for flood protection projects. Proposed BMPs will be prioritized on measurable benefit(s), resilience factors and cost effectiveness.

**Cost:**

Total project cost: \$1,534,500. Manatee County Cost-\$767,250. District Cost \$767,250. Cost was estimated based on on-going Watershed Studies and assistance from SWFWMD staff with estimate of \$46,500 per square mile (\$1.5K for LiDAR, \$15K each for Watershed Eval., Floodplain Analysis, and Alternatives Analysis), for the 33 square mile watershed.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Manatee County LDC, Section 801.3.E and Stormwater Manual Section 2.31., authorizes up to a 50% reduction of allowable discharge rate from any new development in a flood prone area. Manatee County has 11 watersheds (including portions of North County Watershed) which have a 50% reduction in allowable runoff for new developments. The policy assists the County with the CRS together with County floodplain policy for discounted flood insurance premium rates. The County has established 25 year 24 hour floodplains that have also been mapped into GIS and for which compensation is required in addition to encroachment that occurs in the 100 year FEMA Floodplain. County LDC 802.6.B establishes floodplain management standards and minimum finished floor elevations to protect from flooding. LDC 801 protects quantity and quality of ground and surface waters, groundwater recharge, prevent and reduce salt water intrusion, prevents adverse impacts on adjacent property from diverting flow of surface water, and prevent flood hazards and flood proofing to prevent property damage and loss of life. In addition to reductions noted above, County requires conformance with SWFWMD ERP regulations and special protection within watershed protection areas such as Evers Watershed and Lake Manatee Reservoir. The County also implements the MS4 NPDES permit which includes various BMPs, protects from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDL related. County maintains GIS database including stormwater inventory and FEMA floodplain areas. The County stormwater inventory has also been converted into the GWIS format utilized by the SWFWMD including an electronic copy of existing stormwater system and ERP related record drawings. County requires conformance with SWFWMD ERP regulations and provides special water quality protections within the watersheds of potable water reservoirs such as the Evers Reservoir and Lake Manatee. The County also implements all elements of a Phase-I NPDES MS4 permit which includes various BMPs, protection from illicit discharges and requires routine inspections and enforcement for compliance with applicable water quality standards including those relating to impaired waters and TMDLs. The SWMP provides the following water quality improvement services: 1) County-wide (jurisdictional) street sweeping and data collection and analyses to estimate pollutant load reduction benefits from this program; 2) County-wide MS4 inspection and maintenance program for structural controls and roadway collection systems, 3) Public education and outreach elements including storm drain stenciling, support for Florida Friendly Landscaping (tm) and specialized outreach channels such as the Manatee Water Atlas and 5) Miscellaneous services such as Adopt-a-Road, litter collection and household hazardous waste collection. SWMP effectiveness is formally evaluated annually. The County has adopted Ordinances regulating Illicit Connections and Discharges through the MS4 (00-02), Fertilizer use (11-21) and Solid Waste (Pet Waste) disposal (85-11) that limit nutrients to receiving water bodies. The County cooperatively operates a countywide network of 18, combined, continuous stream/rain gauges that provide information for the watershed studies. A stream/rain gauge exists in several locations in North County Watershed and two additional stations are proposed to assist with the calibration/verification effort. Long- term environmental monitoring programs (about 80 stations total, periods of record up to 30 years) provide the data used to evaluate the success of regional environmental management initiatives. Manatee County is a participant in the Tampa Bay Nitrogen Management Consortium.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			767,250		767,250
Manasota			767,250		767,250
Total			1,534,500		1,534,500

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

## Timelines

Contract Watershed Consultant	12/31/2020
Watershed Evaluation Project Development	03/31/2021
Watershed Evaluation	12/31/2021
WMP Project Development	03/31/2022
Watershed Model Parameterization Development	12/31/2022
SWRA, and Alternatives BMP's and Flood Mitigation	12/31/2023
Peer Review	03/31/2024
Public Notification/Presentation to Governing Board	06/30/2024
Final Approval Deliverables	09/30/2024

## Data Collection Assessment:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Groundwater or Surface Water Level measurements | <input checked="" type="checkbox"/> Groundwater or Surface Water Quality measurements |
| <input checked="" type="checkbox"/> Rainfall or Other Meteorological measurements   | <input checked="" type="checkbox"/> LIDAR/Elevation data                              |
| <input checked="" type="checkbox"/> Mapping/GIS data                                |   |

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# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Regional Integrated Loop System - Southern Regional Loop (Segments 2B and 2C) Feasibility and Routing Study  
**Project Number** Q202  
**Cooperator** PRMRWSA  
**Department**  
**Contact Person** Mike Coates  
**Address** 9415 Town Center Parkway  
**City State Zip** Lakewood Ranch, FL 34202  
**Phone #** 941-316-1776  
**Email** mcoates@regionalwater.org

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

☐ Water Quality Maintenance and Improvement ☐ Water Quality Monitoring  
☒ Alternative Water Supply ☐ Conservation  
☐ Reclaimed Water ☐ Regional Water Supply Planning  
☐ Emergency Flood Response ☐ Floodplain Management  
☐ Minimum Flows and Level Establishment and Monitoring ☐ Minimum Flows and Levels Recovery  
☐ Natural Systems Conservation and Restoration ☐ Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

☒ Charlotte ☐ Citrus ☒ Desoto ☐ Hardee ☐ Hernando ☐ Highlands ☐ Hillsborough ☐ Lake  
☐ Levy ☒ Manatee ☐ Marion ☐ Pasco ☐ Pinellas ☒ Sarasota ☐ Sumter ☐ Polk

### Project Description/Benefit/Cost

#### Description:

The routing and feasibility study is a critical step in evaluating the route options and infrastructure requirements that will enable installation of the southern loop between the Authority regional transmission system at Serris Boulevard in Charlotte County and the Carlton Water Treatment Facility in Sarasota County. These regional interconnect segments are referred to as Phase 2B and Phase 2C in the Authority's 5-year CIP / 20-year CNA. An accelerated project time frame is intended to coincide with the planned widening project for River Road by the FDOT beginning in 2021 and meet growing needs in Charlotte County. Work will include evaluation of pipeline routing, sizing, new pumping and trim facility needs and required modifications to existing facilities (if any) to support this system interconnection project. The study will also refine estimated costs for all the proposed new and modified facilities. The project is a component of the Authority's regional integrated loop system. Expected cost of the feasibility study is \$400,000. Work is expected to begin in Spring 2020 and be completed within 15 months.

#### Benefit:

This Routing and Feasibility Study will support completion of a southern regional loop connection from the Peace River Facility in DeSoto County to the Carlton Water Treatment Facility in Sarasota County, improving local and regional system reliability, rotational supply capacity and resource sharing options. The project is comprised of two pipeline segments (Phase 2B and 2C) in the Authority's Regional Integrated Loop Pipeline master plan to interconnect sources and demand areas throughout the region. This is an alternative water supply project that supports the Districts SWUCA recovery priority by interconnecting surface and groundwater sources which provides for conjunctive use of these sources (i.e. "the right source at the right time"). The project meets SWUCA recovery objectives in the 2019-2023 Strategic Plan (Updated February 2019) to: 'Ensure a sustainable water supply'; 'Maximize public water supply interconnects' and 'Assist the Peace River Manasota Regional Water Supply Authority in completing construction on the remaining planned phases of the regional Integrated loop system project by 2035'.

#### Cost:

Projected cost for the Feasibility Study is \$400,000. An estimated \$160,000 will be required for the project in FY 2020 from the Authority, with the remaining \$240,000 required in FY 2021 for project completion. Any necessary adjustment will be made in the Authority's 2020 Budget to facilitate this work. The 5-year CIP / 20-Year CNA will be adjusted to move project work forward to 2021

as part of the FY 2021 budget process. A minimum 50% co-funding (\$120,000) is requested from SWFWMD for FY 2021 project costs.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Authority is a wholesale supplier of potable water to the customers of Charlotte, DeSoto, Manatee and Sarasota Counties and the City of North Port. These utilities are retail suppliers for their respective public water systems. The Authority cooperatively participates with Customer Utilities and the District in public awareness and education regarding water conservation including broadcast public service announcements, newspaper advertisements and inserts and public presentations. As reported in the Authority's Draft *Integrated Regional Water Supply Plan 2020*, gross per capita water use for Authority Customers has declined from 104 gpc/day in 2003 to 84.9 gpc/day in 2017 based on the 2017 PS forms. Supporting this conservation ethic has been the Authority's Water Policy Summits with the Water Alliance in 2009, 2010, 2011, 2012, 2015, 2016 and 2017. The Water Alliance is a voluntary assembly of 13 local municipalities, including the Authority's Customers, dedicated to water conservation, and providing water customers/residents a cost effective, high-quality, reliable and environmentally sustainable drinking water supply. The Summits have been well attended and focused on; water conservation/demand management; optimization of supply capacity, resource sharing and interconnecting supplies, and the value of high-quality public water supply to the economic vitality of the region. In addition, the Authority's *Integrated Regional Water Supply Plan 2020 (draft)* includes recommendations for the region to incorporate water conservation savings into future demand and supply planning; investigation of regional opportunities to reduce flushing in the consecutive potable system; and regional support for expansion and more efficient use of reclaimed water.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share		160,000	120,000		280,000
Manasota			120,000		120,000
Total		160,000	240,000		400,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**Southern Regional Loop Feasibility and Routing Study**

**Milestone**

**Projected Date**

Begin Feasibility and Routing Study

04/30/2020

Complete Feasibility and Routing Study

07/30/2021

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** COV - Water Quality Improvements - Outfalls 1 & 2  
**Project Number** Q204  
**Cooperator** City of Venice  
**Department** Utilities  
**Contact Person** Javier Vargas  
**Address** 200 North Warfield Ave.  
**City State Zip** Venice, FL 34285  
**Phone #** 941-882-7310  
**Email** jvargas@venicegov.com

### Project Type:

☐ Water Supply 
 ☒ Water Quality 
 ☐ Flood Protection 
 ☐ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This project is intended to decrease the intensity and duration of harmful algal blooms, such as last year's Kerenia brevis and elevated bacteria levels along the Gulf Coast of Florida. Consistent with the FY2020 Cooperative Funding Initiative Application, Phase 1 is funded and underway to fully evaluate nutrient and bacterial loading at the major outfalls. Early Prioritization has been completed and Outfalls 1 & 2 have been identified as the construction project to be implemented in FY2021.

To address a critical location at Venice Beach (Outfall #1) and just south (Outfall #2), the city is proposing a design/build project to increase the capacity and effectiveness of the swale and underground chamber system installed in 2015. Increasing the capacity will further reduce the amount of untreated stormwater that is discharged to the Gulf thus effectively removing the pollutant loading from the runoff from the Gulf system. As Outfall #1 discharges immediately adjacent to the bathing beach (Venice Beach) which is the only location within the City of Venice with lifeguards, improving water quality and reducing the surface water runoff will also improve the health of the beach for the public use.

Outfall #1 - Venice Beach - Granada Ave & The Esplanade S - 36" PVC - Lat: 27.098703/Long: -82.460404

Outfall #2 - Venice Sands-Alhambra Rd - Double 46" PVC - Lat: 27.095574/Long: -82.459311

#### Benefit:

Water quality improvements measured based on pre- and post- construction discharge flow rates and sampling results for both nutrient loading and bacteria levels. These benefits will be measurable based on calculated reduced outfall flow volume and water quality sampling results.

#### Cost:

Previous Phase (Underway)Phase 1 - Funded in FY2020 - Grant Agreement being executed for start of Fall 2019City 75,000/  
 SWFWMD Grant Funded \$75,000 - Total \$150,000  
 Phase 2 - This ApplicationPhase 2 - Outfall 1 & 2 - Design/BuildCity 175,000/SWFWMD Grant Funding \$175,000 -Total \$350,000

Engineering oversight will be conducted in-house to monitor the Design/Build Team. No land acquisition will be required as work will be within the existing city owned property and right-of-way. Basis of cost estimate is an evaluation of the previous project constructed at a cost of \$564,000 plus design and sampling costs. Based on the location and anticipated scope of work, the City Engineer developed a cost estimate of \$350,000 for Phase 2 with 50/50 cost share between cooperative funding and City Stormwater Enterprise Fund 480 allocation included in the FY 2020 proposed budget including future FY2021 funding that is scheduled for adoption on September 24, 2019, by the Venice City Council.

\ 200- Total District and Cooperator share; for multi-year request, list future funding by fiscal year. • Breakdown of individual project component costs for which funding is being requested. Examples of itemized components include planning, land acquisition, design, construction, and costs for construction engineering and inspection services (CEI). • The basis of the cost estimate. • Cost savings estimate from owner direct purchase program (if applicable). • Cost benefit calculations (method varies by project type). • An estimated monthly or quarterly expenditure plan for the life of the project (what will be spent each month or quarter from project start to finish).

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Board will consider the applicant's efforts in developing, implementing, and enforcing best water management practices, including but not limited to, conservation water rate structures and irrigation, landscape and flood protection ordinances. Additional information regarding eligible complementary efforts is available in the applicable project section of this document.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share		75,000	175,000		250,000
Manasota		75,000	175,000		250,000
Total		150,000	350,000		500,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

Construction Initiated	06/01/2021
RFQ for Design/Build Team	10/01/2021
Design/Permitting Complete	12/01/2021
Construction Complete	04/01/2022
Project Close-out & Final Reporting	06/30/2022

**Data Collection Assessment:**

☒ Surface Water Flow (Discharge) measurements ☒ Groundwater or Surface Water Quality measurements



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Regional Integrated Loop System Phase 3C Routing and Feasibility Study  
**Project Number** Q205  
**Cooperator** PRMRWSA  
**Department**  
**Contact Person** Mike Coates  
**Address** 9415 Town Center Parkway  
**City State Zip** Lakewood Ranch, FL 34202  
**Phone #** 941-316-1776  
**Email** mcoates@regionalwater.org

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

☐ Water Quality Maintenance and Improvement ☐ Water Quality Monitoring  
☒ Alternative Water Supply ☐ Conservation  
☐ Reclaimed Water ☐ Regional Water Supply Planning  
☐ Emergency Flood Response ☐ Floodplain Management  
☐ Minimum Flows and Level Establishment and Monitoring ☐ Minimum Flows and Levels Recovery  
☐ Natural Systems Conservation and Restoration ☐ Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

☒ Charlotte ☐ Citrus ☒ Desoto ☐ Hardee ☐ Hernando ☐ Highlands ☐ Hillsborough ☐ Lake  
☐ Levy ☒ Manatee ☐ Marion ☐ Pasco ☐ Pinellas ☒ Sarasota ☐ Sumter ☐ Polk

### Project Description/Benefit/Cost

#### Description:

This project will evaluate routing and feasibility for Regional Transmission System interconnection with Manatee County. A current Authority project (Phase 3B) will extend the regional transmission system in Sarasota County north to Clark Road (S.R.72). The Regional Integrated Loop Phase 3C Interconnect would extend the water transmission system in a northerly direction to the Manatee County water system, interconnecting the two largest water supplies in the region. This interconnection will improve regional/local system reliability, rotational supply capacity and resource sharing options. The routing and feasibility study is a critical step in evaluating pipeline route options and infrastructure requirements that will support Regional interconnection with Manatee County. The project is a component of the Authority's regional integrated loop system and is referred to as Phase 3C in the Authority's 5-year CIP / 20-year CNA. The routing and feasibility study will include evaluation of pipeline routes, sizing, new pumping/trim facility needs (and locations) and modifications to existing county and regional facilities needed to support this critical system regional project. The study will also refine estimated costs for all proposed new facilities and facility improvements. Estimated cost for the feasibility study is \$600,000. Work is expected to begin in in October 2020 and be completed within 18 months.

#### Benefit:

This Routing and Feasibility Study will support interconnection of the the two largest potable water supplies in the Region, improving local and regional system reliability, rotational supply capacity and resource sharing options. This is an alternative water supply project that supports the Districts SWUCA recovery priority by interconnecting surface and groundwater sources which provides for conjunctive use of these sources (i.e. "the right source at the right time"). The project meets SWUCA recovery objectives in the 2019-2023 Strategic Plan (Updated February 2019) to: 'Ensure a sustainable water supply'; 'Maximize public water supply interconnects' and 'Assist the Peace River Manasota Regional Water Supply Authority in completing construction on the remaining planned phases of the regional Integrated loop system project by 2035'.

#### Cost:

Cost for the Feasibility and Routing Study is projected to be \$600,000. The Phase 3C Interconnect project is included in the Authority's 5-year CIP / 20 Year CNA beginning in FY 2021. An estimated \$400,000 will be required in FY 2021 with the remaining \$200,000 in FY 2022 to complete the Feasibility and Routing Study. A minimum 50% co-funding (\$300,000) is requested from SWFWMD beginning FY 2021.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Authority is a wholesale supplier of potable water to the customers of Charlotte, DeSoto, Manatee and Sarasota Counties and the City of North Port. These utilities are retail suppliers for their respective public water systems. The Authority cooperatively participates with Customer Utilities and the District in public awareness and education regarding water conservation including broadcast public service announcements, newspaper advertisements and inserts and public presentations. As reported in the Authority's Draft *Integrated Regional Water Supply Plan 2020*, gross per capita water use for Authority Customers has declined from 104 gpc/day in 2003 to 84.9 gpc/day in 2017 based on the 2017 PS forms. Supporting this conservation ethic has been the Authority's Water Policy Summits with the Water Alliance in 2009, 2010, 2011, 2012, 2015, 2016 and 2017. The Water Alliance is a voluntary assembly of 13 local municipalities, including the Authority's Customers, dedicated to water conservation, and providing water customers/residents a cost effective, high-quality, reliable and environmentally sustainable drinking water supply. The Summits have been well attended and focused on; water conservation/demand management; optimization of supply capacity, resource sharing and interconnecting supplies, and the value of high-quality public water supply to the economic vitality of the region. In addition, the Authority's *Integrated Regional Water Supply Plan 2020 (draft)* includes recommendations for the region to incorporate water conservation savings into future demand and supply planning; investigation of regional opportunities to reduce flushing in the consecutive potable system; and regional support for expansion and more efficient use of reclaimed water.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			200,000	100,000	300,000
Manasota			200,000	100,000	300,000
Total			400,000	200,000	600,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**Phase 3C Interconnect Routing and Feasibility Study**

**Milestone**

Begin Routing and Feasibility Study

Complete Routing and Feasibility Study

**Projected Date**

10/01/2020

03/31/2022

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Sarasota Bay Watershed Water Quality Improvement  
**Project Number** Q208  
**Cooperator** Sarasota County  
**Department** Environmental Services  
**Contact Person** Patricia Wilken  
**Address** 1660 Ringling Blvd  
**City State Zip** Sarasota, FL 34236  
**Phone #** 941-861-5365  
**Email** pwilken@scgov.net

### Project Type:

☐ Water Supply ☒ Water Quality ☐ Flood Protection ☒ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input checked="" type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

Sarasota County has previously undertaken an extensive phased project to replace aging septic systems within the Phillippi Creek watershed. The previous project has reached substantial completion, and Sarasota County is committed to capitalizing on the gains made by expanding the project area beyond previous program boundaries.

The PROJECT is a study to develop strategies to replace aging septic systems within the Sarasota and Lemon Bay Watersheds (south of Venice and west of US 41, near the water) with central sewers to improve wastewater disposal and treatment in unincorporated areas of Sarasota County that are currently unserved by central sewers. By incorporating a multi-factor prioritization matrix to determine which areas can be addressed with the maximum benefit, critical areas can be identified which will result in the greatest environmental gains for the least investment in infrastructure. Factors such as (but not limited to) system age, capacity, proximity to contributing water bodies, potential service connection numbers and density, and other watershed characteristics will be used to prioritize areas for conversion to central sewer. Ongoing groundwater and surface water quality monitoring in the area will be used to establish baseline conditions for future determination of project results. Other mitigative measures will also be investigated in this planning phase so that existing nutrient loads in the groundwater conveyance system can be mitigated as the sources are eliminated.

#### Benefit:

The work to be conducted in these watersheds will have a positive effect on 24 impaired waterbodies in Sarasota County by reducing the Total Maximum Daily Loads (TMDLs) of fecal coliform, human intestinal viruses, and excess nutrients that are entering the surface water via groundwater flow from septic systems close to tidally influenced waters. These problems lead to human and environmental health issues as well as Harmful Algae Blooms (HABs) which affect Florida's coastline, and are especially aggravated following hurricane and tropical storm events. The project will reduce the likelihood of public and environmental exposure to these pathogens and nutrients following storm events. Initial calculations estimate that up to 25 pounds per year of nitrogen could be removed from the system for each septic system that is removed and converted to central sewer services.

#### Cost:

The total project cost (study only) is estimated to be \$5,000,000. This application requests \$2,500,000 in SWFWMD funding for FY2021 with a County match of \$2,500,000. Future applications may be made for design and construction.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

Sarasota County has long been a leader in the SWFWMD and the State of Florida in water conservation projects. Per capita usage rates are among the lowest of any public utility in the region. The Water-Efficient Landscape Ordinance won a statewide award for innovation. Irrigation restrictions that allow for once-a-week irrigation are enforced by code enforcement officers. Reduction of potable water use via the implantation of the County's Alternative Water Supply (AWS) Program is accomplished through the County's extensive North & South Master Reuse Systems, providing commercial end-users with approximately 8.0 MGD of highly treated reclaimed water. By Ordinance, developers are required to install reuse lines throughout new development if a reuse system exists within one hundred and fifty feet of any property line of a subdivision, single or multi-family residence or any non-residential lot or use. The Phillippi Creek Septic System Replacement Program has replaced over 10,000 aging septic systems with central sewers within the Phillippi Creek basin. Phillippi Creek is a TMDL Priority Waterbody. This septic system replacement program primarily addressed an urbanized portion of Sarasota County built out with single-family homes. Sarasota County's septic system replacement program is part of a multi-faceted approach to address watershed protection, protect public health, create great public spaces, and improve the quality of life within the community. The Siesta Key Master Pump Station and Force Main Project consisted of design, permitting and construction of a master pump station and transmission force main to allow for the decommissioning of the county's Siesta Key Wastewater Treatment Plant. This treatment plant was permitted to discharge to Sarasota Bay. The decommissioning of the Siesta Key plant is estimated to have resulted in the removal of 5,800 Lbs of Nitrogen and 2,000 Lbs of Phosphorous per year from Sarasota Bay at a total project cost of \$11.5 million dollars. The 1.5 million gallons per day of contributing flow from the Siesta Key service area will then be treated and beneficially reused in the county's reclaimed water system. This project will increase availability of reclaimed water and will reduce the need for groundwater withdrawals to meet irrigation needs on the mainland.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share			2,500,000		2,500,000
Manasota			2,500,000		2,500,000
Total			5,000,000		5,000,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**04/01/2021**

**Milestone**

Execute Agreement

**Projected Date**

08/31/2021

**06/01/2022**

**Milestone**

Data Collection and Analysis

**Projected Date**

05/31/2023

**06/01/2023**

**Milestone**

Draft Report and Final Report

**Projected Date**

12/31/2023

**09/04/2021**

**Milestone**

Procurement for Design Consultant

**Projected Date**

05/31/2022

**Data Collection Assessment:**

☒ Groundwater or Surface Water Quality measurements ☒ Mapping/GIS data

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Peace River Reservoir No. 3 Siting and Feasibility Study  
**Project Number** Q212  
**Cooperator** PRMRWSA  
**Department**  
**Contact Person** Mike Coates  
**Address** 9415 Town Center Parkway  
**City State Zip** Lakewood Ranch, FL 34202  
**Phone #** 941-316-1776  
**Email** mcoates@regionalwater.org

### Project Type:

☒ Water Supply ☐ Water Quality ☐ Flood Protection ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input checked="" type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input checked="" type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input checked="" type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input checked="" type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The key to use of seasonally available surface water as a reliable public water supply is the ability to harvest and store large volumes of water during relatively short periods of availability. The Peace River facility utilizes off-stream raw water reservoirs, and an aquifer storage and recovery system to support use of supplies skimmed from the Peace River as an alternative water supply, reliably meeting much of the drinking water needs in the District's southern water use planning area. The Peace River Reservoir No. 3 Siting and Feasibility Study will evaluate conceptual sizing, siting, mitigation, operational drivers and associated facility requirements, such as raw water pipelines, for a third off-stream reservoir and increased river intake capacity for the Peace River Facility. The work will be in sufficient detail to enable updated project cost information and will lay the foundation for design and construction of expanded regional surface water supply capacity at the Peace River site. The project is supported by the Authority's Water Use Permit (20010420.010) issued February 26, 2019 which authorized increasing the maximum daily withdrawal from the Peace River from 120 MGD to 258 MGD to enhance the capture and storage of excess flows during the wet season, which facilitates additional drinking water supply yield from this system; and the Authority's 2015 Master Water Supply Plan which identifies development of an additional 15 MGD in alternative surface water supply capacity at Peace River Facility.

#### Benefit:

The Authority's 2020 Master Water Supply Plan (draft) estimates that over the next 20-year planning horizon, nearly 30 MGD in additional average-day water supply capacity will be required to meet the Authority Customers water supply needs. This project (Peace River Reservoir No. 3 Siting and Feasibility Study) will identify project requirements, detail and costs associated with expanding off-stream storage and surface water supply capacity at the Peace River Facility. This project has the potential to yield at least 15 MGD in ADF supply, meeting 50% of the projected additional supply need in the region during the next 20 years. Expansion of this existing alternative water supply source with no required additional water use permitting supports the cost-effective operation and dedicated environmental stewardship associated with expanding supply at this existing regional facility. In addition to being an alternative water supply project, this Project supports the District's strategic objectives for the Southern Water Use Caution Area (SWUCA) recovery strategy, and Minimum Flow and Level (MFL) establishment.

#### Cost:

Estimated cost for the Peace River Reservoir No. 3 Feasibility Study is \$1,500,000. The Authority has committed \$250,000 in FY 2020 toward the project with professional services procured and project commencement in April 2020. An estimated \$1,250,000 (total) will be required for project completion in FY 2021. A minimum 50% co-funding (\$625,000) is requested from SWFWMD for FY 2021 project costs.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The Authority is a wholesale supplier of potable water to the customers of Charlotte, DeSoto, Manatee and Sarasota Counties and the City of North Port. These utilities are retail suppliers for their respective public water systems. The Authority cooperatively participates with Customer Utilities and the District in public awareness and education regarding water conservation including broadcast public service announcements, newspaper advertisements and inserts and public presentations. As reported in the Authority's Draft *Integrated Regional Water Supply Plan 2020*, gross per capita water use for Authority Customers has declined from 104 gpc/day in 2003 to 84.9 gpc/day in 2017 based on the 2017 PS forms. Supporting this conservation ethic has been the Authority's Water Policy Summits with the Water Alliance in 2009, 2010, 2011, 2012, 2015, 2016 and 2017. The Water Alliance is a voluntary assembly of 13 local municipalities, including the Authority's Customers, dedicated to water conservation, and providing water customers/residents a cost effective, high-quality, reliable and environmentally sustainable drinking water supply. The Summits have been well attended and focused on; water conservation/demand management; optimization of supply capacity, resource sharing and interconnecting supplies, and the value of high-quality public water supply to the economic vitality of the region. In addition, the Authority's *Integrated Regional Water Supply Plan 2020 (draft)* includes recommendations for the region to incorporate water conservation savings into future demand and supply planning; investigation of regional opportunities to reduce flushing in the consecutive potable system; and regional support for expansion and more efficient use of reclaimed water.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share		250,000	625,000		875,000
Peace River			625,000		625,000
Total		250,000	1,250,000		1,500,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**Reservoir No 3 Siting and Feasibility Study**

**Milestone**

Begin Study

Complete Reservoir No. 3 Siting and Feasibility Study

**Projected Date**

04/30/2020

09/30/2021

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** Palmetto Toilet Rebate Program- Phase II (Q073)  
**Project Number** Q214  
**Cooperator** Palmetto  
**Department** Public Works  
**Contact Person** Penny Johnston  
**Address** 516 8th Avenue West  
**City State Zip** Palmetto, FL 34221  
**Phone #** 941-723-4570 ext7122  
**Email** pjohnston@palmettofl.org

### Project Type:

☒ Water Supply  
 ☐ Water Quality  
 ☐ Flood Protection  
 ☐ Natural Systems

### Strategic Initiatives:

<input type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input checked="" type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

The City of Palmetto Toilet Rebate Program will offer a financial incentive for City utility customers (residential, multi-family and commercial/ industrial) when they replace older, inefficient toilets or urinals with new, water-saving fixtures, plus the City will provide water saving attachments and educational materials to encourage continued water conservation. The objective is to reduce indoor water demand.

The City of Palmetto will provide up to a \$100.00 rebate check to the utility customer after installation and inspection of each new, water-saving toilet, with a maximum limit of two toilets per dwelling unit. The City will dispose of the outdated toilets (3.5 gallons per flush or more) as a condition of the rebate, to insure that it will not be reinstalled at another location. The City is currently serving approximately 4700 potable water accounts and it is estimated that 49% of the City's water customers would be eligible for this rebate program.

The City of Palmetto will be providing 450 water conservation kits for the participants, plus informational handouts at no charge to the utility customers. These kits contain water-saving devices such as a low-flow showerhead, bath or kitchen faucet aerators, toilet flapper valves, toilet dye tablets, and water conservation educational materials. The kits are estimated to cost \$9000, and we are allotting \$51,000 for the toilet rebates, bringing the total cost of the program to \$60,000. The City is requesting \$30,000 from Southwest Florida Water Management District in FY2021, and Palmetto will match the \$30,000 with funds within the Utility budget.

The City of Palmetto plans to administer the program. Staff will perform the rebate qualification, installation verification inspections, the educational component and the customer surveys, while tracking pre and post water usage. Toilet installation rebates and conservation kit distribution will begin October 1, 2021 and finish December 31, 2022. The City's project close out and final reporting will be completed no later than April 1, 2022.

#### Benefit:

The Toilet Rebate Project will replace approximately 510 inefficient, high-volume toilets and provide up to 450 water conservation kits, producing a water savings of approximately 4,845 gallons per day (gpd). The project's estimated cost/benefit ratio based on the project cost of \$60,000 over a 20 year life of the toilets/ urinals, an estimated savings of 69,350 gallons of water for each new low-flush toilet installed.

Calculations assume a savings of at least 1.9 gallons per flush x estimated 5 flushes per day x 510 toilets, for the useful life of the toilet.

**Cost:**

Estimated Cost: \$60,000

510 Toilet Rebates to include Single, Multi-Family and Commercial toilets @ \$100.00, with a total cost of \$51,000.00

450 Water Conservation Kits and Educational Material, with a total cost of \$9,000.00

Program includes promotion, surveys, printing, assembly, and postage, provided by the City of Palmetto

At no time will the rebate exceed the actual cost of the related toilet(s) and installation(s).

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of Palmetto has taken great steps to conserve indoor water. The Utility department purchased Enhanced E-Coder R900 radio frequency meters, which are able to accurately monitor usage and detect leaks. The City has a tiered water rate structure, and has also installed reclaimed water access to almost 90% of the City neighborhoods. Palmetto and SWFWMD have invested time and money implementing an Aquifer Storage and Recovery (ASR) Well to capture treated wastewater runoff during the rainy season, and to utilize the stored water during drier periods of the year.

The City of Palmetto as a community is required to participate in the National Flood Insurance Program, administered through FEMA, and was recently awarded for our successful practices. All development is required to receive the proper building permits, and all finished floor elevations are required to be at or above the 100-year flood elevation. Public outreach, regular stormwater system inspections and a capital improvement program are just a few of the flood protection and water quality improvement initiatives in effect at the City.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share		20,000	30,000		50,000
General Fund-District Wide		20,000	30,000		50,000
Total		40,000	60,000		100,000

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**10/01/2019**

**Milestone**

Marketing

Staff Training and Citywide Marketing

**Projected Date**

01/01/2020

09/30/2020

**Data Collection Assessment:**

☒ No data will be collected for this project



# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** SW IMP - Water Quality - Bradenton Beach BMPs Avenue B and C  
**Project Number** W639  
**Cooperator** Bradenton Beach  
**Department** Public Works  
**Contact Person** Lynn Burnett  
**Address** 107 Gulf Drive North  
**City State Zip** Bradenton Beach, FL 34217  
**Phone #** 941-778-1005  
**Email** lburnett@cityofbradentonbeach.com

### Project Type:

☐ Water Supply 
 ☒ Water Quality 
 ☒ Flood Protection 
 ☒ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input checked="" type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This application is for the final year of a multi-year funding agreement for Flood Reduction and Best Management Practices Implementation with the City of Bradenton Beach. The objective of the PROJECT is to improve both the water quality of non-point source stormwater runoff which discharges into downstream receiving water bodies and the flood protection level of service (LOS) provided by the CITY'S surface water management system. The PROJECT is located in a coastal watershed and will benefit several of the remaining basin areas within the CITY where BMPs have not yet been installed. The basins have multiple outfall locations that discharge directly into Sarasota Bay. The Implementation of BMPs will include the following project components: survey, design, public involvement, development of construction documents, permitting, construction inspections, and construction of the PROJECT. The flood protection and water quality improvements proposed for this project will be made in CITY owned alleys, rights of way, and within drainage easements granted to the CITY. Improvements will include stormwater infiltration trenches and tide valves. The proposed stormwater infiltration trenches will provide treatment through sedimentation and filtration/ percolation. The basis for the design of the BMPs is through ongoing coordination with CITY residents, CITY staff, review of the DISTRICT'S City of Bradenton Beach Stormwater Runoff Investigation (1996) and evaluation of other existing conditions information including the CITY Master Drainage Plans. The improvements consist of new LID stormwater management improvements that will provide increased flood protection and water quality benefits on a regional level. The design of the infiltration trench systems results in rainwater harvesting by allowing for storm water to recharge the freshwater lens which lies beneath the barrier island. The design also provides for an efficient means to accommodate long term sea level rise. The State of Florida has designated Sarasota Bay as an OFW. In 1997, a Sarasota Bay Surface Water Improvement and Management (SWIM) Plan was created to outline a series of research and/or restoration projects that will allow for the preservation and continued restoration of the health of Sarasota Bay. The goals of the SWIM plan include improvement and expansion in seagrass beds which is accomplished by decreasing the pollutant loadings and increasing the quality of stormwater runoff to Sarasota Bay. This project will accomplish all of those objectives and increase the overall health, welfare, and safety of the residents living within these basins by implementing flood reduction/protection measures.

#### Benefit:

The Resource Benefit of the Water Quality project is the reduction of pollutant loads to Sarasota Bay, a SWIM priority water body, by an estimated 24,105 lbs/yr TSS, and 676 lb/yr TN.  
 The contractual Measurable Benefit is the design, permitting and construction of LID BMPs to treat approximately 34 acres of highly urbanized stormwater runoff. Construction will be done in accordance with the permitted plans. There will be no monitoring or performance testing requirements.

**Cost:**

The total cost for the project is \$530,930 for design, permitting and construction. The Project Cost will be split equally between the Manasota Basin and the City, with \$70,465 requested during FY2019 from the Manasota Basin, \$78,304 requested during FY2020, and the remaining \$116,696 requested during FY2021. The estimated cost/lb of TSS and TN removed is lower than the historical average of \$20/lb TSS and \$646/lb TN, and the cost/acre treated is estimated below the historical average of \$46,947/acre treated for Coastal/LID projects. The cost estimates are based on similar projects recently completed on Anna Maria Island.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of Bradenton Beach has an adopted Stormwater Utility Fee which is collected annually and is designated for new stormwater related capital improvement projects. With the Stormwater Utility Fee as the foundation, the City has adopted a 5 year Capital Improvement Plan for Stormwater Improvements which incorporate LID measures to reduce pollutant loads to Sarasota Bay, and to systematically and incrementally elevate the publicly owned lands to account for sea level rise and severe climate events. The City works closely with private property owners to help them develop individual plans to elevate their properties and implement flood protection measures for their structures. The City also adopted more stringent Land Development Regulations in 2016 which were established to implement flood reduction and protection measures and to reduce pollutant loadings into Sarasota Bay by requiring individual properties to retain the 10 year, 24 hour storm event. With the over-development of the island in recent decades - this has become a critical piece to the long term solution to sea level rise and severe climate change.

The City performs maintenance on their systems on an annual basis and tracks the progress through their reporting efforts with the NPDES MS4 permit. The City also adopted for the Florida Friendly Yards Ordinance which regulates the use of fertilizers and pesticides. Finally, the City partners with the non-profit organization of Keep Manatee Beautiful to provide education campaigns and maintain drain labels on all of their outfalls.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share	70,465	78,304	116,696		265,465
Manasota	70,465	78,304	116,696		265,465
Total	140,930	156,608	233,392		530,930

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines****FY 2020****Milestone**

Avenue B Design

Avenue B Permitting

Avenue B Bidding and Contract Award

**Projected Date**

01/31/2020

03/31/2020

10/01/2020

**FY 2021****Milestone**

Construction and Construction Engineering Inspection (CEI)

Record Drawings and Substantial Completion

**Projected Date**

03/30/2020

12/30/2021

**Data Collection Assessment:**

☒ No data will be collected for this project

# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## FY2021 Cooperative Funding Initiative Application Form

**Project Name** SW IMP - Water Quality - Northern Holmes Beach BMPs - Basins 10 and 12  
**Project Number** W641  
**Cooperator** Holmes Beach  
**Department** Public Works  
**Contact Person** Lynn Burnett  
**Address** 5801 Marina Drive  
**City State Zip** Holmes Beach, FL 34217  
**Phone #** 941-708-5800  
**Email** cityengineer@holmesbeachfl.org

### Project Type:

☐ Water Supply 
 ☒ Water Quality 
 ☒ Flood Protection 
 ☒ Natural Systems

### Strategic Initiatives:

<input checked="" type="checkbox"/> Water Quality Maintenance and Improvement	<input type="checkbox"/> Water Quality Monitoring
<input type="checkbox"/> Alternative Water Supply	<input type="checkbox"/> Conservation
<input type="checkbox"/> Reclaimed Water	<input type="checkbox"/> Regional Water Supply Planning
<input type="checkbox"/> Emergency Flood Response	<input checked="" type="checkbox"/> Floodplain Management
<input type="checkbox"/> Minimum Flows and Level Establishment and Monitoring	<input type="checkbox"/> Minimum Flows and Levels Recovery
<input checked="" type="checkbox"/> Natural Systems Conservation and Restoration	<input type="checkbox"/> Natural Systems Identification and Monitoring

### Indicate All Counties to Benefit From Project:

<input type="checkbox"/> Charlotte	<input type="checkbox"/> Citrus	<input type="checkbox"/> Desoto	<input type="checkbox"/> Hardee	<input type="checkbox"/> Hernando	<input type="checkbox"/> Highlands	<input type="checkbox"/> Hillsborough	<input type="checkbox"/> Lake
<input type="checkbox"/> Levy	<input checked="" type="checkbox"/> Manatee	<input type="checkbox"/> Marion	<input type="checkbox"/> Pasco	<input type="checkbox"/> Pinellas	<input type="checkbox"/> Sarasota	<input type="checkbox"/> Sumter	<input type="checkbox"/> Polk

### Project Description/Benefit/Cost

#### Description:

This application is for the second year of a two year funding agreement for Best Management Practices and includes design, permitting, and construction of stormwater retrofits in the City. The objective of the PROJECT is to improve the the water quality of non-point source stormwater runoff which discharged into downstream receiving waterbodies and the flood protection level of service (LOS) provided by the CITY'S surface water management system. The PROJECT is located in a coastal watershed and will impact several areas within the CITY. The basins have multiple outfall locations that discharge into the man-made canals which are directly connected to Tampa Bay, a SWIM waterbody. The Implementation of BMPs will include the following tasks: design, development of construction documents, permitting, construction inspections, and construction of the PROJECT. The flood protection and water quality improvements proposed for this project will be made in CITY owned alleys, right-of-ways, and within drainage easements granted to the CITY. Improvements will include various diameter pipe, inlet/control structures, and stormwater infiltration trenches. The proposed stormwater infiltration trenches will provide treatment through sedimentation and filtration/percolation. They will remove a wide range of pollutants carried by urban stormwater runoff reducing the loading of sediment debris, oils, and greases, to the receiving waterbodies. The nature of the BMPs is based on coordination with CITY residents, CITY staff, review of the DISTRICT'S City of Holmes Beach Runoff Investigation (1996) and evaluation of other existing conditions information including the CITY Master Drainage Plans adopted in 2006. The nature of these improvements will allow for new stormwater management systems that will provide increased flood protection and water quality benefits on a regional level. The design of the infiltration trench systems allow for storm water to recharge the freshwater lens which lies beneath the island. The design also provides for an efficient means to accommodate long term sea level rising.

#### Benefit:

The Resource Benefit of the Water Quality project is the reduction of pollutant loads to Tampa Bay, SWIM priority water bodies, by an estimated 15,848 lb/yr TSS, 33 lb/yr TP, and 187 lb/yr TN. The Measurable Benefit is the design, permitting and construction of LID BMPs to treat approximately 20 acres of highly urbanized stormwater runoff.

#### Cost:

The total cost for the project is \$515,576 split equally between the Manasota Basin and the City, with \$128,894 requested during FY2020 and \$128,894 requested during FY2021 from the Manasota Basin. The estimated cost/lb of TSS and TN removed is lower than the historical average of \$20/lb TSS and \$646/lb TN, and the cost/acre treated is estimated below the historical average of \$46,947/acre treated for Coastal/LID projects. The cost effectiveness is solely an analysis of the estimated project cost as compared to the costs of similar projects.

**Describe your complementary efforts in developing, implementing and enforcing water conservation, water quality and flood protection ordinances.**

The City of Holmes Beach has an approved and adopted Stormwater Capital Improvement Program which is funded by a Stormwater Utility Fee. The City has also incorporated Land Development Regulations which were established to implement flood reduction and protection measures and to reduce pollutant loadings into Sarasota Bay.

<b>Funding Source</b>	<b>Prior Funding</b>	<b>FY2020 Budget</b>	<b>FY2021 Budget</b>	<b>Future Funding</b>	<b>Total Funding</b>
Applicant Share		128,894	128,894		257,788
Manasota		128,894	128,894		257,788
Total		257,788	257,788		515,576

**Matching Fund Reduction**

☐ Check here if requesting a reduction in matching funds requirement pursuant to s.288.06561, F.S.

**Timelines**

**FY 2020**

<b>Milestone</b>	<b>Projected Date</b>
DESIGN PHASE D	04/30/2020
PERMITTING PHASE D	05/29/2020
CONSTRUCTION AND CEI PHASE D	11/30/2020

**FY 2021**

<b>Milestone</b>	<b>Projected Date</b>
DESIGN PHASE E	02/26/2021
PERMITTING PHASE E	03/31/2021
CONSTRUCTION AND CEI PHASE E	11/30/2021
RECORD DRAWINGS AND COMPLETION CERTIFICATION	12/31/2021

**Data Collection Assessment:**

☒ No data will be collected for this project

*The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs and activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act should contact the District's Human Resources Director, 2379 Broad Street, Brooksville, Florida 34604-6899; 1-352-796-7211 or 1-800-423-1476 (Florida only), extension 4702; TDD (Florida only) 1-800-231-6103; or email to [ADACoordinator@swfwmd.state.fl.us](mailto:ADACoordinator@swfwmd.state.fl.us)*