Item Number: P-2

1 DEPARTMENT MAKING REQUEST
Utilities

2 MEETING DATE
6/24/2014 9:00:00 AM

3 REQUESTED MOTION/ACTION
Board of County Commissioners (Board) approval and authorization for Charlotte County Utilities (CCU) staff to submit TMDL (Total Maximum Daily Load) Water Quality Restoration Grant Proposal Application in the amount of $2,071,324 to the Florida Department of Environmental Protection (FDEP) for the Wastewater Expansion Program benefiting the impaired waterways of Charlotte Harbor, including the East/West Spring Lake Wastewater Pilot Program, to offset a portion of the project cost to provide central wastewater service to this area.

4 AGENDA
Consent

5 IS THIS ITEM BUDGETED (IF APPLICABLE) -
Budget Action
No action needed. Funding will be provided by an FDEP grant.

Financial Impact Summary Statement
No action is necessary.

Detailed Analysis Attached

Budget Officer

6 BACKGROUND (Why is this Action Necessary, and What Action will be accomplished)
The TMDL or Water Quality Improvement Project process is based on Section 303(d) of the Clean Water Act to establish limits on pollutants that can be discharged to waterbodies and still allow state standards to be met. Federal law requires states to identify sources of pollution in waters that fail to meet state water quality standards, and to develop Water Quality Improvement Reports to address those pollutants. The Wastewater Expansion Program for improving water quality in Charlotte Harbor, beginning with the East/West Spring Lake Wastewater Pilot Program, meets the criteria for this grant application.

Available funds under this grant program are $5,000,000. This grant application in the amount of approximately $2.1 million is due to FDEP no later than July 1, 2014. Grant funds are administered on a cost-reimbursement basis, and the grant period for construction from time of award is three (3) years. These funds can be used for implementation and monitoring.

CCU desires to utilize the grant for the Wastewater Expansion Program benefiting the impaired waterways of Charlotte Harbor, including the East/West Spring Lake Wastewater Pilot Program. This will help reduce nutrient loadings from the area to the downstream receiving waters and offset a portion of the cost to the property owners. The water quality monitoring program will help verify nutrient reduction. The design plans for East/West Spring Lake are scheduled to be 100% complete by July 2014, and permits have been received. A water quality monitoring program has been underway for a number of months, which provides valuable baseline information required for this grant application. The funding application will be applied toward the cost to abandon and/or remove the septic tanks and connect the homes within the vacuum section of the East/West Spring Lake Wastewater Pilot Program area to the central wastewater system, affecting approximately 1,430 homes.

CCU received a TMDL grant award of $599,670 in January 2014 to fund the abandonment and/or removal of septic tanks and the connection of 414 homes to CCU’s central wastewater system in the gravity section of the East/West Spring Lake Wastewater Pilot Program.

We request Board approval and authorization for staff to move forward to apply for the grant as described above. Should this application for funding be approved by FDEP in 2014, CCU will bring the grant award and agreement back to the Board for final approval.

ATTACHMENTS:
<table>
<thead>
<tr>
<th>Name:</th>
<th>Description:</th>
<th>Type:</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINALTMDL_GrantApplication6_12_14.pdf</td>
<td>TMDL Grant Application to FDEP</td>
<td>Cover</td>
</tr>
<tr>
<td>20140612_Grants-Checklist_Ph_II_TMDL.docx</td>
<td>TMDL Grant Checklist</td>
<td>Memo</td>
</tr>
</tbody>
</table>
TMDL WATER QUALITY RESTORATION GRANT PROPOSAL APPLICATION

PROJECT NAME: REVITALIZE IMPAIRED WATERS OF CHARLOTTE HARBOR EAST AND WEST SPRING LAKES PHASE II.

PROJECT FUNDING:
- TMDL Grant $2,071,324.00 11%
- Matching Funds $15,953,269.00 89%
- Total Project Cost $18,024,593.00 100%

LEAD ORGANIZATION: Charlotte County Board of Commissioners (“Charlotte County Utilities”)
End of Fiscal Year: September 30
FEID Number: 59-6000541

CONTACT PERSON: MINDY COLLIER, GRANTS ANALYST
ADDRESS: 25550 HARBORVIEW RD, SUITE 1, PORT CHARLOTTE, FL 33980
PHONE: 941-764-4500 X 4520
FAX: 941-764-4319
EMAIL: MINDY.COLLIER@CHARLOTTEFL.COM

COOPERATING ORGANIZATIONS AND CONTACT PERSON (THOSE PROVIDING FUNDING OR IN-KIND SERVICES):
- CHARLOTTE COUNTY COMMUNITY DEVELOPMENT STORMWATER DIVISION
- CHARLOTTE COUNTY HEALTH DEPARTMENT (DOH)
- CHARLOTTE HARBOR NATIONAL ESTUARY PROGRAM (CHNEP)
  Contact Name: Liz Donley Tel.: (239) 338-2556
- CHARLOTTE HARBOR ENVIRONMENTAL CENTER, INC. (CHEC)
  Contact Name: Jim Thomson; Tel.: (941) 575-5435
- CHARLOTTE COUNTY EXTENSION THROUGH THE FLORIDA YARDS AND NEIGHBORHOODS AND SEA GRANT MARINE EXTENSION PROGRAMS (EES)
  Contact Name: Ralph Mitchell; Tel.: (941) 764-4340

PROJECT ABSTRACT:
The TMDL Water Quality Grant Restoration Program was established by the Florida Legislature to provide cost share assistance to local governments to implement Best Management Practice (BMP) projects that reduce urban storm water pollutant loadings discharged to impaired waters. As part of an on-going and incremental initiative to revitalize the 303(d) listed water bodies, Charlotte Harbor and Peace River Estuaries, Charlotte County will apply an innovative and comprehensive approach nonpoint source pollution originating from the 100% urbanized areas around Charlotte Harbor and the Peace River Estuaries. The project site for this part of the expansion effort is the 636 acre site referenced as Area 1, 1A East and West Spring Lakes (see Exhibits A and B). The project is separated into two phases, Phase I (gravity system) provides project benefits to approximately 492 properties or 191 acres, which includes 414 connections to developed properties, and Phase II (vacuum system) provides benefits to 1,963 properties or 452 acres, which includes 1430 connections to developed properties. This application is for Phase II only to fund the portion of the East and West Spring Lakes area to be served by a vacuum sewer system. Phase I of the project included the construction of the gravity portion of the East and West Spring Lakes area and received TMDL funding during the November 2013 cycle. Phase II permits are complete and it is anticipated the current 90% plans will be 100% by July 2014. The County plans to reduce water quality pollution on several fronts including the elimination of On Site Treatment and Disposal Systems (OSTDS), the improvement of treatment of
storm water run-off, and increased local awareness of pollution caused by pesticides, herbicides and fertilizers. These efforts will reduce the nonpoint source pollutant load in the Charlotte Harbor and Peace River Estuaries, and mitigate the ecological impacts that are affecting the receiving water bodies of Charlotte Harbor.

Type of Treatment:

Phase II of the Project will construct the vacuum sewer portion of the central wastewater service to 1,963 properties in order to replace inadequate OSTDSs (BMP 1) in 1,430 occupied properties. Phase II will also restore the storm conveyance system to reduce sediment transport and pollutants (BMP 2), and implement an education and outreach program to property owners on Best Management Practices (BMPs) for applying pesticides, herbicides and fertilizers.

Summary of Estimated Pollutant Load Reductions:

The anticipated pollutant load reductions as a result of this project are as follows: 50% reduction in TSS/Sediment*, 98% reduction in TP, 95% reduction in TN, and 96% reduction in BOD. See Exhibit K for StepL modeling results**.

* The StepL model did not differentiate between TSS and sediment. Additionally, the StepL model did not account for the TSS/sediment loading rate caused by OSTDSs, therefore the TSS/sediment pollution reduction percentage is not truly representative of the final TSS/sediment reduction amount.

** Loading distributed as 20% for Phase I project area and 80% for Phase II project area.

Summary of Educational Components:

The education and outreach component will involve holding 2 workshops at community centers to educate and create awareness about water quality issues in the watersheds. Information will be provided on Best Management Practices and how Charlotte County, in cooperation with other State, Federal, and local partners, are taking action to improve watershed conditions. A permanent sign will also be posted in the project area educating the public about the program and the overall impact.

Summary of Monitoring:

A groundwater and surface water monitoring program has been in progress over the past year for both Phase I and Phase II areas in order to establish a baseline of pollutant loading in surrounding water bodies and OSTDS sites. A separate QAPP for each phase will be prepared and submitted to EPA for approval and any modifications, if required, to the existing monitoring program will be made to ensure all EPA criteria in the approved QAPP are met. Upon completion of the BMP’s, additional and on-going testing will be performed comparing inflows and outflows from the newly restored/modified grassy swales and former OSTDS sites at locations tested prior to construction. See Exhibit C for existing monitoring sites.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:

The project will improve water quality in two different 303(d) listed water bodies, the Charlotte Harbor and Peace River Estuaries, found within the Peace River and Myakka River Basins. Both water
bodies are large in comparison to the project site however, the severity of the pollutant loading created by this area adjacent to these water bodies will provide a higher concentration of pollutant removal than other areas at this time (see Exhibits D and E).

The project area is known as Area 1,1-A, also known as the East and West Spring Lakes area separated into two Phases both located directly on the Peace River HUC 03100101 and Charlotte Harbor HUC 03100103. The Peace River Estuary is 303(d) listed for Mercury, Fe, and Nutrients. Charlotte Harbor is 303(d) listed for Nutrients, Fe, Mercury, and bacteria.

**Water Body Name:** Charlotte Harbor and Peace River Estuary

**Hydrologic Unit Code (HUC):**

Region 3 – South Atlantic Gulf Region
- 03100101: Peace
- 03100103: Charlotte Harbor

**Project Latitude:** 26° 58' 50.94"N
**Project Longitude:** 82° 6' 33.32" W

**Land Uses within the Watershed** (acres and percentages of total):

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Acres</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential*</td>
<td>629</td>
<td>99%</td>
</tr>
<tr>
<td>Industrial/Commercial*</td>
<td>7</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Land Use Totals (Acreage and %)**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>636</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Area distributed as 20% for Phase I project area and 80% for Phase II project area. (See Exhibit A)

**TMDL STATUS OF WATER BODY AND PROJECT:**

**Name of Impaired Water:**

There are a number of impaired water bodies within the Charlotte Harbor and the Peace watersheds surrounding the project area. Below is a list WBIDs and related impairments obtained from the 303(d) 2013 Master Verified List. (see Table 1.0 below). See Exhibit E for map of project area and surrounding water body identification numbers (WBID).

**WBID:** See Table 1.0 Below

**Status of Impaired Water:** See Table 1.0 Below.

**Status of BMAP:** A Basin Management Action Plan is not available for these impaired waters.

**Impairment:** See Table 1.0 for list of impairments for each WBID surrounding the project area.
### Table 1.0

<table>
<thead>
<tr>
<th>303(d) listed Water body affected:</th>
<th>WBID#:</th>
<th>Impairment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarasota Bay – Peace – Myakka / Lower Peace River:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peace River Lower Estuary</td>
<td>2056A</td>
<td>Nutrients, Iron, Mercury</td>
</tr>
<tr>
<td>Peace River Mid Estuary</td>
<td>2056B</td>
<td>Nutrients, Iron, Mercury</td>
</tr>
<tr>
<td>Alligator Bay</td>
<td>2056D</td>
<td>Nutrients, Mercury</td>
</tr>
<tr>
<td>Port Charlotte Beach East</td>
<td>2056DB</td>
<td>Bacteria</td>
</tr>
<tr>
<td>Port Charlotte Beach East</td>
<td>2056DC</td>
<td>Bacteria</td>
</tr>
<tr>
<td>Charlotte Harbor Proper:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charlotte Harbor Upper</td>
<td>2065A</td>
<td>Nutrients, Iron, Mercury</td>
</tr>
</tbody>
</table>

### POLLUTION REDUCTION STRATEGY:

The overall strategy of this project is to address the nonpoint source pollutant loading directly into the impaired waters of the Peace River and Charlotte Harbor. There are a number of factors impacting Charlotte Harbor and the Peace River and a significant effort will be required to address all pollutants. However, Charlotte County (the County) is taking some important initial steps to address these issues with this proposed project.

The project will specifically address pollutants contributing to the Nutrients impairments by reducing Total Nitrogen, Total Suspended Solids (TSS), Total Phosphorous and Biological Oxygen Demand (BOD) through elimination of OSTDSs and restoration of the storm water drainage swale system to restore nutrient reduction. Additionally, the project will address the health and safety of the citizens by reducing pathogenic bacteria impairments introduced through the storm water system from failing OSTDS’s, and chemical pollutants found in herbicides and pesticides.

### Watershed Management Plan:

The BMP’s proposed for this project specifically address priority actions outlined in The Charlotte Harbor National Estuary Program’s (CHNEP) Comprehensive Conservation and Management Plan. This plan was prepared to address and mitigate the source of pollutants into estuary waters. See the list of Exhibits for excerpts of the CHNEP plan. The proposed project addresses a number of the listed priorities as follows:

- Priority Action WQ-A (p. 75): Participate in nutrient reduction plans
- Priority Action WQ-1 (p. 74): Maintain or improve water quality from year 2000 levels.
- Priority Action WQ-D (p. 78) requires that nonpoint-source pollutants associated with storm water runoff be addressed by retrofitting best management practices (BMPs) to maintain or improve...
water quality and flows.

- Priority Action WQ-H (p. 82) establish homeowner education programs
- Priority Action WQ-J (p. 84) of this report requires that central sewers be developed within 900-feet of waters such as estuarine shorelines, rivers, creeks, canals, and lakes.
- Priority Action WQ-L (p. 86) is to increase the use of personal and home best management practices by consumers throughout the watershed to reduce nonpoint-source pollution.
- Priority Action WQ-M (p. 87): Support public involvement programs addressing water quality issues.
- Priority Action SG-D (p. 126): Produce watershed and estuary communication tools.
- Priority Action SG-K (p. 133): Present scientific information in a form readily understood by the majority of people.

Additionally, the Southwest Florida Water Management District has prepared a Surface Water Improvement and Management (SWIM) Plan specifying that nonpoint source pollutant loads must be identified, measured, and reduced. The SWIM Plan also specifies public education and outreach as a critical element to controlling pollutant loading as well. See list of Exhibits for pages extracted from the SWIM Plan.

PROJECT OBJECTIVE(S):

To reduce nonpoint source pollution (NPS) in the Charlotte Harbor and Peace River receiving waters through the elimination of OSTDS, restoration of stormwater conveyance systems, and education and outreach to area residents that will minimize the impact of chemical pollutants found in fertilizers, pesticides, and herbicides.

PROJECT DESCRIPTION (PLEASE LIST ALL TASKS AND DELIVERABLES):

Overview: Charlotte County (County) is applying for this grant in order to fund a project in an area referenced as Area 1, 1A East and West Spring Lakes (see Exhibits A and B) that will address sanitary sewer and storm water/drainage improvements in an older neighborhood that is typical of many Charlotte Harbor neighborhoods. This neighborhood has been experiencing a number of problems due to aging and failing septic tanks, especially during large rain events. The proposed improvements will address the health and safety of the citizens and reduce the level of nonpoint source pollutants introduced into the impaired waters of Charlotte Harbor and Peace River. This grant effort is a cooperative initiative involving personnel and resources from Charlotte County Utilities, Public Works, the University of Florida Environmental Extension Services for Charlotte County, the Department of Health, and several other local environmental organizations. See list of Exhibits to review letters in support of this collaborative effort by the participating organizations.

The project area is separated into two phases, Phase I (gravity system) provides project benefits to approximately 492 properties or 191 acres and Phase II (vacuum system) provides benefits to 1,963 properties or 452 acres. This application is for Phase II only to fund the vacuum sewer portion of the East and West Spring Lakes area. Phase I of the project included the construction of the gravity portion of the East and West Spring Lakes area and received a funding award during the November 2013 funding cycle. Phase II is divided into 4 zones for an efficient vacuum system design. Each zone services approximately 25-30% of the Phase II project area.

Background: Charlotte County has a number of areas located adjacent to impaired waterways where wastewater is treated using OSTDSs and storm water is handled by an overland drainage system.
entering directly into impaired receiving waters (See Exhibits D and E). To address the pollution entering the receiving waters, Charlotte County is developing a county-wide plan to provide central sewer to areas presently served by OSTDSs. There is also an opportunity to combine these efforts with improving overall storm water quality into a larger project.

The identified subdivision for this project was initially developed during the 1960’s as a residentially zoned community. The current characteristics include ¼ acre residential platted lots and include roadways and roadside drainage swales. Storm water is conveyed directly to Alligator Bay via the roadside drainage swales and an overland drainage system. Wastewater, in the specific areas to be addressed, is currently treated using OSTDSs. The area selected for these improvements is adjacent to and directly feeds into the impaired waters of the Peace River and Charlotte Harbor. The OSTDSs in these areas were largely constructed in the 1970’s and are inadequate with many known to be in failure. The systems in this area have exceeded their useful life and do not meet current design criteria. During large rain events, these failing systems pose a significant health, as well as environmental, risk.

The project takes a comprehensive approach by not only providing central sewer to these neighborhoods and eliminating on-site septic systems, but also by addressing storm water quality and, as well as educating citizens on pollution prevention methods.

**BMP 1 Eliminate OSTDSs and Provide Central Sewer:** The project will include the construction of the wastewater collection infrastructure to serve 2,455 properties located in the East and West Spring Lakes (Area 1, 1A) separated into two Phases where Phase I comprises approximately 492 properties and Phase II comprises approximately 1,963 properties. This application is for the Phase II project area. See Exhibits A and B for maps of this area. The project includes abandoning all existing OSTDSs and connecting the developed properties to the central wastewater infrastructure for immediate access to the wastewater system. For Phase II, this will involve the construction of approximately 104,100 linear feet (lf) of vacuum wastewater mains, 3,500 linear feet (lf) of gravity mains and installation of related components at each residence in order to connect to the central wastewater system. This is a turn-key program and all residents will be connected at project completion. Charlotte County ordinance no. 2001-034 now mandates that the owner of each lot or parcel of land with a building or trailer shall be connected to public sewer facilities within three hundred sixty-five (365) days of availability. Permits have been approved and received for construction of Phase II (see Exhibit L).

This effort is intended as a sub-project of a larger, county-wide program. The County is in the conceptual stages of developing a long-term initiative intended to bring centralized wastewater infrastructure to a remaining portion of the mid/central and west regions of the County that are presently un-sewered. Realization of this vision will potentially result in centralized wastewater availability to approximately 100,000 additional properties within the Urban Service Area. The classification of Charlotte Harbor and Lemon Bay as FDEP and EPA verified impaired waters, along with the newly developed wastewater model, will provide key supportive information and criteria to promote the need for this centralized wastewater facilities expansion plan. Areas contributing to the degradation of the impaired waters, based on the age of the existing individual OSTDSs, proximity to surface water bodies and other factors will be utilized for this strategic plan.

**BMP 2 Improved Storm Water Management and Drainage:** Once the OSTDSs are eliminated, the drain field area, formally treating wastewater, will now be available for storm water detention and treatment. For the average drain field size in the area, this increases storm water detention and permeation capacity for an average 10,000 square foot lot by 10%. This was determined based upon a 1-inch rain event producing 8300 cu ft. of storm water on an average lot and the average drain field volume of 900 cu ft. Additionally, the grassy swales and overall storm water conveyance system will
be restored and rehabilitated to improve the existing treatment system; namely percolation rates into the soil. During the restoration process, the soils will be examined for residual sedimentation which inhibits the efficiency of the grassy swales to treat stormwater by inhibiting the infiltration of stormwater into the soils for treatment and retention. Sediment laden soils in the swale system will be pulverized to break up the film that is binding the sediment to the fill material and inhibiting the infiltration. The swales will be regraded to original design elevations and the vegetation will be restored in order to provide maximum sediment retention and treatment during smaller rain events which are short in duration and conveyance is minimal. During heavy rain events the same system will retain the previously collected sediment ensuring that previously collected material and pollution will not enter the receiving waters. Since the smaller rain events occur more often during the year and carry more of the sediment and nutrients, overall sediment removal and treatment should be increased, thereby greatly reducing impacts on the receiving waters. The potential to re-grade the former Onsite System area into a slight depression will also provide an additional opportunity for detaining storm water for percolation and treatment directly into the ground preventing further direct run off into the receiving waters.

Public Information/Education: In order to maximize exposure of the project goals and to promote BMPs that minimize the impact of fertilizers, pesticides and herbicides, the County will implement a multi-pronged approach to disseminate information to the public. The County will capitalize on existing environmental organizations focused on the Charlotte Harbor Estuary and its restoration. Activities will include participation in these organizations’ sponsored events, utilization of these organizations Web site resources and the dissemination of written material to these organizations. Furthermore, the County will sponsor a minimum of two (2) workshops to explain project goals and successes and to distribute material specific to the use of potential pollutants. Finally the use of strategically located permanent land marks will be used to educate future generations (within proximity of the Harbor, storm water retention ponds, and public parks). By using these various distribution channels the County expects to reach 15,000 citizens at a minimum. As part of the development of the final water quality monitoring plan a survey mechanism will be determined. The analysis of the post water quality data will include a discussion of the impact that the education program had on pollutant reduction.

The educational outreach program materials will focus on: environmental impacts of fertilizers, pesticides and herbicides; advising the public to purchase fertilizers, pesticides, and herbicides with the proper product specifications; the demonstration of appropriate application methods; and alternative options more friendly to the environment.

Specific to the project area, while the County hopes to reach 100% of the citizens within these areas, it is assumed that materials and programs may reach only 50% of the neighborhood population. As such, of the 50% of the households reached, it is expected that half of these households reached will comply with the recommended methods. As a result, the County anticipates that a 25% reduction in environmentally unsafe uses of fertilizers, pesticides and herbicides will be realized in this area.

Effectiveness Monitoring Program:

A groundwater and surface water monitoring program has been in progress over the past year in order to establish a baseline of pollutant loading in surrounding water bodies and OSTDS sites in both phase areas. See Exhibit C for test locations. Upon completion of the BMP’s, additional and on-going testing will be performed comparing inflows and outflows from the newly restored/modified grassy swales and former OSTDS sites at locations tested prior to construction to demonstrate the effectiveness of the project components.

CHNEP and CHEC both run monitoring programs collecting data at various stations throughout the Charlotte Harbor area. Key opportunities to capture data include random sampling and specific storm
event sampling. Sampling points will be identified to demonstrate load reductions within close
proximity to former OSTDS sites. A Quality Assurance Project Plan will be prepared to control water
quality sample collection, testing, and reporting and submitted to the EPA for approval. Upon approval,
modifications to the existing program will be made, if necessary, in order to address any concerns
raised during the QAPP approval process.

Through these efforts, the pollution impact of these 100% urbanized areas on the impaired waters of
Charlotte Harbor will be significantly reduced. The successful project will provide the affected citizens
with central wastewater service and improved storm water treatment at an overall reduced cost.
Furthermore, the project provides an opportunity to inform the public on how to protect our most
important asset, the Charlotte Harbor Estuary.

NOTE: Typical tasks will include: Land acquisition, design, permitting, bidding, BMP construction,
BMP monitoring, grant administration, quarterly progress reports, draft final report, final report.

TASK NUMBER: 1
TASK NAME: Contract Award of Grant and Final Scope of Work for Phase II
TASK DESCRIPTION: Upon notification of award, the Grantee to prepare final scope of work and
complete agreement with the Grantor.
DELIVERABLE: Final Contract and Scope of Work Completed
TIMELINE FOR COMPLETION: START August, 2014 COMPLETE November, 2014
CRITERIA USED TO DETERMINE SUCCESS: Final Contract and Scope of Work executed with
signatures.
BUDGET INFORMATION: See Exhibit J for Budget by Task and Salary Breakdown.

TASK NUMBER: 2
TASK NAME: Project Design/Engineering
TASK DESCRIPTION: Completion of construction plans and technical specifications for BMPs, # 1
Central Wastewater System and Restoration, and # 2 Storm water Treatment Improvements.
DELIVERABLE: Construction Plans & Permits
TIMELINE FOR COMPLETION: START n/a COMPLETE July 2014 (Permits received)
CRITERIA USED TO DETERMINE SUCCESS: Permit approval by regulatory organization.
BUDGET INFORMATION: See Exhibit J for Budget by Task and Salary Breakdown.

TASK NUMBER: 3
TASK NAME: Construction Contract Bid and Award
TASK DESCRIPTION: Prepare front end Bid Documents, Coordinate Bid Process, Evaluate Bid
Results, Award Bid
DELIVERABLE: Provide Bid Documents, Bid Results, and Copy of Contract Award
TIMELINE FOR COMPLETION: START July 2014 COMPLETE September 2014
CRITERIA USED TO DETERMINE SUCCESS: Notice to Proceed issued to Contractor
BUDGET INFORMATION: See Exhibit J for Budget by Task and Salary Breakdown.

TASK NUMBER: 4
TASK NAME:
• Complete Construction of BMP # 1 – Central Wastewater System and Restoration for Phase II
• Complete Construction of BMP # 2 – Storm water Treatment Improvements for Phase II
TASK DESCRIPTION: Once the construction plans have been completed, permits obtained, and bid
awarded, construction of BMP # 1 and # 2 will take place. Grantee staff will provide inspection
services to ensure that project is constructed according to County and regulatory standards.
DELIVERABLE:
• Submit Copy of Permit Completion
• Submit Copy of Final As-Built Certification
• Submit Copy of Record Drawings
• Service Connection Inspection Approvals
• Daily Inspection Reports
• Pictures of the Installed Sign
• Approved Invoices

**TIMELINE FOR COMPLETION: START October 2014  COMPLETE July 2016**

**CRITERIA USED TO DETERMINE SUCCESS:** Permit completion to put system into operation received from regulatory authority. All developed properties connected to wastewater system and OSTDS decommissioned/abandoned.

**BUDGET INFORMATION:** See Exhibit J for Budget by Task and Salary Breakdown.

**TASK NUMBER:** 5

**TASK NAME:**
• Prepare Quality Assurance Project Plan (QAPP) and Final Water Quality Monitoring Plan for Phase II
• Pre-construction Testing for Phases II
• Implement Monitoring for Phases II

**TASK DESCRIPTION:** Implementation of Water Quality Monitoring Program.
A Quality Assurance Project Plan (QAPP) shall be prepared and submitted to the Florida Department of Environmental Protection (FDEP) for monitoring prior to commencement of any monitoring that will be used for grant reporting purposes. The monitoring plan will specify the sampling locations, sampling instruments, and parameters to be sampled; ground monitoring wells located near septic system sites; and, surface water sites in adjacent water bodies outlined in the approved QAPP. Sampling and testing will be targeted for nutrients and bacteria as follows: TP, NO2/NO3, TKN, TN, NH3, Fecal coliform, TSS, Water Level (for ground water monitoring locations), Rainfall and Flow. Sample collection to occur independently of rain events. Continuous sampling of groundwater is required to capture results during the dry and wet seasons. Surface water samples are collected bi-monthly as well in water bodies adjacent to the project area. (Note: Metals, orthophosphate, and oil/grease analyses are excluded. Area is 99% single family residential with no anticipated industrial pollutants as indicated by metals or oil/grease analysis. Orthophosphates will not be required since TP and other nutrient and bacterial analyses are to be performed.)

• Prepare Quality Assurance Project Plan (QAPP) to address water quality monitoring.
• Complete pre-construction testing (will be planned and carried out in order to compare baseline)

**DELIVERABLE:**
• Submit Copy of Approved QAPP and Final Monitoring Plan
• Submit Copy of Test Results

**TIMELINE FOR COMPLETION: START Currently in Progress  COMPLETE August 2017**

**CRITERIA USED TO DETERMINE SUCCESS:** Test results obtained from proposed monitoring sites and for number of events required that meet QAPP criteria.

**BUDGET INFORMATION:** See Exhibit J for Budget by Task and Salary Breakdown.

**TASK NUMBER:** 6

**TASK NAME:** Public Involvement; Implement Educational Program

**TASK DESCRIPTION:** A stakeholder’s committee made up of residents and other local organizations has been formed and is meeting on a regular basis to review the project requirements and provide overall direction for the program. Meetings are open to all residents and the public for opinions and
Over 6 informational meetings have been held with the public to review the program and, additionally, a minimum of two (2) additional Neighborhood meetings will be held to educate and involve neighborhood residents about the project and involve them in the central sewer and storm water BMP design process. County and University of Florida staff will conduct community outreach workshops providing training and distribute literature on BMPs in using pesticides, herbicides, and fertilizers to area residents. An informational session will also be held at the annual Charlotte Harbor Nature Festival to update residents on the impacts that the project will have on reducing pollutant loading in Charlotte Harbor. Educational materials will be distributed to individual home owners describing the connection between the improvements being made and overall pollutant load reduction into the receiving waters. The materials will address BMPs for reducing and properly using pesticides, herbicides, and fertilizers. Also, the partnering members will further develop an action plan to disseminate and educate the public on the use of fertilizers, pesticides and herbicides. A survey will be prepared to measure the performance of the educational program on the public. Signage for the educational outreach will be installed at this time as well.

**DELEVERABLE:**
- Submit Pictures of Workshop Events
- Sign-in Sheets
- List of Publications and Websites

**TIMELINE FOR COMPLETION: START** Currently in Progress  **COMPLETE** December 2017

**CRITERIA USED TO DETERMINE SUCCESS:** More than 50% of respondents of survey of residents in the area demonstrate some knowledge of the program and impact of pollutants on the impaired waters.

**BUDGET INFORMATION:** See Exhibit J for Budget by Task and Salary Breakdown.

**TASK NUMBER:** 7

**TASK NAME:** Project Management and Administration; Final Project Report

**TASK DESCRIPTION:** Project manager shall monitor all work to see that each task is completed according to schedule, keep track of expenditures of money and time and see that all permit deadlines are met. A Final Report shall be prepared in order to capture the outcome and results of the selected project, including all tasks included in this project. This shall include, where applicable, why a BMP did not obtain or exceeded the expected removal efficiency; any problems encountered and how those problems were overcome; an explanation of any project delays; a brief summary of any additional phases yet to be completed; and more.

**DELEVERABLES:**
- Provide quarterly progress reports
- Submit draft report for review
- Submit approved final report that meets all of the requirements identified in the task description.

**TIMELINE FOR COMPLETION: START** Currently in Progress  **COMPLETE** December 2017

**CRITERIA USED TO DETERMINE SUCCESS:** Report provides summary of the measure of success of pollutant reduction as a result of the project and provides actionable guidance on how to improve the project for future phases. Completion of project within planned timeframe.

**BUDGET INFORMATION:** See Exhibit J for Budget by Task and Salary Breakdown.
ESTIMATED POLLUTANT LOAD REDUCTION:

<table>
<thead>
<tr>
<th>BMP’s Installed</th>
<th>TSS** kg/yr</th>
<th>TP kg/yr</th>
<th>TN kg/yr</th>
<th>BOD kg/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Project***</td>
<td>32,620</td>
<td>7935</td>
<td>21,058</td>
<td>85,236</td>
</tr>
<tr>
<td>Post-Project</td>
<td>16,183</td>
<td>129</td>
<td>1,116</td>
<td>3,002</td>
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<tr>
<td>Load Reduction</td>
<td>16,437</td>
<td>7,806</td>
<td>19,942</td>
<td>82,234</td>
</tr>
<tr>
<td>% Reduction</td>
<td>50%</td>
<td>98%</td>
<td>95%</td>
<td>96%</td>
</tr>
</tbody>
</table>

* Includes treatment performance of grassy swales at existing efficiency level (5% est.) and related improvements proposed to provide overall of 80% efficiency. Additionally, the STEPL model did not register TSS/sediment loading for OSTDSs. It is estimated that the failing septic systems annually contribute an additional 130,000 kg/yr of TSS/sediment. We expect this additional load to be eliminated (as well as 100% reduction in any pollutant generated by the OSTDSs) with the removal of the OSTDSs once central wastewater infrastructure is installed.

** The STEPL model does not differentiate between TSS and sediment.

*** Represents loading for both Phase I and Phase II areas combined. Phase I represents 20% of the loading and Phase II represents 80% of the loading.

MODEL USED: STEPL 4.1, Last updated: 06/30/2010

EMCS USED IN MODEL: The default settings were used in the STEPL model for pollutant loads and rainfall amounts according to reference statistics for Charlotte County, FL and the Florida Tampa International Airport weather station.

PROJECT MILESTONES:

<table>
<thead>
<tr>
<th>Task</th>
<th>Activity</th>
<th>Start</th>
<th>Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Contract Award and Agreement</td>
<td>August 2014</td>
<td>November 2014</td>
</tr>
<tr>
<td>2</td>
<td>Land Acquisition, Design and Permitting</td>
<td>n/a</td>
<td>Completed July 2014</td>
</tr>
<tr>
<td>3</td>
<td>Bidding</td>
<td>July 2014</td>
<td>September 2014</td>
</tr>
<tr>
<td>4</td>
<td>BMP Construction</td>
<td>October 2014</td>
<td>July 2016</td>
</tr>
<tr>
<td>5</td>
<td>BMP Effectiveness Monitoring</td>
<td>Currently in Progress</td>
<td>August 2017</td>
</tr>
<tr>
<td>6</td>
<td>Public Education</td>
<td>Currently in Progress</td>
<td>December 2017</td>
</tr>
<tr>
<td>7</td>
<td>Project Management and Administration; Draft and Final Reports</td>
<td>Currently in Progress</td>
<td>December 2017</td>
</tr>
</tbody>
</table>
**PROJECT BUDGET:**

<table>
<thead>
<tr>
<th>Project Funding Activity</th>
<th>Grant Amount</th>
<th>Matching Contribution</th>
<th>Match Source *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Award and Agreement</td>
<td>$4,128</td>
<td></td>
<td>Charlotte County Wastewater MSBU (CCWMSBU)</td>
</tr>
<tr>
<td>Land Acquisition</td>
<td>$68,000</td>
<td></td>
<td>CCWMSBU</td>
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<tr>
<td>Design and Permitting</td>
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<td>CCWMSBU</td>
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<tr>
<td>Bidding</td>
<td>$7,148</td>
<td></td>
<td>CCWMSBU</td>
</tr>
<tr>
<td>BMP Construction</td>
<td>$2,071,324</td>
<td>$9,882,541</td>
<td>CCWMSBU; Charlotte County Public Works MSBU</td>
</tr>
<tr>
<td>BMP Effectiveness Monitoring</td>
<td>$55,200</td>
<td></td>
<td>CCWMSBU</td>
</tr>
<tr>
<td>Public Education</td>
<td>$11,200</td>
<td></td>
<td>CCWMSBU, Charlotte County Environmental Extension –Florida Friendly Yards and Neighborhoods; CHEC; CHNEP</td>
</tr>
<tr>
<td>Program Administration, Draft and Final Reports</td>
<td>$98,400</td>
<td></td>
<td>CCWMSBU</td>
</tr>
<tr>
<td>Connection Fees and AGRF</td>
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<td>CCWMSBU</td>
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<td>Interest</td>
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<td>Statutory Uncollectible (MSBU)</td>
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<tr>
<td>Collection Fees (MSBU)</td>
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<td>CCWMSBU</td>
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<tr>
<td><strong>Total:</strong></td>
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<td><strong>$15,953,269</strong></td>
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<tr>
<td><strong>Total Project Cost:</strong></td>
<td></td>
<td></td>
<td><strong>$18,024,593</strong></td>
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</table>
| **Percentage Match:**                           |               |                       | **11%**                                            | **89%**
DEDICATED UTILITY FUNDING INFORMATION:

<table>
<thead>
<tr>
<th>Match Source Name</th>
<th>Description</th>
<th>ERU/Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlotte County Utilities</td>
<td>Charlotte County Wastewater MSBU</td>
<td>Developed - $9,998/ERU; Vacant - $6,151/ERU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1844 dev./700 vac. ERUs)*</td>
</tr>
</tbody>
</table>

* If paid over a 20 year period, annual payments are $499 for developed and $307 for vacant.

OTHER FUNDING (Not Match):

<table>
<thead>
<tr>
<th>Agency</th>
<th>Activity</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
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</tr>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total:  

REFERENCES CITED:

http://www.checflorida.org/

1926 Victoria Avenue, Fort Myers, FL 33901  
http://www.chnep.org/CCMP/CCMP.htm

National Storm water Best Management Practice Database  
http://www.bmpdatabase.org/

South West Florida Water Management District, November 2000, Charlotte Harbor Surface Water Improvement (SWIM) Program  
Brooksville Headquarters, 2379 Broad Street, Brooksville, FL 34604-6899
NOTE: EXHIBITS BELOW PROVIDED IN SEPARATE WORD DOCUMENT

List of Exhibits:

Exhibit A: Project Location Map
Exhibit B: Detailed Area Map
Exhibit C: East and West Spring Lakes Monitoring Locations
Exhibit D: Area Map and Surrounding Drainage Basins
Exhibit E: Area Map and Surrounding Water Body Identification Numbers
Exhibit F: Partnership Letters
  Charlotte County Public Works
  Charlotte County Department of Health
  Charlotte Harbor National Estuary Program
  Charlotte Harbor Environmental Center, Inc.
  University of Florida IFAS Extension Charlotte County
Exhibit G: Charlotte Harbor National Estuary Program Plan Excerpts
Exhibit H: South West Florida Water Management District, Charlotte Harbor Surface Water Improvement Plan Excerpt
Exhibit I: Charlotte County Department of Health, Analytic Parameters of Standing Water in Port Charlotte, Sampled August 8, 2008
Exhibit J: Budget by Task and Salary Breakdown
Exhibit K: STEPL Modeling Results
Exhibit L: Approved Permits for Phase II
Revitalizing the Impaired Waters of Charlotte Harbor Area 1, 1-A
"East and West Spring Lakes"

Project Location Map

Legend

[Red Line] East & West Spring Lake Boundary

Stateplane Projection
Datum: NAD83
Units: Feet
Source: Charlotte County Utilities

This map is a representation of compiled public information. It is believed to be an accurate and true depiction for the stated purpose, but Charlotte County and its employees make no guarantees, implied or otherwise, to the accuracy, or completeness. We therefore do not accept any responsibilities as to its use.

Updated: 2/15/2013 3:38:28 PM by: AndersonD
© Copyright 2013 Port Charlotte, FL by Charlotte County
Exhibit B
Revitalizing the Impaired Waters of Charlotte Harbor Area 1, 1-A
"East and West Spring Lakes"
Detailed Area Map
Revitalizing the Impaired Waters of Charlotte Harbor Area 1, 1-A
"East and West Spring Lakes"
Monitoring Locations
CHARLOTTE COUNTY
Exhibit D
Revitalizing the Impaired Waters of Charlotte Harbor Area 1, 1-A
"East and West Spring Lakes"
Treatment Area & Drainage Basin Map

Legend

Drainage Basins
- Cleveland Cem Ditch
- Como Waterway
- DR To Peace River
- DR to Bay
- DR to Myakka River
- Direct Runoff To Bay
- Fordham/Niagra
- Little Alligator C
- Mangrove Point Canal
- N. Fork Alligator Creek
- Pellam/Auburn Wtrw
- Punta Gorda Isles
- Sam Knight Creek

Charlotte County

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Stateplane Projection
Datum: NAD83
Units: Feet
Source: Charlotte County Utilities

Updated: 2/19/2013 3:35:49 PM by: AndersonD
© Copyright 2013 Port Charlotte, FL by Charlotte County
W:\Projects\MSBU Future Zones\Spring Lake Pilot Study\Spring Lake Grant Fig 2.mxd
Charlotte County Government

"To exceed expectations in the delivery of public services."

www.CharlotteCountyFL.com

CHARLOTTE COUNTY
Exhibit E
Revitalizing the Impaired Waters of Charlotte Harbor Area 1, 1-A
"East and West Spring Lakes"
Area Map and Surrounding Waterbody Identification Numbers (WBIDs)

Legend

WBIDs

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Stateplane Projection
Datum: NAD83
Units: Feet
Source: Charlotte County Utilities

This map is a representation of compiled public information. It is believed to be an accurate and true depiction for the stated purpose, but Charlotte County and its employees make no guarantees, implied or otherwise, to the accuracy, or completeness. We therefore do not accept any responsibilities as to its use.

Updated: 2/19/2013 4:10:45 PM by: AndersonD
W:\Projects\MSBU Future Zones\Spring Lake Pilot Study\Spring Lake Grant Fig 4.mxd

2056E
2056A
2056B
2056D
2056DC
2056DB
2056
2046
2047
2060
February 19, 2013

Ruta Vardys, P.E.
Charlotte County Utilities
25550 Harborview Road, Unit 1
Port Charlotte, FL 33980

Dear Ms. Vardys,

The Charlotte County Community Development Stormwater Division is excited about working with Charlotte County Utilities to apply for this Grant. The two Charlotte County departments are working together to help reduce non point source pollutant loading in Charlotte Harbor while providing adequate drainage capacity. Charlotte Harbor is on the verified list for the Group 2 Basin (WBID #2065A) and is trying to be pro-active to clean up Charlotte Harbor by completing this project. This project is not only a good project for the residents of Charlotte County but for Charlotte Harbor as well.

Sincerely,

Joanne Vernon, P.E.

JV:gg

copy: File 130219JV
February 19, 2013

Subject: TMDL Water Quality Restoration Grant
East-West Spring Lake Wastewater Program

To Whom It May Concern:

This letter is provided in support of Charlotte County Utilities’ grant proposal titled “East-West Spring Lake Wastewater Program”. This grant proposal includes two important tasks; 1) connecting selected neighborhoods with centralized wastewater system, 2) removing nutrients and sediment from storm water runoff. These tasks address specific threats to water quality in the lower Peace River and the Charlotte Harbor estuary.

Charlotte Harbor Environmental Center, Inc. [CHEC] is a locally operated environmental non-profit organization established in 1987. CHEC mission is to provide environmental education and recreational activities to the citizens and visitors in the Charlotte Harbor area. CHEC has historically provided educational programs designed and focused on water quality and protecting our estuary; 4th grade field and estuary program, homeowner and civic association presentations, 2nd grade wading trips, and estuary boat tours. CHEC partners with the water management district in distributing conservation and water quality information to citizens and visitors.

CHEC is pleased to support this grant proposal and support Charlotte County Utilities efforts to protect water quality and the health of the Charlotte Harbor estuary. Please contact me if you have any questions.

Sincerely,

Jim Thomson
CEO, Charlotte Harbor Environmental Center, Inc.
941-575-5435
February 19, 2013

Ruta Vardy’s, PE
Project Engineer
Charlotte County Utilities
25550 Harbor View Road, Unit 1
Port Charlotte, Fl 33980-2503

RE: East and West Spring Lake

Dear Ms. Vardys,

The Charlotte County Health Department, Environmental Health Section has no objections to the county’s plan to sewer these areas.

The East and West Spring Lake Areas were developed primarily in the late 1970’s and early 1980’s. The Area is comprised of approximately 1769 single family residences, developed on quarter acre lots with public water and Onsite Sewage Treatment and Disposal Systems (Septic tanks). This area has been part of the Managed Septic Program since 2008, requiring the septic tanks to be pumped and inspected every five years.

At this time we have 22 active nuisance complaints in this area involving septic systems. Improperly treated sewage contains bacteria, microorganisms and other diseases that can spread to humans and cause illnesses such as hookworm, ascaris, shigellosis, cholera, salmonellosis, infectious hepatitis, typhoid/paratyphoid fever, amoebic dysentery and other enteric infections.

The elimination of these septic systems will reduce the risk of human exposure to harmful bacteria.

Sincerely,

Karl Henry, R.E.H.P., M.B.A
Environmental Administrator
Charlotte County Health Department
Florida Department of Health

CC: Dr. Henry Kurban, Director, Charlotte County Health Department
February 20, 2013

Chris J. D’Urso
Utilities Planner
Charlotte County Utilities
25550 Harbor View Road, Suite # 3
Port Charlotte, FL 33980

Dear Mr. D’Urso,

This letter is sent in support of your application to expand sewer into critical areas of East & West Spring Lakes in Port Charlotte, Florida. This area is characterized by older homes that have septic systems that are not only aging, but failing as well. The Charlotte County Extension Service which includes programs such as Florida-Friendly Landscaping™, fully supports such efforts and provides educational programming and outreach efforts that deal with sustainable landscaping and Best Management Practices (BMP’s) related to reducing non-point source pollution.

The expansion of sewers into this area has great potential to reduce pollutants into the Charlotte Harbor estuary. Our office is excited about the opportunity to educate residents in the affected area and the citizenry at large about this project and other conservation strategies geared specifically towards encouraging residents to reduce their personal storm water impacts by implementing technically sound best management practices into their daily routines.

Please do not hesitate to contact me if you desire additional information.

Sincerely,

[Signature]

Ralph E. Mitchell
County Extension Director/Horticulture Agent
Charlotte County Extension Service
Community Services Department

Cc: Tommy Scott, Director Community Services
    Andy Stevens, Interim Director Community Services
    Allison Turner, Florida Yards and Neighborhoods Program Assistant
    Holly Bates, Horticultural Program Coordinator
The Charlotte Harbor National Estuary Program (CHNEP) is a partnership of citizens, elected officials, resource managers and commercial and recreational resource users who are working to improve the water quality and ecological integrity of the CHNEP study area. A cooperative decision-making process is used within the program to address diverse resource management concerns in the 4,700-square-mile CHNEP study area. This plan is our commitment to the future.

Updated March 24, 2008 and March 18, 2013.
Water Quality Degradation

Quantifiable objectives

WQ-1: Maintain or improve water quality from year 2000 levels. By 2018, bring all impaired water bodies into a watershed management program such as reasonable assurance or basin management action plan. By 2015, remove at least two water bodies from the impaired list by improving water quality.

WQ-2: By 2020, develop and meet water quality criteria that are protective of living resources for dissolved oxygen, nutrients, chlorophyll a, turbidity, salinity and other constituents.

WQ-3: By 2025, reduce severity, extent, duration and frequency of harmful algal blooms (HABs), including macroalgae, phytoplankton and periphyton, through the identification and reduction of anthropogenic influences.

WQ-4: By 2025, meet shellfish harvesting standards year round for the Myakka River conditionally restricted area and the conditionally approved areas of Lemon Bay, Gasparilla Sound, Myakka River, Pine Island Sound Western Section and Pine Island Sound Eastern Section.

Priority actions

WQ-A: Participate in the development and implementation of coordinated watershed management programs that accommodate the variable mission and funding priorities of program participants. Encourage the application of flexible, goal-oriented approaches in reasonable assurance plans, basin management action plans (BMAPs), Implementation Guidance for the Fecal Coliform Total Daily Maximum Loads and nutrient reduction plans.

WQ-B: Continue collecting consistent water quality data from throughout the study area used to assess impairments, determine total maximum daily load (TMDL) limits and develop basin management action plans (BMAPs). Support key programs such as the Coastal Charlotte Harbor Monitoring Network, partners’ long-term fixed stations and volunteer monitoring programs.

WQ-C: Use tools such as geographic information systems, integrated ground and surface water quality models and pollutant loading models to identify water quality problems and select less polluting alternatives.

WQ-D: Reduce nonpoint-source pollutants associated with stormwater runoff. Install or retrofit best management practices (BMPs) to maintain or improve water quality and flows.

WQ-E: Implement projects to improve or protect water quality to offset anthropogenic impacts.

WQ-F: Promote water conservation, stormwater treatment and intergovernmental coordination within local plans and codes to prevent the impacts of increasing levels of impervious surface and fill to achieve improvements to water quality and groundwater and surface water storage.

WQ-G: Develop and implement water quality criteria that are protective of living resources for dissolved oxygen, nutrients, chlorophyll a, turbidity, salinity and other constituents as applicable.

WQ-H: Assess the bacteria, nutrient load and base flow impacts of septic systems, wastewater treatment plants and reuse water. Recommend effective corrective action.

WQ-I: Determine the relationship between macro-and micronutrients and phytoplankton/algal blooms. Support measures to reduce phytoplankton/algal blooms where relationships have been determined.

WQ-J: Provide central sanitary sewers to developed areas within 900 feet of waters such as estuarine shorelines, rivers, creeks, canals and lakes.

WQ-K: Implement conservation landscaping plant programs, including the Florida Yards & Neighborhoods program, throughout the CHNEP study area.

WQ-L: Increase the use of personal and home best management practices by residents and visitors throughout the watershed to reduce nonpoint-source pollution.

WQ-M: Support public involvement programs addressing water quality issues.
Total maximum daily loads (TMDLs) is a federal and state program to identify water bodies impaired by pollutants, to calculate a protective load and to regulate polluters so that the aggregate of all loads does not exceed levels acceptable for the “health” of the water body and its designated uses. Another term for this level is assimilative capacity. Reasonable assurance and basin management action plans (BMAPs) are watershed management plans that consolidate existing efforts in one document and set a course for restoration to acceptable pollutant loads. Because they are legally binding, TMDLs provide a unique opportunity to focus community efforts on maintaining bays, rivers and lakes in a sustainable condition. The FDEP, in cooperation with the EPA and water management districts, is eager to work with local stakeholders to use the TMDL framework to set water quality targets, monitor and assess status and trends, identify high priority projects and implement projects with quantifiable outcomes. Because the CHNEP is not subject to TMDL regulations, the CHNEP is a natural arbiter among stakeholders.

This priority action helps fulfill WQ-1.

Strategy

1) Track and participate in review of EPA and FDEP regulations and policy changes, including designated uses, nutrient criteria, pollutant trading and water body identification policies.
2) Review draft impaired water list for accuracy.
3) Ensure adequate, high-quality data are submitted to state database used for impairment verification.
4) Review and correct station location relationship to water body identification boundaries and similar factual errors.
5) Review of water body identification (WBID) boundaries to ensure they are accurate and agree with watershed boundaries.
6) Evaluate proposed TMDLs, including watershed models used to develop load estimates, assimilative capacity determination and pollutant load reductions.
7) Provide comments as necessary within the comment period.
8) Participate in the development of watershed management plans such as reasonable assurance (RA) and BMAP development. Incorporate CCMP objectives and actions in such plans. Encourage effective alternatives such as Implementation Guidance for the Fecal Coliform Total Daily Maximum Loads and nutrient reduction plans.
9) Participate in the implementation of the Shell Creek and Prairie Creek Watersheds Management Plan reasonable assurance document. A copy is available at www.swfwmd.state.fl.us/documents/plans/spjc_wmp.pdf.
10) Encourage implementation of capital improvement projects that reduce pollutant loads.
11) Encourage low-impact development and pollutant load reduction needs into new development projects.
12) Advocate consistency of point-source discharge permits with pollutant load reductions into impaired and potentially impaired water bodies. Permitted loads should not cause impairment.
13) Consider role of the CHNEP as facilitator of BMAP development and implementation.
14) Adopt and implement TMDL determinations and BMAPs for impaired surface waters, as identified through the Peace River Resource Management Plan.
15) Monitor Shell Creek and Prairie Creek Watersheds Management Plan to ensure protection of Punta Gorda’s water supply; develop similar plans in other watersheds.

Environmental indicator and target

WQ-a: Water bodies (identified by water body IDs) on the Florida Department of Environmental Protection’s Verified Lists for Impairments (see surface water quality criteria as listed in 62-302.530 in Appendix B).

Remove at least two water bodies from the impaired list by improving water quality by 2015.
**WQ-D** Reduce nonpoint-source pollutants associated with stormwater runoff. Install or retrofit best management practices (BMPs) to maintain or improve water quality and flows.

**Background**

According to the 2010 CHNEP study to estimate pollutant loads, the largest source of total nitrogen (TN), total phosphorus (TP), total suspended solids (TSS) and biochemical oxygen demand (BOD) within each of the identified watersheds comes from nonpoint-source stormwater runoff, 70 percent, 68 percent, 95 percent and 90 percent respectively. The atmosphere deposits 6 percent of TN loads within the study area. Industrial point sources account for 20 percent of TN, 28 percent of TP, 3 percent of TSS and 7 percent of BOD. The CHNEP assessed pollutant loads by land use and by basin for the periods from 1975 to 1990 and from 1995 to 2007. Final estimates showed an apparent reduction of pollutant loads between the two 12- to 15-year blocks.

This priority action helps fulfill WQ-1.

**Strategy**

1) Implement source reduction of pollutants. Examples include adoption of Urban Fertilizer Ordinances in accordance with SWFRPC Resolution 2007-01, implementation of low-impact development regulations, adoption of the draft Lower West Coast basin rule, tailwater recovery and/or surface water reservoir systems on agricultural property and acquisition of conservation lands.

2) Encourage redevelopment of older properties and businesses to improve stormwater treatment whenever possible.

3) Reduce impervious paved surface required by various land uses. Monitor using periodic land-use updates and impervious estimates. Correlate with load and event mean concentration (EMC) estimates.

4) Evaluate the impacts of sludge and sediments on water quality.

5) Identify locations to install stormwater treatment areas (STAs) and pursue installation of top-priority STAs.


**Environmental indicator and target**

**WQ-d:** Nitrogen, phosphorus, suspended solids and biochemical oxygen demand pollutant loads estimated and validated by land use, per acre and by basin.

Reduce average nitrogen, phosphorus, suspended solids and biochemical oxygen demand pollutant loads by land use on a per acre basis by 2025.
WQ-H Assess the bacteria, nutrient load and base flow impacts of septic systems, wastewater treatment plants and reuse water. Recommend effective corrective action.

Background

Florida regulations refer to septic systems as onsite sewage treatment and disposal systems (OSTDS). A basic OSTDS can contain one or more of the following components: septic tank, subsurface drain field, aerobic treatment unit, graywater tank, or laundry wastewater tank. An OSTDS must provide for subsurface effluent disposal and not have any open tanks. In 2010, the state legislature adopted a statewide septic evaluation program to require septic tank maintenance. Though this requirement was repealed in 2012, legislation allows local governments to adopt septic tank maintenance ordinances. In preparation for the implementation date within the 2010 legislation, the Department of Health prepared a draft rule (www.doh.state.fl.us/environment/ostds/New.htm), components of which may be used for development of septic tank maintenance ordinances. This priority action helps fulfill WQ-2 and WQ-4.

Strategy

1) Identify sources of bacteria, nutrients and other indicators in water bodies.
2) Conduct appropriate groundwater and surface water studies necessary to determine the cumulative impacts of high densities of septic systems.
3) Promote recommendations of the Southwest Florida Regional Planning Council Resolution 07-02 regarding wastewater discharge, Southwest Florida Regional Planning Council Resolution 07-05 regarding wastewater package plants of less than 100,000 gpd capacity, and Southwest Florida Regional Planning Council Resolution 08-02 regarding onsite wastewater system planning, treatment and management.
4) Identify appropriate indicators and rapid cost-effective methods to identify septic system discharges.
5) Support appropriate changes in state laws and local septic system ordinances to mitigate impacts to the greatest practical extent.
6) Support periodic inspection of all septic systems where impacts to ground water/surface waters have been shown. Counties should be encouraged to include such language within their updated comprehensive plans.
7) Enhance enforcement to ensure appropriate repairs are made when necessary.
8) Establish homeowner education programs.

Environmental indicator and target

WQ-h: Percent of urbanized areas served by septic tanks where maintenance is required.

By 2020, 75 percent of urbanized areas have regular septic system maintenance programs implemented.
**WQ-J**

Provide central sanitary sewers to developed areas within 900 feet of waters such as estuarine shorelines, rivers, creeks, canals and lakes.

**Background**

In 1992, the Sarasota Bay National Estuary Program set a principle to have wastewater from all sources to meet advanced wastewater treatment standards of 3 mg/l. A nitrogen-diffusing algorithm was utilized to determine that, on average, the total nitrogen from raw waste product required 900 feet to defuse through the ground water to meet that standard.

This priority action helps fulfill WQ-4.

**Strategy**

1) Support development and implementation of plans to provide central sewer to higher-density developed areas. Encourage siting central sewer system facilities (pumping stations, treatment plants) beyond the 900-foot water body buffer.

2) In such areas where densities are low, support rules that require advanced on-site septic systems.

3) Support improving the quality and availability of central sanitary sewage package plants to service more developed areas. Encourage siting central sewer system facilities pumping stations (treatment plants) beyond the 900-foot water body buffer.

4) Incorporate action into local government comprehensive plans.

**Environmental indicator and target**

WQ-j: Percent of urban use areas within 900-feet of estuarine shorelines, rivers, creeks, canals and lakes having central sanitary sewers.

Seventy-five percent of urban use areas have a 900 foot buffer of estuarine shorelines, rivers, creeks, canals and lakes.

Map 29: 900-Foot Buffer From Shorelines

The red areas represent a 900-foot buffer from estuarine shorelines, rivers, creeks, major canals and lakes. Map developed by the CHNEP in 2007 based on 2000 census hydrographic information.
WQ-L

Increase the use of personal and home best management practices by residents and visitors throughout the watershed to reduce nonpoint-source pollution.

Background

Many significant nonpoint-source pollution reduction decisions are made in the home by the actions of individual residents and by people visiting the region, such as seasonal residents and tourists. New residents and visitors in southwest Florida lack regionally appropriate guidance to help them make environmentally sound decisions. In other areas, environmental programs have attempted to address this issue by preparing, publishing and distributing residential best management practice (BMP) guides. A similar strategy is proposed here, customized for local needs and accompanied by a marketing and incentive program to encourage people to use the BMPs. Given the difficulty of effecting large-scale changes in personal behaviors, the overall effectiveness of the program should also be evaluated.

This priority action helps fulfill WQ-1 and SG-1.

Strategy

1) Search compilations of residential or consumer BMPs prepared by others and compile a list of regionally appropriate BMPs. Include such items as septic and drain field care, proper pharmaceutical disposal and yard practices. Include EPA programs at sites such as www.epa.gov/WaterSense/.

2) Examine the BMP compilation for coverage or subject-area gaps and develop BMPs to fill these gaps.

3) Refine ways to distribute BMPs to area residents and visitors. The form and cost of the final product will depend upon the distribution channel(s) selected. Consider multiple distribution channels such as newspaper inserts, utility bill inserts, Internet delivery, direct mail or local government TV.

4) Identify market segments, possibly using the Stormwater Academy of the University of Central Florida.

5) Develop a companion marketing program to encourage use of the BMPs and help effect the desired behavior changes. Develop an interstitial (public service announcement) on home BMPs; investigate the use of the Ad Council.

6) Offer residents appropriate incentives to use the BMPs.

7) Establish partnerships with area agencies or businesses so that significant incentives can be offered, such as meaningful discounts on products or services.

8) Evaluate consumer behavior changes and assess the overall effectiveness of the program in terms of per-capita pollutant load reductions.

9) Reduce harmful pesticides and fertilizers sold throughout the watershed, using the Babcock settlement as a model.

10) Show how “begin at home” programs geared to individuals, homes, businesses and at play have a cumulative impact through the group, community and region. Such programs include Florida Water StarSM, Water PROSM and Water ChampSM by the SWFWMD.

Environmental indicator and target

Public knowledge and implementation for conservation landscaping principles is part of an overall approach to reduce non-point source pollution. Effects may be seen under Priority Action WQ-D.

EPA is building WaterSense as a national brand for water efficiency. Manufacturers, retailers, distributors, utilities, governments and certified professionals are asked to use the program to encourage water-efficient behavior and the purchase of quality products that use less water.
Background

Public exposure to water quality issues most commonly occurs through the media, especially when a red tide outbreak washes dead fish on the beaches, rivers experience neon-green algal blooms, beaches are closed with health warnings or shellfish are contaminated. Newsworthy water quality issues certainly affect the public. Likewise, the public can affect water quality but may not understand their link to large-scale degradation. It becomes important to deepen and broaden the public awareness and knowledge of water quality issues and to promote how individual actions can improve or degrade water. Reaching and enlisting public participation in water quality issues is a start in effecting positive behavioral change.

This priority action helps fulfill WQ-1, WQ-2, WQ-3, WQ-4 and SG-1.

Strategy

1) Compile water quality success stories from businesses and industrial parks and homeowners.
2) Work with partners to inform the public concerning significant water quality projects such as Lake Hancock and Billy’s Creek.
3) Place and maintain stencils at stormwater drains. Consider developing “Do not dump” signs to include the name of the receiving water body.
4) Place and maintain signs at road/water body crossings to establish sense of place. Consider customizing signs to include names of receiving water bodies.
5) Implement household hazardous waste disposal and recycling programs.
6) Expand training and resources for coordinators of volunteer water quality sampling programs.
7) Work with media in getting accurate water quality information to the public.
8) Increase public awareness of potential sources of pollution, agencies responsible for enforcement and public reporting processes.
9) Utilize existing videos and public service announcements (PSAs) for public education.
10) Develop a companion marketing program to inform the public about water quality issues and help effect the desired behavior changes. Develop an interstitial (PSA) on water quality issues.
11) Hold public education workshops on specific water quality topics, such as those already held featuring the Myakka River watershed, Cape Coral canals and clay settling areas.
12) Investigate the idea of water filtration parks/marshes, complete with an educational nature center, especially in Cape Coral.
13) Construct water quality demonstration projects.

Environmental indicator and target

Public knowledge and implementation for conservation landscaping principles is part of an overall approach to reduce nonpoint-source pollution. Effects may be seen under Priority Action WQ-D.

Interpretive signage at Lake Hollingsworth in Lakeland provides citizens with information on watersheds and stormwater quality.
SG-D

Produce watershed and estuary communication tools.

Background

Communication tools, such as websites and magazines, can be effective in increasing knowledge and awareness of CHNEP issues throughout the CHNEP study area. In addition, these tools can be used to further the average person’s understanding of terms such as estuary and watershed and the effect human activities have on them. They can also be used to provide scientific information on water quality degradation, hydrologic alterations, habitat loss and stewardship gaps, which are often not meaningful to the average person.

This priority action helps fulfill SG-1 and SG-4.

Strategy

1) Maintain a user-friendly website, with links to partners’ websites, that is meaningful and relevant to the average person.
2) Publish Harbor Happenings magazine and increase its accessibility.
3) Measure the success of the communication tools used, including the website and magazine, through surveys.

Performance target

Quarterly publication of Harbor Happenings magazine, supplemented by annual calendar.

Complete website update by 2013.
SG-K

Present scientific information in a form readily understood by the majority of people.

Background

Scientific information is often hard to access and difficult to understand. It is imperative that scientific information be presented in ways meaningful to the majority of people, including decision-makers.

This priority action helps fulfill SG-4.

Strategy

1) Continue using CAC members to review scopes of work and findings of research projects to ensure clarity and applicability to the majority of people.
2) Assist scientists on methods to present their findings in a meaningful way to the public, such as providing published guides and hosting workshops and presentations.
3) Use a variety of communication tools such as conceptual diagrams and models.
4) Through surveys, measure the success of this effort to provide meaningful scientific information to the public.

Performance target

The majority of people who receive CHNEP information understand scientific information presented by the CHNEP.

Additional communication tools are developed as needed so all CHNEP scientific information is understood.

Figure 12: Estuarine Turbidity Maximum (ETM)
The conceptual diagram was prepared to describe the Estuarine Turbidity Maximum (ETM) to augment presentation of research conducted under CHNEP’s Research and Restoration Partners Program.
**Agency or Local Government Partnering:**
The following entities could become involved with developing the scope of work and interpreting data for the future scenario portions of this project: Sarasota County, Charlotte County, the City of Englewood, the Charlotte Harbor NEP, and FDEP.

**Project Title:** Potential Development of a Resource-based Pollutant Load Reduction Goal for Charlotte Harbor “Proper”

**Summary:**
In Charlotte Harbor “Proper” (defined on p. B-1) the development of a resource-based pollutant load reduction goal (PLRG) has been problematic. After examining the relationships between nitrogen loads and eutrophication indicators (i.e., chlorophyll a concentrations and Trophic State Index [TSI] values) through the use of both empirical and mechanistic modeling techniques, Pribble et al. (1997) found no direct relationship between nutrient loads and any indicators of eutrophication in Charlotte Harbor. The District has contracted with faculty and staff from Louisiana State University to conduct a study to try and reconstruct historic trends in hypoxia (low dissolved oxygen levels) in Charlotte Harbor, based on determining the status and trends in organic loading to bottom sediments. In addition to the work conducted by Pribble et al. (1997), this project would build on previous efforts by Hammett (1990), Coastal Environmental (1995b) and Camp, Dresser & McKee, Inc. (1998).

**Annual Budget Estimates:**

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**Agency or Local Government Partnering:**
The following entities have reviewed results to-date for this study, and would be involved with interpretation of the ecological significance of findings from this study: the U.S. Geological Survey, Sarasota County, Charlotte County, FDEP, and the Charlotte Harbor NEP. This project is of primary importance in developing (if possible) a resource-based pollutant load reduction goal for Charlotte Harbor. As such, close coordination with FDEP’s TMDL program is anticipated.

**Project Title:** Continuation of Existing Water Quality Monitoring Program

**Summary:**
In the 1993 Charlotte Harbor SWIM Plan, the District outlined the need for the development and implementation of a Harbor-wide water quality monitoring program. Since 1993, the District has coordinated and carried out such a program. Thirteen stations are visited on a monthly basis, and traditional water quality parameters (i.e., temperature,
Agency or Local Government Partnering:
As various habitat restoration projects are identified, designed and permitted, the following entities could become involved with funding these projects: FDEP, FFWCC, Charlotte County, Sarasota County, Imperial Polk County, FDOT, and the Charlotte Harbor NEP.

Project Title: Site Identification / Land Acquisition

Summary:
The District purchases lands through the Save Our Rivers (SOR) and Florida Forever Programs. The District’s Land Acquisition Program targets lands of regional significance for water management, water supply and the conservation and protection of water resources. Annually, the District Governing Board adopts a five-year plan which identifies those properties which are authorized for acquisition, whether in fee-simple or less-than-fee simple, and also those properties which require a formal resource evaluation to determine if acquisition is warranted.

Annual Budget Estimates:
Staff time and consultant funding are regularly budgeted by the District through the Water Management Lands Trust Fund and the Florida Forever Act (see page 8).

Agency or Local Government Partnering:
There are potential funding possibilities from local governments’ environmentally sensitive land acquisition programs, and also the FDEP’s CARL Program.

Project Title: Charlotte Harbor / Peace River Educational Efforts

Summary:
Public lack of information and understanding can lead to misuse of valuable natural resources. The project is designed to educate citizenry in the Charlotte Harbor and Peace River watersheds regarding water resource issues, including conservation practices, watershed / ecosystem management issues, water quality concerns, and alternative sources.

Annual Budget Estimates:

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Agency or Local Government Partnering:
The following entities have been identified as potential partners for implementing this project: Charlotte County, the Charlotte Harbor Environmental Center, and the Charlotte Harbor NEP.
**Table 1.** Analytical Parameters of Standing Water in Port Charlotte Sampled 08-08-2008

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<tr>
<th>Site</th>
<th>Description</th>
<th>Lat / Long</th>
<th>Fecal Coliforms</th>
<th>Enterococci</th>
<th>NH3</th>
<th>TKN</th>
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<td>Norwood &amp; Orange Streets</td>
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* State and Federal surface water standards do not allow more than 800 CFUs for any single day sample for class I, II, and III waters
** Bacterial Beach standards dictate a Health Warning be issued if Fecal Coliforms > 800 CFUs or Enterococci > 105 CFUs
Table 2. Analytical Parameters of Standing Water in Charlotte County

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<th>Site</th>
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* State and Federal surface water standards do not allow more than 800 CFUs for any single day sample for class I, II, and III waters
** Bacterial Beach standards dictate a Health Warning be issued if Fecal Coliforms > 800 CFUs or Enterococci > 105 CFUs
*** Water samples taken from Standing waters in drainage swales.
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<td>Equipment Purchases</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplies/Other Expenses</td>
<td>$0</td>
<td>$5,436</td>
<td></td>
<td>Grantee</td>
</tr>
<tr>
<td></td>
<td>Land</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indirect</td>
<td>$0</td>
<td>$752</td>
<td></td>
<td>Grantee</td>
</tr>
<tr>
<td></td>
<td>Total for Task</td>
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<td>$11,200</td>
<td></td>
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<td>Salaries</td>
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<td>$10,280</td>
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<td>7 Admin /Final Rpt.</td>
<td>Fringe Benefits</td>
<td>$0</td>
<td>$4,112</td>
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<tr>
<td></td>
<td>Travel</td>
<td>$0</td>
<td>$0</td>
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<td>$0</td>
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<tr>
<td></td>
<td>Equipment Purchases</td>
<td>$0</td>
<td>$0</td>
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</tr>
<tr>
<td></td>
<td>Supplies/Other Expenses</td>
<td>$0</td>
<td>$7,974</td>
<td></td>
<td>Grantee</td>
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<tr>
<td></td>
<td>Land</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indirect**</td>
<td>$0</td>
<td>$7,497,979</td>
<td></td>
<td>Grantee</td>
</tr>
<tr>
<td></td>
<td>TOTAL FOR TASK</td>
<td>$0</td>
<td>$7,520,345</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>$2,096,704</td>
<td>$15,650,496</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Project Cost</td>
<td>$0</td>
<td>$17,747,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage Match:</td>
<td>12%</td>
<td>88%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Total Load

This is the summary of annual nutrient and sediment load for each subwatershed. This sheet is initially protected.

<table>
<thead>
<tr>
<th>1. Total load by subwatershed(s)</th>
<th>Comment: Assumes 100% Efficiency for Sediment Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Watershed</strong></td>
<td><strong>N Load (no BMP)</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>W1</td>
<td>46447.7</td>
</tr>
<tr>
<td>Total</td>
<td>46447.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Nutrient and sediment load by land uses with BMP (lb/year)</th>
<th>Comment: Assumes cleaned swales operating at 100% Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Watershed</strong></td>
<td><strong>Urban</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>2475.1</td>
</tr>
<tr>
<td><strong>P</strong></td>
<td>290.3</td>
</tr>
<tr>
<td><strong>BOD</strong></td>
<td>6766.2</td>
</tr>
<tr>
<td><strong>Sediment</strong></td>
<td>26201.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Total load by land uses (with BMP)</th>
<th>Comment: Assumes cleaned swales operating at 100% Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sources</strong></td>
<td><strong>N Load (lb/yr)</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Urban</td>
<td>2475.08</td>
</tr>
<tr>
<td>Cropland</td>
<td>0.00</td>
</tr>
<tr>
<td>Pastureland</td>
<td>0.00</td>
</tr>
<tr>
<td>Forest</td>
<td>0.00</td>
</tr>
<tr>
<td>Feedlots</td>
<td>0.00</td>
</tr>
<tr>
<td>User Defined</td>
<td>0.00</td>
</tr>
<tr>
<td>Septic</td>
<td>43697.60</td>
</tr>
<tr>
<td>Gully</td>
<td>0.00</td>
</tr>
<tr>
<td>Streambank</td>
<td>0.00</td>
</tr>
<tr>
<td>Groundwater</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>46172.67</td>
</tr>
</tbody>
</table>
## 4. Total load by land uses (with BMP) - Kilograms

<table>
<thead>
<tr>
<th>Sources</th>
<th>N Load (kg/yr)</th>
<th>P Load (kg/yr)</th>
<th>BOD Load (kg/yr)</th>
<th>Sediment Load (kg/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>1116.21</td>
<td>129.45</td>
<td>3002.70</td>
<td>16183.89</td>
</tr>
<tr>
<td>Cropland</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Pastureland</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Forest</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Feedlots</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>User Defined</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Septic</td>
<td>19816.86</td>
<td>7761.60</td>
<td>80918.85</td>
<td>0.00</td>
</tr>
<tr>
<td>Gully</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Streambank</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Groundwater</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20933.07</td>
<td>7891.05</td>
<td>83921.55</td>
<td>16183.89</td>
</tr>
</tbody>
</table>

## 5. Total load by subwatershed(s)

<table>
<thead>
<tr>
<th>Watershed</th>
<th>N Load (no BMP)</th>
<th>P Load (no BMP)</th>
<th>BOD Load (no BMP)</th>
<th>Sediment Load (no BMP)</th>
<th>N Reduction</th>
<th>P Reduction</th>
<th>BOD Reduction</th>
<th>Sediment Reduction</th>
<th>N Load (with BMP)</th>
<th>P Load (with BMP)</th>
<th>BOD (with BMP)</th>
<th>Sediment Load (with BMP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
<td>kg/year</td>
</tr>
<tr>
<td>W1</td>
<td>21057.8</td>
<td>7934.9</td>
<td>85236.6</td>
<td>32620.6</td>
<td>19941.6</td>
<td>7805.5</td>
<td>82233.9</td>
<td>16436.7</td>
<td>1116.2</td>
<td>129.4</td>
<td>3002.7</td>
<td>16183.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>21057.8</td>
<td>7934.9</td>
<td>85236.6</td>
<td>32620.6</td>
<td>19941.6</td>
<td>7805.5</td>
<td>82233.9</td>
<td>16436.7</td>
<td>1116.2</td>
<td>129.4</td>
<td>3002.7</td>
<td>16183.9</td>
</tr>
</tbody>
</table>

Comment: Assumes existing swales working at 5% efficiency

Note: Manually Added Septic Removal

## 6. Total load by land uses (with BMP - No Septic) - Kilograms

<table>
<thead>
<tr>
<th>Sources</th>
<th>N Load (kg/yr)</th>
<th>P Load (kg/yr)</th>
<th>BOD Load (kg/yr)</th>
<th>Sediment Load (kg/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>1116.21</td>
<td>129.45</td>
<td>3002.70</td>
<td>16183.89</td>
</tr>
<tr>
<td>Cropland</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Pastureland</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Forest</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Feedlots</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>User Defined</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Septic</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Gully</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Streambank</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Groundwater</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1116.21</td>
<td>129.45</td>
<td>3002.70</td>
<td>16183.89</td>
</tr>
</tbody>
</table>

Comment: Assumes cleaned swales operating at 75% efficiency
<table>
<thead>
<tr>
<th>%N Reduction</th>
<th>%P Reduction</th>
<th>%BOD Reduction</th>
<th>%Sed Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6</td>
<td>0.6</td>
<td>1.5</td>
<td>65.0</td>
</tr>
<tr>
<td>0.6</td>
<td>0.6</td>
<td>1.5</td>
<td>65.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Forest</th>
<th>Feedlot</th>
<th>User Defined</th>
<th>Septic</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>P</td>
<td>BOD</td>
<td>Sediment</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>%N Reduction</td>
<td>%P Reduction</td>
<td>%BOD Reduction</td>
<td>%Sed Reduction</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>94.7</td>
<td>98.4</td>
<td>96.5</td>
<td>50.4</td>
</tr>
<tr>
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<td>Gully</td>
<td>Streambank</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>BOD</td>
<td>Sediment</td>
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<tr>
<td>178431.9</td>
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<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
In the Matter of an
Application for Permit by:

Permittee: Charlotte County Utilities
Terri Couture, Utilities Director
25550 Harbor View Road, Unit 1
Port Charlotte, Florida 33980
Terri.couture@charlottefl.com

Permit Number: 44274-282-DWC/CM
Issued: May 27, 2014
Expires: May 26, 2019
Project: East/West Spring Lake (Vacuum)
Connected to: Eastport WWTP
County: Charlotte

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number 44274-282-DWC/CM to construct a sewage collection/transmission system pursuant to Chapter 403, Florida Statutes (FS) and Florida Administrative Code (F.A.C.) Rules 62-4 and 62-604.

The Department’s proposed agency action shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, Florida Statutes, within 14 days of receipt of notice. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department’s proposed permitting decision may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Petitions by the applicant or any of the persons listed below must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), Florida Statutes, must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within 14 days of receipt of notice shall constitute a waiver of that person’s right to request an administrative determination (hearing) under Sections 120.569 and 120.57, Florida Statutes. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, Florida Administrative Code.

A petition that disputes the material facts on which the Department’s action is based must contain the following information:

(a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner’s representative, if any; the Department permit identification number and the county in which the subject matter or activity is located;

(b) A statement of how and when each petitioner received notice of the Department action;

(c) A statement of how each petitioner's substantial interests is affected by the Department action;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;

(f) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and

(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department’s final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under Section 120.573, Florida Statutes, is not available for this proceeding.

This permit action is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this permit will not be effective until further order of the Department.

Any party to the permit has the right to seek judicial review of the permit action under Section 120.68, Florida Statutes, by the filing of a notice of appeal under Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when this permit action is filed with the clerk of the Department.

Executed in Fort Myers, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[Signature]

Jon M. Iglehart
Director of
District Management
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed before the close of business on May 27, 2014 to the listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

May 27, 2014

Clerk  Date

JMI/OJO/MAC

Copies furnished to:
Jonathan H. Cole, P.E. jcole@gwefl.com
In the Matter of an
Application for Permit by:

Permittee:
Charlotte County Utilities
Terri Couture, Utilities Director
25550 Harbor View Road, Unit 1
Port Charlotte, Florida 33980
Terri.couture@charlottefl.com

Permit Number: 44274-282-DWC/CM
Issued: May 27, 2014
Expires: May 26, 2019
Project: East/West Spring Lake (Vacuum)
Connected to: Eastport WWTP
County: Charlotte

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4 and 62-604, Florida Administrative Code (F.A.C).

The above named permittee is hereby authorized to construct the facilities shown on the application and other documents on file with the Department and made a part hereof and specifically described as follows:

DESCRIPTION OF PROJECT: The construction of 2,300 LF of 3” vacuum main, 73,000 LF of 4” vacuum main, 19,200 LF of 6” vacuum main, 7,400 LF of 8” vacuum main, 2,200 LF of 10” vacuum main, 3,100 LF of 8” gravity sewer main, 2,400 LF of 12” force main, 600 vacuum valve pits, 1 buffer tank, and 9 manholes, per application materials received May 13, 2014 with additional information received on May 22, 2014. See permit condition number 6.

LOCATION OF PROJECT: Section21, 22, Township 40, Range 22 in Port Charlotte, Charlotte County, Florida.

IN ACCORDANCE WITH: The limitations, requirements and other conditions set forth in this permit.

PERMIT CONDITIONS:

1. These permits are subject to the general conditions of Rule 62-4.160, F.A.C., as applicable. This rule is available at the Department’s Internet site at: http://www.dep.state.fl.us/water/wastewater/rules.htm#domestic [62-4.160, 5-1-03].

2. Upon completion of construction of the collection/transmission system projects, and before placing the facilities into operation for any purpose other than testing for leaks or testing equipment operation, the permittee shall submit to the Department’s South District Office at P.O. Box 2549, Fort Myers, FL 33902-2549 (by mail) or 2295 Victoria Avenue, Suite 364, Fort Myers, FL 33901 (by other delivery service) Form 62-604.300(8)(b), Request for Approval to Place a Domestic Wastewater Collection/Transmission System into Operation. This form is available at the Department’s Internet site at: http://www.dep.state.fl.us/water/wastewater/forms.htm [62-604.700(2), 11-6-03]. Form 62-604.300(8)(b) shall be accompanied by a copy of the Operation and Maintenance Manual upon submission to this Department. Also, all components of the vacuum system will be tested to ensure proper functioning prior to submitting Form 62-604.300(8)(b), Request for Approval to Place a Domestic Wastewater Collection/Transmission System into Operation.

3. The new or modified collection/transmission facilities shall not be placed into service until the Department clears the project for use [62-604.700(3), 11-6-03].
PERMIT CONDITIONS:

4. Permit revisions shall only be made in accordance with Rule 62-4.050(4)(s), F.A.C. Request for revisions shall be made to the Department in writing and shall include the appropriate fee. Revisions not covered under Rule 62-4.050(4)(s), F.A.C., shall require a new permit [62-604.600(8), 11-6-03].

5. Abnormal events shall be reported to the Department’s South District Office in accordance with Rule 62-604.550, F.A.C. For unauthorized spills of wastewater in excess of 1000 gallons per incident, or where information indicates that public health or the environment may be endangered, oral reports shall be provided to the STATE WARNING POINT TOLL FREE NUMBER (800) 320-0519 as soon as practical, but no later than 24 hours from the time the permittee or other designee becomes aware of the circumstances. Unauthorized releases or spills less than 1000 gallons per incident are to be reported orally to the Department’s Marathon Branch Office at (305) 289-7070 within 24 hours from the time the permittee, or other designee becomes aware of the circumstances [62-604.550, 11-6-03].

6. The design and construction of the wastewater collection/transmission system shall be in accordance with provisions of Florida Administrative Code (F.A.C.) with particular attention to the applicable requirements of the manuals regarding alternative wastewater collection systems incorporated by reference by F.A.C. Rules 62-604.300(1), 62-604.300(5)(b) and (c) and (j).

7. The design and construction of the alternative wastewater collection/transmission system shall be in accordance with provisions of Florida Administrative Code (F.A.C.) Rule 62-604, with particular attention to the items of F.A.C. Rule(s) 62-604.400(2)(g) through (j).

8. The vacuum system is to be designed with an alarm system which activates in cases of malfunction. The alarm will be telemetered to a facility that is manned 24 hours a day. If such a facility is not available, the alarm is designed to be telemetered to utility offices during normal working hours and to the home of the responsible person(s) in charge of the vacuum system during off-duty hours. If an alternate alarm system is used, documentation showing it will provide an equivalent level of reliability and public health protection will be furnished to this office.

9. This permit is for CONSTRUCTION ONLY of the collection/transmission system project. This permit does not authorize the connection of this collection/transmission system project to the designated wastewater treatment plant. This permit shall not be construed to infer that the clearance necessary for connection shall be granted.

SPECIFIC PERMIT CONDITIONS

1. All new wastewater collection/transmission systems and modifications of existing systems shall be located at least 100 feet from a public drinking water supply well.

2. Except as provided in Section 62-604.400(3), F.A.C., sewer pipes/force mains should cross under water mains.

3. For sewer crossings, all crossings shall be arranged so that the sewer pipe joints are equidistant as far as possible from the water main joints. At crossings, all vacuum sewer joints must maintain a minimum distance of 3 feet from water main joints. All gravity or pressure type sanitary sewers and wastewater force main joints shall maintain a minimum distance of 6 feet from water main joints.

4. Except as provided under 62-604.400(3), F.A.C., all sewers and force mains shall be laid at least 10 feet horizontally (outside to outside) from a water main and 3 feet minimum (outside to outside) from a reclaimed water pipe permitted under Part III of Chapter 62-610, F.A.C.

5. A vertical separation of at least 18 inches must be maintained when a sewer pipe crosses a water main, except as provided under Section 62-604.400(3), F.A.C.
6. When any existing asbestos cement (AC) pipes are replaced under this permit, the permittee shall do so in accordance with the applicable rules of Federal Asbestos Regulation and Florida DEP requirements. For specific requirements applicable to AC pipes, the permittee should contact the Air and Waste Management section managers prior to commencing any such activities at (239) 344-5600. Please be aware that a notification is required to be submitted to the Department for a regulated project.

7. The Operation and maintenance of the collection system shall be in accordance with the requirements of section 62-604.500 F.A.C.

Executed in Fort Myers, Florida

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

[Signature]

Jon M. Iglehart
Director of
District Management

Date Signed: May 27, 2014
1. **How much funding will the Department/County receive from the grant?**
The request is for $2,071,324.00.

2. **How many years have we been receiving this grant?**
This is the first year. These are non-recurring grant funds.

3. **Is there a County match required? If yes, what type of match and amount?**
Yes – The grant requires that the applicant provides a minimum of 50% of the total project cost in matching funds, of which at least 25% are provided by the local government. The Charlotte County match is 89%. See table below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMDL Grant Funds</td>
<td>$2,071,324.00</td>
<td>11%</td>
</tr>
<tr>
<td>Charlotte County Matching Funds*</td>
<td>$15,953,269.00</td>
<td>89%</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$18,024,593.00</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Includes design, permitting, land, construction, monitoring, connection fees, MSBU administrative fees, and all other related project costs paid by County/MSBU

4. **What will the grant be used for?**
To help fund the abandonment and/or removal of the septic tank and the construction portion of the connection of the property to the central wastewater system for a portion of the East and West Spring Lake Wastewater MSBU area described as Phase II in the grant application and affecting approximately 1430 existing properties.

5. **Is it for additional or new services/equipment/facilities?**
The abandonment and removal of the septic tanks and connecting the properties to the proposed central wastewater system eliminates wastewater discharge and pollution to the groundwater and impaired adjoining receiving waters.

6. **Does it pay for something that the County already does?**
This funding is for expanding the Charlotte County Utilities (CCU) central wastewater system to serve additional customers.
7. Does it pay for any positions? If yes, what happens to the position(s) if the grant goes away?
   No

8. Is the County obligated to pay for anything after the grant goes away?
   The County has no ongoing grant funding requirements. Ongoing funding for operations, maintenance, and repairs is received through utility rates and fees.