

Phillippi Creek
Bacterial Pollution Control Plan
NPDES MS4 Permit
Sarasota County
Permit No. FLS000004-003

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Prepared for:

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Purpose and Contents

This report summarizes the results of the Walk the Right of Way (ROW) exercise conducted by the Florida Department of Transportation – District One (FDOT) for the Phillippi Creek watershed, located in Sarasota County. This field reconnaissance and source identification effort was carried out to gain a better understanding of conditions within the watershed, including the hydrology of the canal and its contributing ditches and branches, the locations of sewer and stormwater infrastructure, and potential sources that are contributing fecal coliform bacteria to the canal.

Basin Management Action Plans (BMAPs) to address sources may be appropriate for some watersheds; however, they are both time and resource intensive. The Walk the ROW exercise is a low-cost, effective alternative to begin addressing fecal coliform pollution in Phillippi Creek so that it meets state water quality standards. This common-sense first step allows stakeholders to identify the location of suspected sources, establish a sampling plan to fill in knowledge gaps, carry out easy-to-implement management actions for the creek using existing programs and ongoing activities, and follow up on those actions to assess the degree of success and the additional effort needed. The exercise allows stakeholders to identify uncertainties and future options for more effective adaptive management. It also contributes to improved communication between and within agencies, and provides opportunities to increase public awareness.

This report includes the following information:

1. *Identification of the WBID;*
2. *Results of any preliminary investigation or issues identified;*
3. *Sources and potential sources observed;*
4. *Immediate next steps and follow-up actions taken;*
5. *Follow-up actions needed;*
6. *Sources eliminated or investigated; and*
7. *Any other pertinent information.*

Description of the Phillippi Creek Watershed

Phillippi Creek is located in northwest Sarasota County, within the larger Roberts Bay Watershed (**Figure 1**). Phillippi Creek, specifically WBID 1947, consists primarily of urban commercial land use along the state roads and residential land use along Phillippi Creek (**Figure 2**).

Figure 1 Aerial photo showing the boundary of the Phillippi Creek watershed and major hydrologic features

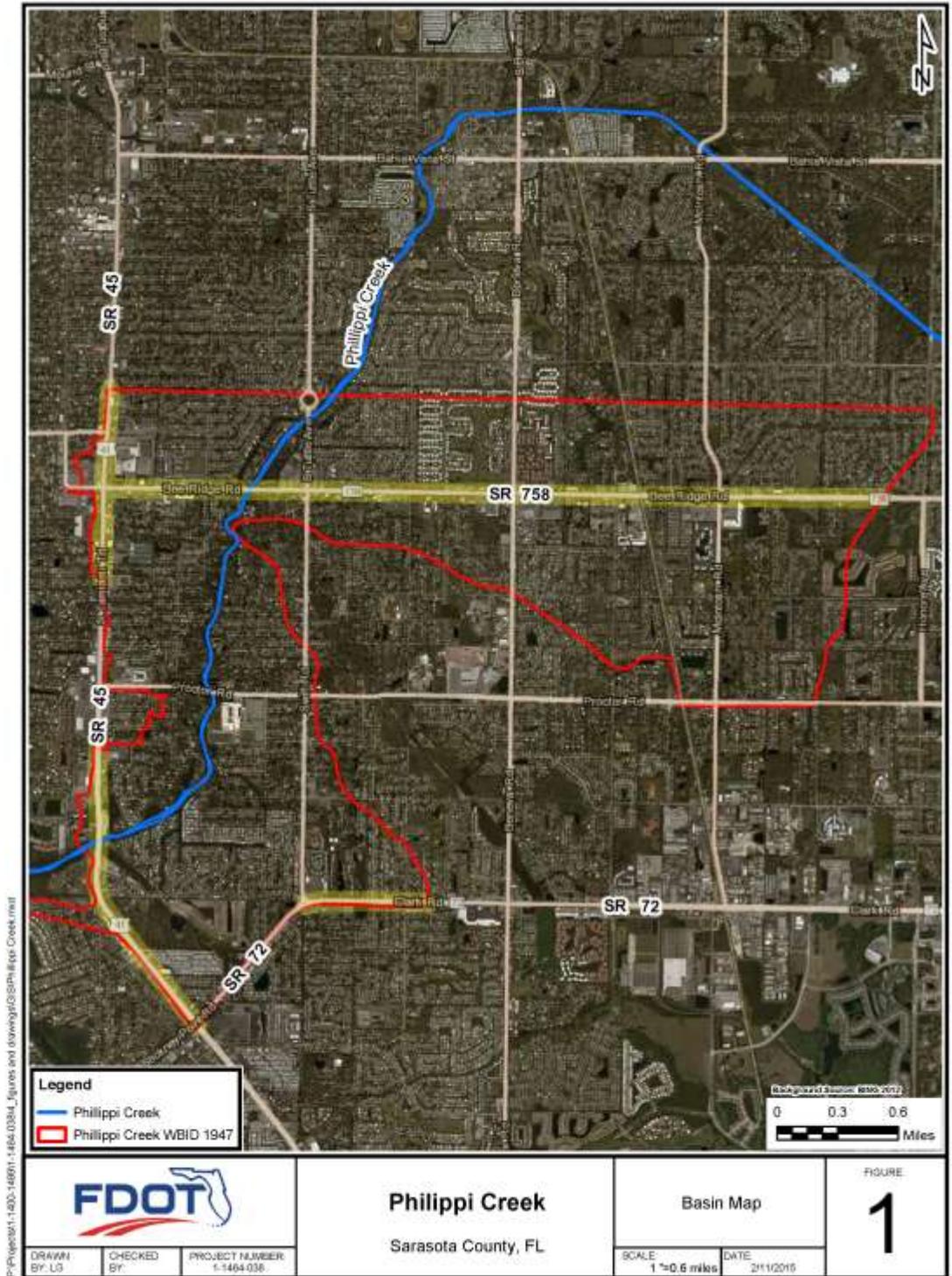
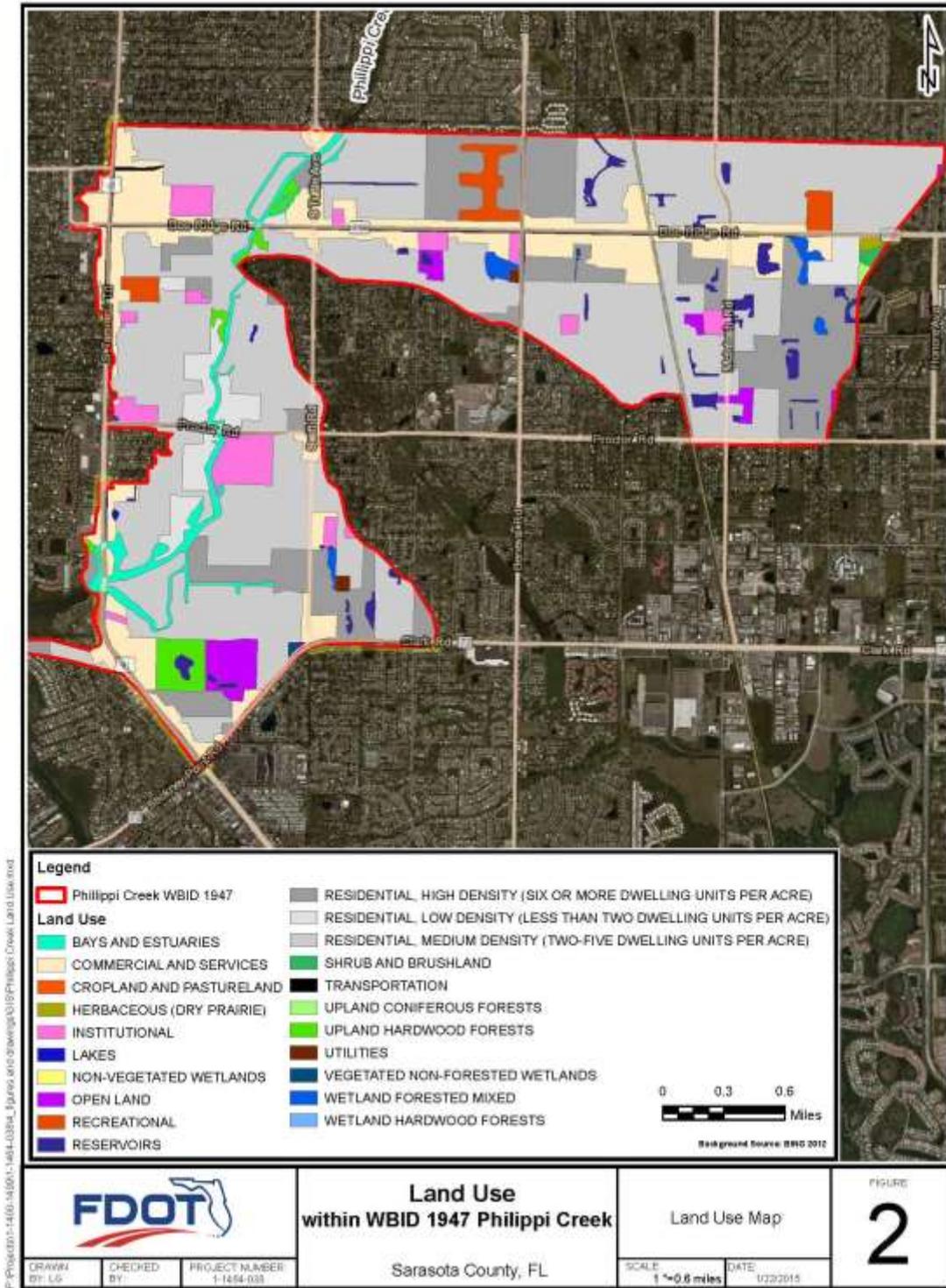


Figure 2 Land use in WBID 1947



Fecal Coliform Impairment of Phillippi Creek

Phillippi Creek (WBID 1947) has been verified impaired for total coliform bacteria based on the state's Impaired Surface Waters Rule (IWR), and Total Maximum Daily Loads (TMDLs) were adopted for both fecal and total coliform in August 2010. However, the TMDL is now only applicable to fecal coliform, since total coliform is no longer a water quality standard regulated by the state.

For determining impairment for fecal coliform bacteria, the IWR states that the most probable number (MPN) or membrane filter (MF) counts per 100 milliliters (mL) of fecal coliform bacteria shall not exceed a monthly average of 200, nor exceed 500 in 10 percent of the samples, nor exceed 800 on any one day. A TMDL represents the maximum amount of a given pollutant that a waterbody can assimilate and still meet water quality standards, including its applicable water quality criteria and its designated uses. They are a critical step in the watershed restoration process because they provide the targets for measuring progress in subsequent water quality restoration efforts.

The criteria state that monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30-day period. However, there were insufficient data (fewer than 10 samples in a given month) available to evaluate the geometric mean criterion for fecal coliform bacteria. Therefore, the criterion selected for the TMDL was not to exceed 400.

The fecal coliform TMDL calls for a 98 percent reduction in in-stream concentrations for Phillippi Creek to meet state water quality standards. Currently, no point sources are permitted to discharge into the canal. The FDOT is one of the co-permittees on the Sarasota County Phase I MS4 permit located within the Phillippi Creek watershed.

Walk the Right of Way (ROW)

Initial Steps

Before going into the field, FDOT reviewed information about Phillippi Creek to better acquaint themselves with the conditions in the watershed. The information that was collected and assimilated included the following:

- Geographic information system (GIS) data;
- Stormwater infrastructure maps showing the locations of inlets and outfalls, ponds, ditches, and underground conveyances;
- Stormwater best management practices (BMPs) being implemented;
- Land use maps and data for the watershed;
- Water quality sampling information such as sampling stations, frequency, and results;
- Hydrology, including wetlands, streams, and ponds; and
- Locations of known issues or areas of special concern such as homeless populations, dog parks, landfills, and transfer stations.

Maps on the Table Session

FDOT evaluated available information and maps to identify potential areas of concern within the right of way to visit during the Walk the ROW event, based on field knowledge from staff and a synthesis of the available information. A review of sanitary sewer line infrastructure maps indicated that there are no sanitary sewer lines or lift stations within the right of way.

Field Event

FDOT explored the right of way within the watershed while in the field, referring to the maps to investigate potential outfalls to Phillippi Creek from the FDOT right of way. Potential sources that were investigated in or adjacent to FDOT's right of way included the following:

- *Wetlands;*
- *Heavy tree canopy;*
- *Landfills;*
- *Dog parks / dog walk areas / pet waste;*
- *Evidence of homeless populations around bridges;*
- *Birds;*
- *Wildlife / wildlife tracks;*
- *Bats;*
- *Livestock and agricultural operations;*
- *Lift stations;*
- *Illicit connections / discharges / dumping;*
- *Dumpsters / solid waste staging / storage;*
- *Veterinary clinics;and*
- *Erosion / maintenance needs at stormwater outfalls.*

Discharges were not observed in the ROW; therefore, samples were not collected during the field event. Documentation of stormwater infrastructure inspections, major findings, observations about the waterbody and potential sources are maintained.

Walk the Right of Way Results

The FDOT used the tools provided in the Department of Environmental Protection's (FDEP) Fecal Coliform TMDL Guidance On-line Took Kit to identify potential sources of bacteria discharged from FDOT's MS4. The results of this exercise include the following findings:

- FDOT inspected their MS4 system along State Road (S.R.) 45, S.R. 72, and S.R. 758 in accordance with their FDEP-approved Statewide Stormwater Management Plan. Inspection of the outfalls,

conveyance system, and stormwater facilities within the WBID occurred in the spring of 2012 and spring of 2013. The inspections indicated that the system is well maintained. The MS4 was eliminated as a potential source.

- FDOT identified one PVC pipe from an adjacent commercial property discharging to the FDOT conveyance system along S.R. 45. The connection will be further investigated.
- Critical Vet Care is located at 4937 Tamiami Trail. A pet waste collection station is located adjacent to the parking lot at the rear of the facility. It appears that the veterinary clinic can be eliminated as a potential source.
- There are no sewage treatment and disposal systems adjacent to FDOT's ROW within this WBID. Sewage treatment and disposal systems were eliminated as a potential source.
- FDOT's MS4 in this WBID receives only roadway runoff from a curb and gutter system with no contributions from agriculture or natural land.
- This is a semi-urban corridor that does not appear to be used by wildlife. Wildlife use was eliminated as a potential source.
- Bacteria source tracking was not used because a source was not identified during the Walk the ROW.

Based on this information, it does not appear that FDOT's MS4 or right of way for S.R. 45, S.R. 72, and S.R. 758 in WBID 1947 is a source of fecal coliform bacteria to Phillippi Creek.

Routine Activities

The routine activities in the Phillippi Creek watershed are as follows:

- Proactive illicit discharge investigations by FDOT maintenance crews, and contractors;
- Litter removal by FDOT maintenance crews and contractors;
- Annual illicit discharge detection and elimination training for FDOT staff, contractors, and maintenance crews; and
- Inspections of stormwater infrastructure and outfalls.

Followup Activity

During the Walk the ROW, FDOT identified one PVC pipe from an adjacent commercial property discharging to the FDOT conveyance system along S.R. 45. FDOT will conduct a review of the drainage connection permits within Sarasota County. If a drainage connection permit does not reveal the source of the PVC pipe, then the connection will be investigated further. Findings will be reported in the subsequent FDOT Sarasota County Phase I MS4 annual report.

MS4 Permit Requirements

Part VIII.B.4 of the Sarasota County NPDES Phase I MS4 Permit requires permittees to use the FDEP's

Fecal Coliform TMDL Guidance On-Line Took Kit to identify potential sources and activities that will be undertaken to reduce fecal coliform loadings from stormwater outfalls to water bodies with adopted fecal coliform TMDLs to the maximum extent practicable. The following statements address the minimum elements as required by Part VIII.B.4 **Discharging into Waters with an Adopted DEP or EPA-Established Fecal Coliform TMDL that does not have a BMAP:**

- **Identification of potential sources of bacteria discharged from the MS4 system:**
FDOT identified one PVC pipe from the adjacent commercial property discharging to the FDOT conveyance system along S.R. 45. A review of the drainage connection permits within Sarasota County did not reveal the source of the PVC pipe. The connection will be further investigated.
- **Bacteria source tracking or other assessment techniques, including monitoring, to better refine the identification of bacterial sources to the MS4 system and prioritize them for implementation of activities to reduce fecal coliform loadings.**
Bacterial source tracking or other assessment techniques were not utilized during the field event.
- **Adoption and implementation of a pet waste management ordinance or program.**
FDOT does not have legal authority to adopt and implement a pet waste management ordinance. Sarasota County has adopted a county-wide pet waste ordinance.
- **Implementation of an educational program directed at reducing bacterial pollution.**
FDOT annually educates staff and maintenance crews about illicit discharge detection and elimination as a component of their Statewide Stormwater Management Program.
- **Identification of additional structural or nonstructural BMPs or program activities needed to reduce bacterial loadings discharged from the MS4 into water bodies with an adopted fecal coliform TMDL to the MEP. This shall include a summary of BMPs and other activities to be implemented, the schedule for their implementation, and the anticipated load reductions from the implemented activities.**
FDOT has completed and routinely conducts a number of activities to identify and eliminate potential sources of bacteria from the right of way to Phillippi Creek as stated above.
- **The permittee shall include in each ANNUAL REPORT a status report on the implementation of the requirements in this section of the permit and on the estimated load reductions that have occurred.**
A status report shall be included with each annual report to document routine and followup activities implemented within this watershed to reduce bacteria contributions to Phillippi Creek.

APPENDIX A
PHOTODOCUMENTATION LOG

PHOTODOCUMENTATION LOG



Photo 01

*State Road 45/Tamiami Trail
looking south.*



Photo 02

*FDOT right of way is well
maintained and free of
debris.*

PHOTODOCUMENTATION LOG



Photo 03

Paved conveyance to Phillippi Creek within FDOT right of way.



Photo 04

Pipes discharging to FDOT conveyance system require further investigation. No evidence of illicit discharge was present at the time of the site visit.

PHOTODOCUMENTATION LOG



Photo 05

Bridge over Phillippi Creek where the FDOT conveyance discharges. No evidence of bats or litter were present at the time of the site visit.



Photo 06

FDOT control structure in grassed swale on south side of Phillippi Creek bridge looking north.

PHOTODOCUMENTATION LOG



Photo 07

FDOT conveyance looking south of creek. The conveyance is well maintained.



Photo 08

View inside FDOT control structure which ultimately discharges to Phillippi Creek.

PHOTODOCUMENTATION LOG



Photo 09

Overview of right of way along State Road 72.



Photo 10

FDOT grassed swale and control structure looking south along State Road 45.

PHOTODOCUMENTATION LOG



Photo 11

FDOT control structure looking north toward Phillippi Creek and bridge.



Photo 12

View inside FDOT control structure which discharges directly to Phillippi Creek.

PHOTODOCUMENTATION LOG



Photo 13

FDOT outfall from control structure to Phillippi Creek.



Photo 14

Well maintained FDOT right of way along State Road 45 discharging to Phillippi Creek.

PHOTODOCUMENTATION LOG



Photo 15

Back of Critical Vet Care located at 4937 Tamiami Trail. A pet waste collection station is located adjacent to the parking lot.