



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

3900 Commonwealth Blvd.
Tallahassee, FL 32399

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

JONATHAN P. STEVERSON
SECRETARY

In the matter of an Application for a Consumptive Use Permit by:

APPLICANT:

Mark Hammond, Director
Resource Management Division
Southwest Florida Water Management District
2379 Broad Street
Brooksville, FL 34604

FILE No.: 20020574.000

County: Hillsborough

PROJECT NAME: Morris Bridge Sink Project

NOTICE OF INTENT TO ISSUE Consumptive Use Permit

The Department of Environmental Protection (Department) gives notice of its intent to issue a Consumptive Use Permit (CUP) (draft copy of permit attached) pursuant to the provisions of Chapter 373, Part II, Florida Statutes (F.S.), for the proposed project as detailed in the application.

I. DESCRIPTION OF THE PROPOSED ACTIVITY

The applicant, Southwest Florida Water Management District (SWFWMD), applied on August 12, 2015 to the Department for a CUP for the allocation of 2,017,000 gallons per day on an annual average basis withdrawn from Morris Bridge Sink (MBS). Proposed maximum daily withdrawal is 3,900,000 gallons per day. The authorized quantities will be pumped from MBS, then discharged to the upper pool of the Tampa Bypass Canal (TBC), piped to the TBC middle pool, and then transferred to the Lower Hillsborough River via the City of Tampa Hillsborough River Reservoir. The MBS project is a component of the District's recovery strategy towards meeting the minimum flow requirements established for the lower segment of the Hillsborough River, pursuant to Rule 40D-80.073(8)(b)8, Florida Administrative Code (F.A.C.).

The MBS Project is located at Section 5, Township 28 South, Range 20 East (Latitude: 28° 04' 36.61" and Longitude: 82° 20' 04.08"), Hillsborough County.

II. AUTHORITY FOR REVIEW

The activity is not exempt from the requirement to obtain a Consumptive Use Permit pursuant to Chapter 373, Florida Statutes (F.S.). The Department hereby gives notice of its intent to issue this Consumptive Use Permit pursuant to its authority provided by section 373.219(1), Florida Statutes.

III. BACKGROUND/BASIS FOR ISSUANCE

A. General

BACKGROUND

On August 12, 2015, the Applicant, Southwest Florida Water Management District, applied to the Department for a CUP to withdraw an average of 2.017 mgd from the Morris Bridge Sink (MBS) for environmental augmentation. A Notice of Application was published in the Tampa Tribune on September 4, 2015.

BASIS OF INTENT

This permit authorizes the use of water from MBS for environmental augmentation. The MBS project is part of the District's recovery strategy towards meeting the minimum flow requirements established for the lower segment of the river in Rule 40D-8.041(1), Florida Administrative Code (F.A.C.). The purpose of the recovery strategy is to improve the flow and reduce the salinity in the lower Hillsborough River below the dam. The permit authorizes an annual average quantity of 2,017,000 gallons per day (gpd) and a maximum day quantity of 3,900,000 gpd. The authorized quantities will be utilized as a component of the Southwest Florida Water Management District's recovery strategy towards meeting the minimum flow requirements established for the lower segment of the Hillsborough River, pursuant to Rule 40D-80.073(8)(b)8, F.A.C. Simplified, the recovery strategy provides that flows below the dam will be augmented by pumping and piping water from four additional sources, depending on hydrologic conditions. The first supplemental source to be used meet the MFL is Sulphur Springs, the second is Blue Sink, and the third and fourth sources are The Tampa Bypass Canal and Morris Bridge Sink. The authorized quantities will be diverted from the Morris Bridge Sink via a pipeline to the upper pool of the Tampa Bypass Canal, then gravity drain to the middle pool, with an equivalent amount of water pumped from the middle pool to the City of Tampa's Hillsborough River Reservoir.

The application for this project documents reasonable assurance that the proposed consumptive use of water is (a) a reasonable and beneficial use; (b) will not interfere with any presently existing legal use of water; and (c) is consistent with the public interest. The MBS project is a component of the District's recovery strategy towards meeting the minimum flow requirements established for the lower segment of the Hillsborough River, pursuant to Rule 40D-80.073(8)2., F.A.C. The water from MBS may only be used for environmental augmentation of the Lower Hillsborough River and only when the flow at the base of the dam is below the established minimum flows as defined in Rule 40D-8.04 (1), Florida Administrative Code. This project supports the goal of maintaining a fresh water zone downstream from the dam during drier parts of the year.

B. Specific Regulatory Basis for Issuance

Based on the information provided by the Applicant and currently on file, the Department has determined, the above referenced project, will comply with Part II of Chapter 373, Florida Statutes, and is, further, consistent with the criteria in Chapter 40D-2, F.A.C.

The proposed use is reasonable-beneficial, will not interfere with any presently existing legal use of water, and is consistent with the public interest.

The Department hereby gives notice of its intent to issue this Consumptive Use Permit pursuant to its authority provided by section 373.219(1), Florida Statutes.

IV. PUBLICATION OF NOTICE

Pursuant to Rule 62-110.106(7), F.A.C., you (the applicant) are required to publish at your own expense the attached Notice of Intent to Issue. The notice is required to be published one time, in the legal ad section in a newspaper or newspapers of general circulation in the areas affected. For the purpose of this rule, “publication in a newspaper of general circulation in the area affected” means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used should be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to:

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF WATER POLICY
3900 Commonwealth Blvd.
Mail Station #46
Tallahassee, FL 32399
Attn: Janet Llewellyn

Publication shall be made as soon as possible after notification by the Department of its intended action. The provisions of Section 120.60(1) of the Florida Statutes, shall be tolled by the request of the Department for publication of the notice and shall resume fourteen days after receipt of proof of publication, at the address specified by the Department in its request for publication. Failure to publish the notice and provide proof of publication within the allotted time shall be grounds for denial of the permit.

V. RIGHTS OF AFFECTED PARTIES

The Department will issue this permit unless a timely petition for an administrative proceeding is filed pursuant to the provisions of Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

A person whose substantial interests are affected by the Department’s action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency’s file or identification number, if known;
- (b) The name, address, any email address, any facsimile number, and telephone number of the petitioner; the name, address, and telephone number of the petitioner’s representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner’s substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition 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. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. 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, F.A.C.

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation is not available in this proceeding.

Permittee: Southwest Florida Water Management District
Project: Morris Bridge Sink Project
Permit No.: 20020574.000
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Executed in Tallahassee, Florida

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION**



Ryan Matthews, Esq.
Director, Office of Water Policy
Florida Department of Environmental Protection

ATTACHMENTS:

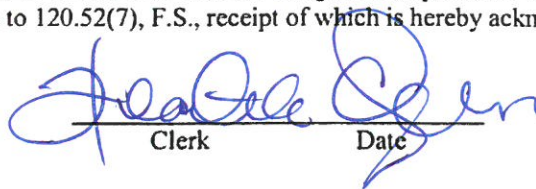
Public Notice
Draft Permit

cc:

mark.hammond@watermatters.org
Darrin.Herbst@swfwmd.state.fl.us
amy.brennan@watermatters.org
Kristine.P.Morris@dep.state.fl.us
Janet.Llewellyn@dep.state.fl.us

FILING AND ACKNOWLEDGMENT

FILED on this date with the designated Department Clerk,
pursuant to 120.52(7), F.S., receipt of which is hereby acknowledged.


Clerk Date 12/04/15

NOTICE OF INTENT TO ISSUE CONSUMPTIVE USE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a Consumptive Use Permit, No. 20020574.000. The proposed permit entails the allocation of 2,017,000 gallons per day on an annual average basis from Morris Bridge Sink (MBS) for environmental augmentation. The MBS project is part of the District's recovery strategy towards meeting the minimum flow requirements established for the lower segment of the Hillsborough River. The authorized quantities will be pumped from Morris Bridge Sink, discharged to the upper pool of the Tampa Bypass Canal (TBC), piped to the TBC Middle Pool, and then transferred to the Lower Hillsborough River via the City of Tampa's Hillsborough River Reservoir. The MBS Project is located at Section 5, Township 28 South, Range 20 East (Latitude: 28° 04' 03.10" and Longitude: 82° 20' 04.08"), Hillsborough County. The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Protection, 3900 Commonwealth Blvd., Tallahassee, Florida 32399 and at: <http://www18.swfwmd.state.fl.us/Support/WUP/WupSimple.aspx?st=20575&rev=0> on the SWFWMD Water Management Information System data warehouse.

The Department will issue the Consumptive Use Permit, unless a timely petition for an administrative proceeding is filed pursuant to the provisions of Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any email address, any facsimile number, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition 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. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be

filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. 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, F.A.C.

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation is not available in this proceeding.

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 CONSUMPTIVE WATER USE PERMIT
 INDIVIDUAL PERMIT NO: 20020574.000**

PERMIT ISSUE DATE: December 3, 2015

EXPIRATION DATE: December 3, 2035

The Permittee is responsible for submitting an application to renew this permit no sooner than one year prior to the expiration date, and no later than the end of the last business day before the expiration date, whether or not the Permittee receives prior notification by mail. Failure to submit a renewal application prior to the expiration date and continuing to withdraw water after the expiration date is a violation of Chapter 373, Florida Statutes, and may result in a monetary penalty and/or loss of the right to use the water. Issuance of a renewal of this permit is contingent upon FDEP approval.

TYPE OF APPLICATION: NEW
GRANTED TO: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
 2379 BROAD STREET
 BROOKSVILLE, FL 34604
PROJECT NAME: MORRIS BRIDGE SINK PROJECT
COUNTY: HILLSBOROUGH

TOTAL QUANTITIES AUTHORIZED UNDER THIS PERMIT	
ANNUAL AVERAGE:	2,071,200 GPD
PEAK MONTH:	3,900,000 GPD
MAXIMUM DAY:	3,900,000 GPD

GPD: gallons per day

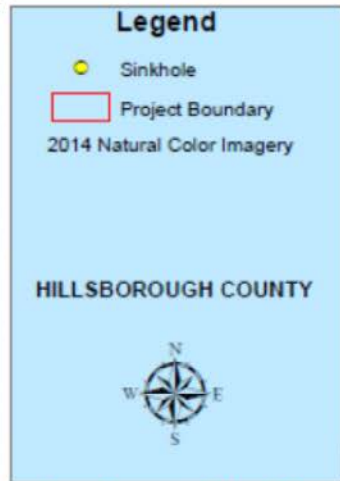
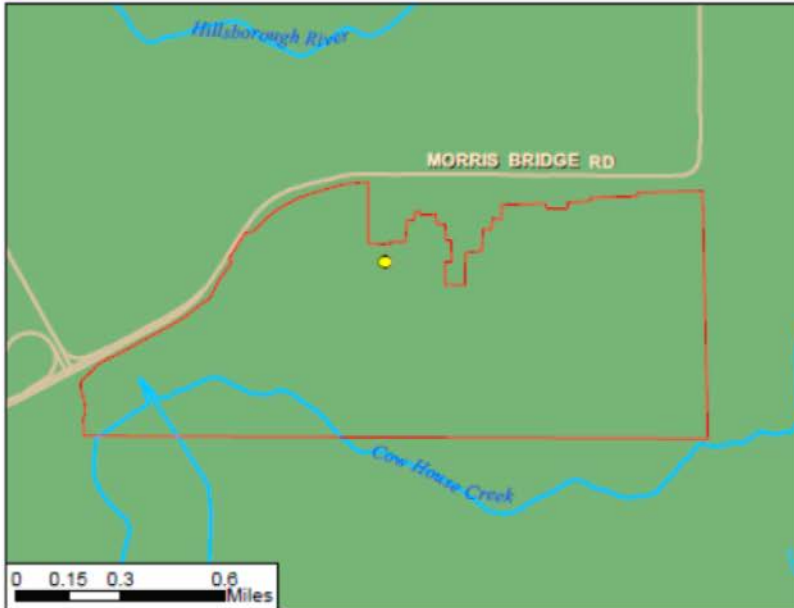
Peak Month: Average annual quantity use during the highest water use month

ABSTRACT:

This is a new consumptive use permit for environmental augmentation. The permit authorizes an annual average quantity of 2,071,200 gallons per day (gpd), a peak month quantity of 3,900,000 gpd, and a maximum day quantity of 3,900,000 gpd. The authorized quantities will be utilized as a component of the Southwest Florida Water Management District's recovery strategy towards meeting the minimum flow requirements established for the lower segment of the Hillsborough River, pursuant to Rule 40D-80.073(8)(b)8, Florida Administrative Code. The purpose of the recovery strategy is to improve the flow and reduce the salinity in the lower Hillsborough River below the dam. This project is the fourth priority source following Sulphur Springs, Blue Sink, and the middle pool of the Tampa Bypass Canal, as outlined in the recovery strategy. The authorized quantities will be diverted from the Morris Bridge Sink via a pipeline to the upper pool of the Tampa Bypass Canal, then gravity drain to the middle pool, with an equivalent amount of water pumped from the middle pool to the City of Tampa's Hillsborough River Reservoir.

Special Conditions require the Permittee to provide the Department a review of the Hillsborough River Recovery Strategy and the progress of its implementation to determine whether existing or additional source or storage projects will be used in lieu of all or part of the withdrawals from Morris Bridge Sink, record and report meter readings and pumpage from the withdrawal point, record and report surface water levels, maintain and implement an Environmental Monitoring Plan, submit an annual report, and investigate withdrawal related complaints. Additionally, the Permittee is required to provide the Department a review of the effect of the Hillsborough River Recovery Strategy and to evaluate the effect that the recovery strategy is having on water levels in the river above the City's dam.

Location Map Morris Bridge Sink Project Hillsborough County



Southwest Florida
Water Management District

WATER USE TABLE

USE	ANNUAL AVERAGE	PEAK MONTH	MAXIMUM DAY
Environmental Augmentation	2,071,200 gpd	3,900,000 gpd	3,900,000 gpd

Use Type:

Environmental Augmentation

WITHDRAWAL POINT QUANTITY TABLE

PERMITTEE ID	DIAMETER (INCHES)	DEPTH (FT BLD)	USE DESCRIPTION	AVERAGE DAY (MGD)	MAXIMUM DAY (MGD)
MBS/1	12	N/A	Environmental Augmentation	2,071,100	3,900,000

WITHDRAWAL POINT LOCATION TABLE

PERMITTEE ID NO.	LATITUDE/LONGITUDE
MBS/1	28°04'36"/82°20'08"

STANDARD CONDITIONS

The Permittee shall comply with the Standard Conditions attached hereto, incorporated herein by reference as Exhibit A and made a part hereof.

SPECIAL CONDITIONS

1. The SWFWMD may not utilize the withdrawal from Morris Bridge Sink until Rule 40D-2.302(2), Florida Administrative Code, which establishes a reservation of water in Morris Bridge Sink, is repealed.
2. The Southwest Florida Water Management District may utilize the withdrawal from the Morris Bridge Sink only for environmental augmentation of the Lower Hillsborough River and only when flow at the base of the dam is below the established minimum flows as defined in Rule 40D-8.041(1), Florida Administrative Code.
3. The Southwest Florida Water Management District shall limit the utilization of withdrawals from the Morris Bridge Sink in accordance with the Comprehensive Environmental Resources Recovery Plan for the Northern Tampa Bay Water Use Caution Area, and the Hillsborough River Strategy outlined in Rule 40D-80.073(8), Florida Administrative Code.

4. This Permit authorizes withdrawals necessary for the environmental benefit of the lower Hillsborough River below the dam to assist in meeting the established minimum flow in Rule 40D-8.041(1), F.A.C. as required by Rule 40D-80.073(8), F.A.C., the Comprehensive Environmental Resources Recovery Plan for the Northern Tampa Bay Water Use Caution Area, and the Hillsborough River Strategy. The Southwest Florida Water Management District's Governing Board may amend the recovery strategy and minimum flow at any time. Therefore, this Permit is subject to modification to comply with new rules regarding the amended recovery strategy or minimum flow for the lower Hillsborough River.
5. No later than December 31, 2017, the District shall provide the Department a review of the Hillsborough River Recovery Strategy and the progress of its implementation to determine whether existing or additional source or storage projects will be used in lieu of all or part of the withdrawals authorized in this permit.
6. No later than December 31, 2018, the District shall evaluate the effect the Hillsborough River Recovery Strategy is having on water levels in the river above the City's dam to at least Fletcher Avenue. The District shall also evaluate the hydrology, dissolved oxygen, salinity, temperature, pH, and biologic results achieved from implantation of the recovery strategy for the prior five years, including the duration, frequency, and impacts of the adjusted minimum flow. As part of this evaluation, the District will assess the recording systems used to monitor these parameters.
7. All reports and data required by condition(s) of the permit shall be submitted to the Florida Department of Environmental Protection according to the due date(s) contained in the specific condition. All mailed reports and data are to be sent to:

Florida Department of Environmental Protection
Office of Water Policy, MS #46
3900 Commonwealth Blvd.
Tallahassee, FL 32399

Submission of plans and reports: Unless submitted online or otherwise indicated in the special condition, the original and one copy of each plan and report, such as conservation plans, environmental analyses, aquifer test results, per capita annual reports, etc. are required.

Submission of data: Unless otherwise indicated in the special condition, data submittals such as meter readings and/or pumpage, rainfall, water level, evapotranspiration, or water quality data will be submitted in an electronic format acceptable to DEP.

8. The following withdrawal facilities shall be maintained and operated with a non-resettable, totalizing flow meter(s) or other measuring device(s):

Permittee ID No. MBS/1.

Total flow from the metered withdrawal shall be recorded on a daily basis and reported annually to FDEP on April 1 of each year for the previous year's data in a format acceptable to the FDEP. Unless otherwise specified meter reading and reporting, as well as meter accuracy checks every

five years shall be in accordance with instructions in Exhibit B, Metering Instructions, attached to and made part of this permit.

9. Surface water levels shall be recorded from the following monitoring locations:

Permittee ID 2	Morris Bridge Sink
Permittee ID 3	Nursery Marsh
Permittee ID 4	Nursery Sink

The water levels shall be recorded on a daily basis and reported annually to FDEP on April 1 of each year for the previous year's data in a format acceptable to the FDEP.

10. Wetland water levels shall be recorded from the following monitoring locations:

Permittee ID 5	Powerline Sink Marsh
Permittee ID 6	Cypress Wetland
Permittee ID 7	Cypress Marsh

The water levels shall be recorded on a daily basis and reported annually to FDEP on April 1 of each year for the previous year's data in a format acceptable to the FDEP.

11. Aquifer levels shall be recorded from the following monitoring locations:

Permittee ID 8	Power Line Upland Surficial
Permittee ID 9	MB516FLRD
Permittee ID 10	Nursery Sink Marsh Wetland Surficial
Permittee ID 11	Nursery Sink Marsh Upland Surficial
Permittee ID 12	MB516SURF
Permittee ID 13	FL-MB-2200
Permittee ID 14	FL-MB-750
Permittee ID 15	FL-MB-550
Permittee ID 16	Nursery Sink Cypress Upland Surficial
Permittee ID 17	Nursery Sink Cypress Wetland Surficial

The water levels shall be recorded on a daily basis and reported annually to FDEP on April 1 of each year for the previous year's data in a format acceptable to the FDEP.

12. Permittee shall implement and maintain data collection programs as outlined in the Environmental Monitoring Plan dated included as Exhibit C of this permit, throughout the term of the permit. The Permittee shall submit an annual Environmental Monitoring Plan Report beginning April 1, 2017 and yearly thereafter that provides the raw data as well as interpretation of the data to assess impacts of pumpage on the area, including whether any impacts have occurred that require mitigation pursuant to Standard Condition No.5. Additionally, the report shall include an analysis of upland and wetland conditions, including interpretation of applicable parameters such as tree falls per unit area, rate of soil subsidence, effects on fish and wildlife, and evidence of vegetational succession. Data shall be obtained through field measurements. Hydrographs from surface water gauges and wells shall be included for the period of record and discussed in the report.
13. The Permittee shall submit a comprehensive but concise Annual Report to the Florida Department of Environmental Protection April 1st of each year, beginning April 1, 2017. One copy of the report and required documentation and one electronic copy in a format acceptable to the Florida Department of Environmental Protection shall be provided. This Annual Report shall also include the Annual Environmental Monitoring Plan Report as an Attachment. The report shall concisely summarize the elements listed below, with emphasis on the interactions between these elements, where appropriate. The report shall cover all activities and conditions pertaining to the Morris Bridge Sink withdrawals in relation to the Comprehensive Environmental Resources Recovery Plan for the Northern Tampa Bay Water Use Caution Area, and the Hillsborough River Strategy Hillsborough River Strategy outlined in Rule 40D-80.073(8), Florida Administrative Code.

The specific elements of this report are listed below:

- A. Water Use
 - B. Wetland water levels
 - C. Monitoring well water levels
 - D. Surface water levels
 - E. Wetland Transects
 - F. Wetland Assessment Procedure (WAP)
 - G. Wetland Evaluation (WE)
14. The Permittee shall investigate alleged loss of reliable access to legal, existing withdrawals of groundwater, damage to the ground water wells, or to pumps used to access legal, existing withdrawals of water within the area that may have been caused by the Permittee's ground water withdrawals. Instructions for the complaint handling and possible mitigation procedure are given in Exhibit D, Well Complaint Instructions, attached to, and made part of this permit.

EXHIBIT A

CONSUMPTIVE USE PERMIT STANDARD CONDITIONS

1. With advance notice to the Permittee, FDEP staff with proper identification shall have permission to enter, inspect, collect samples, take measurements, observe permitted and related facilities and collect and document any information deemed necessary to determine compliance with the approved plans, specifications, and conditions of this permit. The Permittee shall either accompany FDEP staff onto the property or make provision for access onto the property.
2. When necessary to analyze impacts to the water resource or existing users, the FDEP shall require the Permittee to install flow metering or other measuring devices to record withdrawal quantities and submit the data to the FDEP.
3. A SWFWMD identification tag shall be prominently displayed at each withdrawal point that is required by the FDEP to be metered or for which withdrawal quantities are required to be reported to the FDEP, by permanently affixing the tag to the withdrawal facility.
4. The Permittee shall mitigate any adverse impact to environmental features or offsite land uses as a result of withdrawals. When adverse impacts occur or are imminent, the FDEP shall require the Permittee to mitigate the impacts. Examples of adverse impacts include the following:
 - A. Significant reduction in levels or flows in water bodies such as lakes, impoundments, wetlands, springs, streams or other watercourses; or
 - B. Damage to crops and other vegetation causing financial harm to the owner; and
 - C. Damage to the habitat of endangered or threatened species.
5. The Permittee shall mitigate any adverse impact to existing legal uses caused by withdrawals. When adverse impacts occur or are imminent, the FDEP may require the Permittee to mitigate the impacts. Adverse impacts include:
 - A. A reduction in water levels which impairs the ability of a well to produce water;
 - B. Significant reduction in levels or flows in water bodies such as lakes, impoundments, wetlands, springs, streams or other watercourses; or
 - C. Significant inducement of natural or manmade contaminants into a water supply or into a usable portion of an aquifer or water body.

6. All withdrawals authorized by this CUP shall be implemented as conditioned by this permit, including any documents submitted as part of the permit application incorporated by reference in a permit condition.
7. This permit is subject to review and modification, enforcement action, or revocation, in whole or in part, pursuant to Section 373.136 or 373.243, F.S.
8. This permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the Permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.
9. The Permittee shall cease or reduce surface water withdrawal as directed by the FDEP if water levels in lakes fall below the applicable minimum water level established in Chapter 40D-8, F.A.C., or rates of flow in streams fall below the minimum levels established in Chapter 40D-8, F.A.C.
10. The Permittee shall cease or reduce withdrawal as directed by the FDEP if water levels in aquifers fall below the minimum levels established in Chapter 40D-8, F.A.C.
11. A Permittee may seek modification of any term of an unexpired permit. The Permittee is advised that Section 373.239, F.S. are applicable to permit modifications.
12. This permit is issued based on information provided by the Permittee demonstrating that the use of water is reasonable and beneficial, consistent with the public interest, and will not interfere with any existing legal use of water. If, during the term of the permit, it is determined by the FDEP that a statement in the application and in the supporting data are found to be untrue and inaccurate, the use is not reasonable and beneficial, in the public interest, or does impact an existing legal use of water, the FDEP shall modify this permit or shall revoke this permit following notice and hearing, pursuant to sections 373.136 or 373.243, F.S. The Permittee shall immediately notify the FDEP in writing of any previously submitted information that is later discovered to be inaccurate.
13. All permits are contingent upon continued ownership or legal control of all property on which pumps, wells, diversions or other water withdrawal facilities are located.

EXHIBIT B
METERING INSTRUCTIONS

The Permittee shall meter withdrawals from surface waters and/or the ground water resources, and meter readings from each withdrawal facility shall be recorded on a monthly basis within the last week of the month. The meter reading(s) shall be reported to the FDEP on an annual basis. Submission of such data by any other unauthorized form or mechanism may result in loss of data and subsequent delinquency notifications.

The meters shall adhere to the following descriptions and shall be installed or maintained as follows:

1. The meter(s) shall be non-resettable, totalizing flow meter(s) that have a totalizer of sufficient magnitude to retain total gallon data for a minimum of the three highest consecutive months permitted quantities. If other measuring device(s) are proposed, prior to installation, approval shall be obtained in writing from FDEP.
2. The Permittee shall report non-use on all metered standby withdrawal facilities.
3. If a metered withdrawal facility is not used during any given month, the meter report shall be submitted to the FDEP indicating the same meter reading as was submitted the previous month.
4. The flow meter(s) or other approved device(s) shall have and maintain an accuracy within five percent of the actual flow as installed.
5. Meter accuracy testing requirements:
 - A. For newly metered withdrawal points, the flow meter installation shall be designed for inline field access for meter accuracy testing.
 - B. The meter shall be tested for accuracy on-site, as installed according to the Flow Meter Accuracy Test Instructions in this Exhibit B, every five years in the assigned month for the county, beginning from the date of its installation for new meters or from the date of initial issuance of this permit containing the metering condition with an accuracy test requirement for existing meters.
 - C. The testing frequency will be decreased if the Permittee demonstrates to the satisfaction of the FDEP that a longer period of time for testing is warranted.
 - D. The test will be accepted by the FDEP only if performed by a person knowledgeable in the testing equipment used.
 - E. If the actual flow is found to be greater than 5% different from the measured flow, within 30 days, the Permittee shall have the meter re-calibrated, repaired, or replaced, whichever is necessary. Documentation of the test and a certificate of re-calibration, if applicable, shall be submitted within 30 days of each test or re-calibration.
6. The meter shall be installed according to the manufacturer's instructions for achieving accurate flow to the specifications above, or it shall be installed in a straight length of pipe where there is at least an upstream length equal to ten (10) times the outside pipe diameter and a downstream length equal to two (2) times the outside pipe diameter. Where there is not at least a length of ten diameters upstream available, flow straightening vanes shall be used in the upstream line.
7. Broken or malfunctioning meter:
 - A. If the meter or other flow measuring device malfunctions or breaks, the Permittee shall notify the FDEP within 15 days of discovering the malfunction or breakage.
 - B. The meter must be replaced with a repaired or new meter, subject to the same specifications given above, within 30 days of the discovery.
 - C. If the meter is removed from the withdrawal point for any other reason, it shall be replaced with

another meter having the same specifications given above, or the meter shall be reinstalled within 30 days of its removal from the withdrawal. In either event, a fully functioning meter shall not be off the withdrawal point for more than 60 consecutive days.

8. While the meter is not functioning correctly, the Permittee shall keep track of the total amount of time the withdrawal point was used for each month and multiply those minutes times the pump capacity (in gallons per minute) for total gallons. The estimate of the number of gallons used each month during that period shall be submitted on FDEP scanning forms and noted as estimated per instructions on the form. If the data is submitted by another approved method, the fact that it is estimated must be indicated. The reason for the necessity to estimate pumpage shall be reported with the estimate.
9. In the event a new meter is installed to replace a broken meter, it and its installation shall meet the specifications of this condition. The permittee shall notify the FDEP of the replacement with the first submittal of meter readings from the new meter.

FLOW METER ACCURACY TEST INSTRUCTIONS

1. **Accuracy Test Due Date** - The Permittee is to schedule their accuracy test according to the following schedule:
 - A. For existing metered withdrawal points, add five years to the previous test year, and make the test in the month assigned to your county.
 - B. For withdrawal points for which metering is added for the first time, the test is to be scheduled five years from the issue year in the month assigned to your county.
 - C. For proposed withdrawal points, the test date is five years from the completion date of the withdrawal point in the month assigned to your county.
 - D. For the Permittee's convenience, if there are multiple due-years for meter accuracy testing because of the timing of the installation and/or previous accuracy tests of meters, the Permittee can submit a request in writing to the FDEP for one specific year to be assigned as the due date year for meter testing. Permittees with many meters to test may also request the tests to be grouped into one year or spread out evenly over two to three years.
 - E. The months for accuracy testing of meters are assigned by county. The Permittee is requested but not required to have their testing done in the month assigned to their county. Hillsborough County testing is assigned to January.
2. **Accuracy Test Requirements:** The Permittee shall test the accuracy of flow meters on permitted withdrawal points as follows:
 - A. The equipment water temperature shall be set to 72 degrees Fahrenheit for ground water, and to the measured water temperature for other water sources.
 - B. A minimum of two separate timed tests shall be performed for each meter. Each timed test shall consist of measuring flow using the test meter and the installed meter for a minimum of four minutes duration. If the two tests do not yield consistent results, additional tests shall be performed for a minimum of eight minutes or longer per test until consistent results are obtained.
 - C. If the installed meter has a rate of flow, or large multiplier that does not allow for consistent results to be obtained with four- or eight-minute tests, the duration of the test shall be increased as necessary to obtain accurate and consistent results with respect to the type of flow meter installed.
 - D. The results of two consistent tests shall be averaged, and the result will be considered the test result for the meter being tested. This result shall be expressed as a plus or minus percent (rounded to the nearest one-tenth percent) accuracy of the installed meter relative to the test meter. The percent accuracy indicates the deviation (if any), of the meter being tested from the test meter.
3. **Accuracy Test Report:** The Permittees shall demonstrate that the results of the meter test(s) are accurate by submitting the following information as part of the annual report:

- A. Documentation that the testing confirmed that the meter is found to be within the accuracy specifications prescribed above.
- B. A printout of data that was input into the test equipment, if the test equipment is capable of creating such a printout;
- C. A statement attesting that the manufacturer of the test equipment, or an entity approved or authorized by the manufacturer, has trained the operator to use the specific model test equipment used for testing;
- D. The date of the test equipment's most recent calibration that demonstrates that it was calibrated within the previous twelve months, and the test lab's National Institute of Standards and Testing (N.I.S.T.) traceability reference number.
- E. A diagram showing the precise location on the pipe where the testing equipment was mounted shall be supplied with the form. This diagram shall also show the pump, installed meter, the configuration (with all valves, tees, elbows, and any other possible flow disturbing devices) that exists between the pump and the test location clearly noted with measurements. If flow straightening vanes are utilized, their location(s) shall also be included in the diagram.
- F. A picture of the test location, including the pump, installed flow meter, and the measuring device, or for sites where the picture does not include all of the items listed above, a picture of the test site with a notation of distances to these items.

DRAFT

June 10, 2013

TECHNICAL MEMORANDUM

TO: Morris Bridge Sink – WUP Application File

THROUGH: Jerry Mallams, P.G., Manager, Resource Evaluation Section

FROM: David Carr, Staff Environmental Scientist, Water Resource Bureau, Resource Evaluation Section.

SUBJECT: Morris Bridge Sink Environmental Monitoring Plan

Purpose

The Lower Hillsborough River Minimum Flows and Levels (MFL) Recovery Strategy includes Morris Bridge Sink (MBS) as a proposed water source to provide minimum flows to the Lower Hillsborough River. The purpose of this memorandum is to present an environmental monitoring plan that will be used to evaluate the potential impacts to the neighboring wetlands from any significant drawdown of the Upper Floridan and surficial aquifers resulting from withdrawals from MBS. This monitoring plan supplements the collection of over five years of existing data with future data collection for groundwater and surface water levels, wetland bathymetry and inundation analysis, annual vegetative health assessments, and organic soil characterization and soil loss/subsidence monitoring.

General Description

The MBS is located in Section-Township-Range 5-28-20, latitude 28.0768, longitude 82.3345 and approximately 0.75 miles northeast of the Tampa Bypass Canal. It lies about 0.6 miles southeast of the channel of the Hillsborough River and about 0.4 miles away from the southern edge of the river’s floodplain (Figure 1). The channel of Cow House Creek lies about 0.5 miles to the south of the sink.

Morris Bridge Sink is located on District owned lands that are part of the Hillsborough River Flood Detention Area. These lands are used by the public for activities that include hiking and biking as part of the Hillsborough County Parks, Recreation and Conservation Morris Bridge Cycling Area and Wilderness Park Trails. Some residential development lies north of the power line near the sink with street access from Morris Bridge Road.

Monitored Wetlands

Three isolated wetlands with a combined area of 69 acres occur within the vicinity of MBS (Figure 1). Power line marsh is a small marsh (2 acres) that lies 500 feet northwest of MBS. A second larger marsh that Florida Natural Areas Inventory (FNAI) defines as a Basin Marsh (Nursery Marsh) lies 800 feet southeast of MBS. A forested wetland that lies 2,000 feet to the

southwest of MBS is classified as a Basin Swamp (cypress wetland). Nursery Marsh and the cypress wetland are the focus of this monitoring plan.

The uplands surrounding MBS and these wetlands are classified as a hardwood hammock upland community. Black and White aerial photography from the 1970's indicates the natural communities differed from today (Figure 2). It appears that the Nursery Marsh had open water in the center and was much less shrubby than in recent years. The cypress wetland appears unchanged. Much of the surrounding upland in the 1970s was crop and pasture land, which has changed to hardwood uplands since the land was put into public ownership.

The Nursery Marsh (referred to as Morris Bridge Nursery Marsh in WMIS, SID 709109; Table 1) is a 12 acre kidney shaped wetland. The upland gradually slopes downward toward the wetland, but transitions steeply at the wetland edge. This slope is particularly steep (approximately four feet within a distance of 30 feet) on the east side. There are limited areas of *Cephalanthus occidentalis*, with *Polygonum hydropiperoides*, *Lemna minor*, *Ampelopsis arborea*, *Hypericum hypericoides*, and *Osmunda regalis* toward the wetland edge. A thick stand of *Salix caroliniana* dominates throughout most of the wetland. Most *Salix* exhibit heavy adventitious rooting two-three feet up their trunk, which can become buoyed up in response to high water. There are little to no trees in this marsh.

The cypress wetland (referred to as Morris Bridge Nursery Sink Cypress in WMIS, SID 709110) is a flat, 54 acre forested wetland that has two lobes. The southern lobe has a dominate canopy of *Taxodium ascendens*, *Taxodium distichum*, *Nyssa sylvatica* (some old-growth), and *Ilex cassine* with an occasional *Acer rubrum*. Much of the wetland has no shrubs, however, a few *Myrica cerifera*, small *Magnolia virginiana*, and *Quercus nigra* are found near the wetland edge. *Lyonia lucida* are commonly found into the edge, many of which are on the sides of *Taxodium*. *Cephalanthus occidentalis* are rarely found in the cypress wetland center where light gaps in the otherwise heavy canopy can be found. The sparse groundcover includes *Woodwardia virginica*, and *Blechnum serrulatum*.

The cypress marsh (referred to as Morris Bridge Nursery Sink Cypress Marsh in WMIS, SID 792841) is the northern lobe of the cypress wetland. The center of the cypress marsh has slightly deeper water levels than the cypress wetland and supports a mixture of herbaceous and forested vegetation. A thin canopy of *Taxodium ascendens* rings the outermost portion of the wetland. *Acer rubrum* separate the area between the outer *Taxodium* from the herbaceous marsh at the center. The sparse groundcover in the forested edge of the marsh includes *Blechnum serrulatum*, and *Woodwardia virginica*. The marsh in the center is dominated by *Panicum hemitomon*, with *Lycopus rubellus*, *Cephalanthus occidentalis*, *Triadenum virginicum*, *Echinochloa sp.*, *Juncus effusus*, and pockets of *Pontederia cordata* and *Nymphaea odorata*.

Much of the soil at the surface in each wetland is organic. The Nursery Marsh has a thick layer of organic material throughout. The cypress wetland also has widespread layers of organic material; although thicker layers are localized in the deeper areas of the cypress wetland in what are likely hog wallows. Feral pig rooting has historically been heavy mostly at the edges of the Nursery Marsh and to a lesser degree, in the deeper portions of the cypress wetland.

Control Wetlands

Twelve isolated wetlands will be used as hydrologic and biologic controls: New River Marsh and New River Cypress (approximately six miles north of MBS), Blackwater Marsh #2 (approximately 11 miles northeast of the sink), and Green Swamp Cypress 1, 2, 3, 4, 5, and 6, Green Swamp West Cypress, Green Swamp Wet Prairie, and Green Swamp Marsh (approximately 20 miles northeast of the sink). Cone Ranch Cypress 1, 2, 3, 4 and 6 (WMIS, SID 19361, 19349, 19046, 19341 and 19344 respectively) are five additional isolated cypress wetlands to be used as hydrologic controls. Cone Ranch wetlands are approximately 14 miles northeast of the sink.

The New River Cypress (WMIS, SID 19165) and Green Swamp 1, 2, 3, 4, 5, 6, and Green Swamp West Cypress (WMIS SID 17527, 17725, 17509, 17499, 17599, 17597, and 17514 respectively) are 1- 5 acre isolated cypress wetlands. These cypress wetlands have a canopy dominated by *Taxodium ascendens*, *Nyssa sylvatica*, and *Ilex cassine*. Most have a shrub layer of *Lyonia lucida*, *Stillingia aquatic*, *Hypericum fasciculatum* with *Myrica cerifera* at the wetland edge. Ground cover includes a diverse assemblage of wetland species indicative of a healthy cypress wetland. The upland ecosystem in which these wetlands reside is primarily pine flatwoods.

The New River Marsh (WMIS, SID 19164), Green Swamp Marsh (WMIS, SID 17587), Green Swamp Wet Prairie (WMIS, SID 17602) and Blackwater Creek Marsh #2 (WMIS, SID 19397) are 1- 2 acre herbaceous wetlands (Blackwater Creek Marsh #2 is approximately 11 acres). Generally, these wetlands are very diverse; including, *Amphicarpum muhlenbergianum*, *Woodwardia virginica*, *Hypericum fasciculatum*, *Panicum hemitomon*, *Juncus effusus*, *Cladium jamaicense*, *Echinochloa sp.*, e, *Proserpinaca pectinata*, and pockets of *Pontederia cordata* and *Nymphaea odorata*.

Monitoring Plan

Hydrology

Extensive hydrologic data collection is part of the monitoring plan for the water use permit. Figure 3 shows the existing network of surface water gages and monitoring wells for the Upper Floridan and surficial aquifers (reprinted from the technical memorandum by Patterson and Basso, 2013), which describes the period of record at these sites and how they were used in the calibration of a groundwater model for the area surrounding MBS. Surface water and surficial aquifer levels at the wetland sites will be collected daily. Nursery marsh and cypress wetland surface stage and surficial aquifer data have been collected since July 2008. The surface stage data in the cypress marsh have been collected since March 2012. A surficial aquifer well is expected to be installed associated with the cypress marsh.

Due to the close relationship of surface water levels with water levels in both the surficial and Upper Floridan aquifers, a hybrid of water level data from the surface water gages and wetland surficial aquifer wells in each wetland will be used to monitor potential effects of groundwater drawdowns. These data measure the depth of surface water in each wetland during wet periods and the elevation of the surficial aquifer relative to the land surface when the wetlands

are dry. Water levels in nearby wells in the Upper Florida Aquifer wells will also be monitored to examine changes in groundwater levels due to pumping from MBS and correlation with surface water and surficial aquifer levels in the region.

One method in determining wetland harm is the wetland MFL standard. This standard uses the wetland long-term water level record median and an elevation of the biologic indicator of normal pool. Normal Pool (NP) elevations are predictable biological indicators typically used to capture high water levels, especially when a water level record is not available (Carr, et al., 2006). NP indicators include the elevations of: inflection point of *Taxodium* buttress, root crowns of *Lyonia lucida*, bottom extent of moss collars on *Taxodium*, and the ground at the base of *Serenoa repens*. A wetland is not meeting its MFL when there is a divergence of the median water level data 1.8' below normal pool elevation. This standard will be applied for a comparison with MFL wetlands and the controls. Figures 4a, 4b and 4c illustrate the long-term water level record, NP, and ground level at the gage and wetland surficial well each wetland.

Bathymetry

Wetland bathymetry (topographic contour) is an important consideration in regards to water level changes. Experiencing the same drawdown, a shallow wetland will experience greater impacted than a steep sided one since more wetland surface area is affected. The bathymetric data of the Nursery Marsh, cypress wetland and cypress marsh will be used determine their depth, area, and the shape. This bathymetric data will then be used to develop stage-area-volume relationships for each wetland (similar to Hagg and Pheiffer, 2012) in order to calculate the area and duration of inundation. The extent of the inundation will be used to investigate wetland health.

LiDAR topographic data are available for the study area and preliminary stage/area curves have been developed. A description of the available LiDAR and other topographic data for the area is provided in attachment A, including methods for the generation of topographic information presented in Figure 6 of the memorandum by Patterson and Basso (2013). LiDAR data are subject to up to +/- 1.2 feet error (95 percent confidence level) therefore, ground survey data are valuable to correct/compare LiDAR data. In order to develop final field verified bathymetric maps of the wetlands, survey transects of each wetland will be performed by the District MGIS/Survey Section and will be used in conjunction with LiDAR data. The number and locations of transects to be surveyed will be identified based on the size, shape and known topographic anomalies (i.e., suspected saddle between the two lobes of the cypress wetland) (Figure 5). Transects will include entire wetland cross-sections, with points into the uplands on either end of each transect. The starting and ending points will be marked with a 5/8" iron rod and cap stamped "SWFWMD TRAV. PT." These will be used in the future for topographic data collection.

The Preliminary horizontal positional data for the starting and ending points will be collected using dual-frequency RTK-GPS receivers based on NAD83/2011 datum. The final horizontal and vertical positional data will be collected using traditional survey technologies: survey total station (an electronic transit with laser ranging capabilities) and differential leveling. The vertical values will be based on direct measurements from existing NAVD88 benchmarks. Nine cross sections of the bottom at the cypress wetland and four transects in Nursery Marsh beginning and ending with five points into the uplands are to be documented using a direct measuring

rod. Survey points along at transect are to be 10' intervals in the marsh (3'-5' intervals at the steepest sloping wetland edge) and 20' intervals in the cypress wetland. Surveyors will collect water elevations at each point or indicate that it is dry and survey any unusual changes in topography that otherwise would be missed in the transect intervals. A Surveyors Report will provide the latitude, longitude, northing, easting, ground elevation (NAVD 88) and water depth for each point on all transects (X-Y-Z). Photographs taken along each transect as well as any photos ordinarily taken during a survey of this kind will be provided.

Vegetation

Both the Nursery Marsh and cypress wetland are currently in the District's vegetation monitoring network since 2009. The cypress wetland marsh will be added starting in 2013. The Wetland Assessment Procedure (WAP) and the Wetland Evaluation (WE) wetland health assessment methodologies will be performed annually on the MBS wetlands. The WAP is a wetland health assessment performed annually since 2005 as part of the Tampa Bay Water Consolidated permit. The WE is an effective wetland health assessment method performed by the District since the 1970's. These wetland health assessments will be compared to the control wetlands to determine and track wetland health.

Soils

Subsidence of wetland soils can cause serious impacts to the trees and wetland health. Root exposure can lead to instability, root rot and subsequent tree fall. Soil subsidence and the lowering of surface elevation can occur due to six possible processes: (1) shrinkage due to desiccation; (2) consolidation by loss of the buoyant force of groundwater; (3) compaction by tillage; (4) wind erosion; (5) burning; and (6) biogeochemical oxidation (Stephens, 1984). Organic soils (peat and muck) are subject to loss of surface elevation and subsidence when water becomes less available whether it's as a result of drainage (Jongedyk et al., 1950), or lowered groundwater (Wörsten et al, 1997; Shih et al. 1997; Reedy, et al., 2006). Organic soil subsidence has been documented to be 4.7 cm/year (for the first 148 days) (van dam 2012), and 3.4 cm/year (Schipper and McLeod, 2002) after water loss.

Taxodium tree fall from root exposure is not an uncommon occurrence in the northern Tampa Bay area Cypress wetlands where such soil losses have occurred. Field monitoring stations will be established in the Nursery Marsh, cypress wetland, and cypress marsh to quantify any horizontal change to the wetland soils. A rebar stake will be driven to refusal at 10M intervals beginning at the wetland edge continuing likewise to the center of each wetland. The elevation of each rebar will be determined, and the distance from the top of the rebar to the top of the soil will be documented annually. A hydric soils analysis will be conducted adjacent to each marker when these stations are established. In addition, a five foot deep (or until clay is encountered) soil profile will be documented once adjacent to three soils plots; one near the edge, one midway to the center, and one at the center.

Wildlife

The presence of feral pigs in the MBS wetlands can have a negative effect on the soils leading, to root exposure, soils disruption, alteration of native plant and animal communities and potentially be vectors for at least 30 viral and bacterial diseases (USGS, 2013). Zoonotic (animal to human) diseases include leptospirosis, e. coli, and brucellosis. The feral pig distribution ranking developed by the United States Department of Agriculture (USDA, 2009) will be performed annually.

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Table 1. DID, Location and Names of surface water and well sites in the MB study area.

DID	WMIS SID	EMP REPORT NAME	LAT	LONG	TYPE	TYPE	WMIS NAME
	709106	MORRIS BRIDGE SINK	28 04 35.80	82 20 03.80	Sinkhole	Surface Water	MORRIS BRIDGE SINK
	709109	NURSERY MARSH	28 04 35.30	82 19 56.80	Wetland	Surface Water	MORRIS BRIDGE NURSERY MARSH; SID 539
	709107	NURSERY SINK	28 04 36.90	82 19 55.70	Sinkhole	Surface Water	MORRIS BRIDGE NURSERY SINK
	709108	POWERLINE SINK MARSH	28 04 42.90	82 20 08.60	Sinkhole	Surface Water	MORRIS BRIDGE POWERLINE SINK
	709110	CYPRESS WETLAND	28 04 25.60	82 19 43.90	Wetland	Surface Water	MORRIS BRIDGE NURSERY SINK CYPRESS;SID 540
	792841	CYPRESS MARSH	28 04 37.00	82 19 32.00	Wetland	Surface Water	MORRIS BRIDGE NURSERY SINK CYPRESS MARSH
	705593	POWERLINE SINK UPLAND SURF	28 04 43.90	82 20 08.40	Well	Surficial Ground Water	MORRIS BRIDGE POWERLINE SINK UPLAND SURF
	637850	MB 516 FLDN	28 04 38.90	82 19 59.00	Well	Floridan Ground Water	MORRIS BRIDGE 516-D FLDN
	705595	NURSERY SINK MARSH WETLAND SURF	28 04 35.40	82 19 56.80	Well	Surficial Ground Water	MORRIS BRIDGE NURSERY SINK MARSH WETLAND SURF
	705594	NURSERY SINK MARSH UPLAND SURF	28 04 35.20	82 19 55.40	Well	Surficial Ground Water	MORRIS BRIDGE NURSERY SINK MARSH UPLAND SURF
	637851	MB 516 SURF	28 04 38.90	82 19 58.90	Well	Surficial Ground Water	MORRIS BRIDGE 516-S SURF
	433088	FL-MB-2200	28 04 43.30	82 19 36.51	Well	Floridan Ground Water	FL-MB-2200 FLDN (AT ROCKLEN)
	433083	FL-MB-750	28 04 32.61	82 19 55.39	Well	Floridan Ground Water	FL-MB-750 FLDN (AT ELOIAN)
	433087	FL-MB-550	28 04 33.67	82 20 08.61	Well	Floridan Ground Water	FL-MB-550 FLDN (AT IDLEWOOD)
	705596	NURSERY SINK CYPRESS UPLAND SURF	28 04 30.10	82 19 48.30	Well	Surficial Ground Water	MORRIS BRIDGE NURSERY SINK CYPRESS UPLAND SURF
	705598	NURSERY SINK CYPRESS WETLAND SURF	28 04 25.60	82 19 43.80	Well	Surficial Ground Water	MORRIS BRIDGE NURSERY SINK CYPRESS WETLAND SURF

MORRIS BRIDGE SINK PROJECT AREA

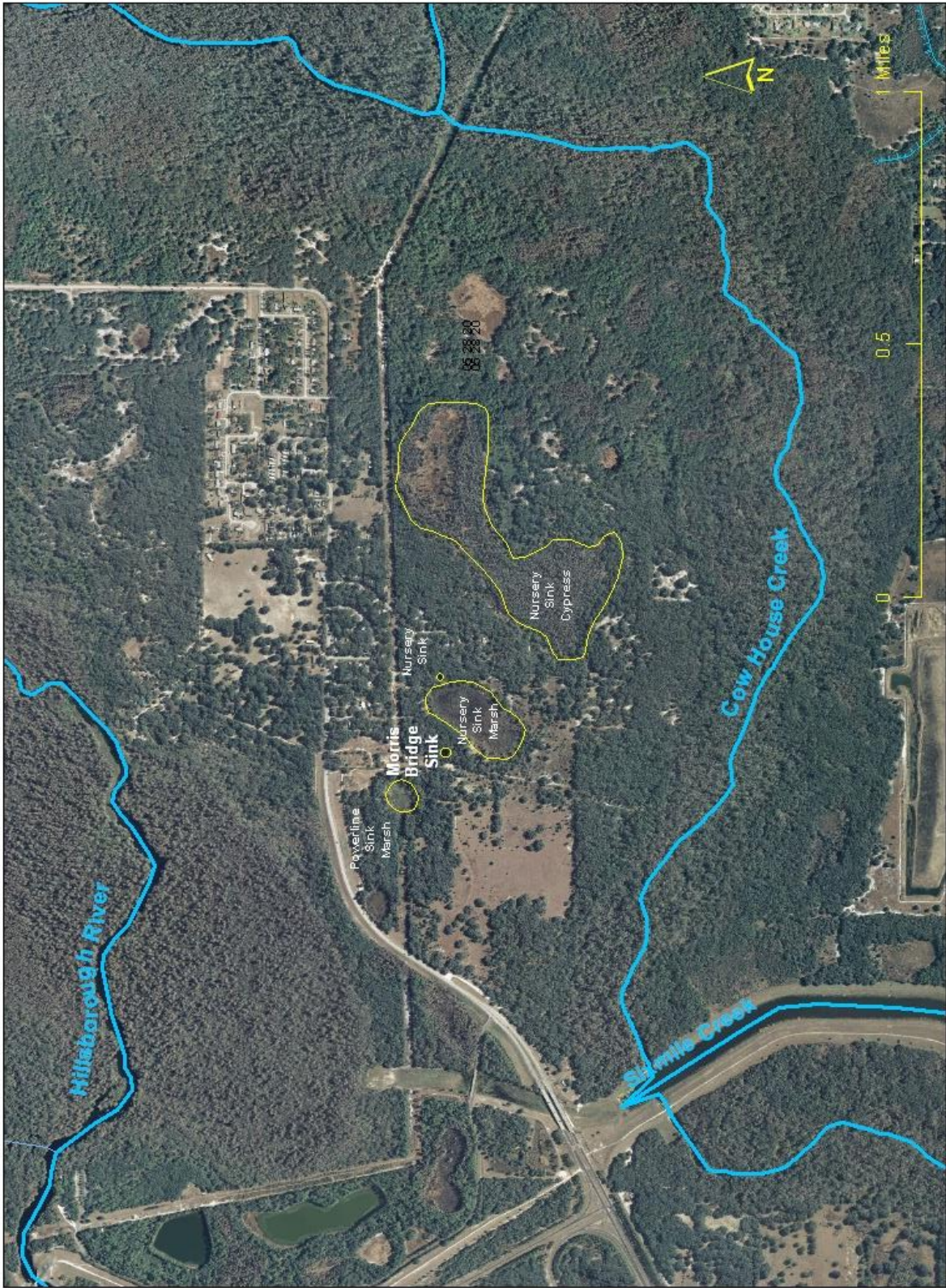


Figure 1.

MBSink 1970's Location Map



Figure 2.

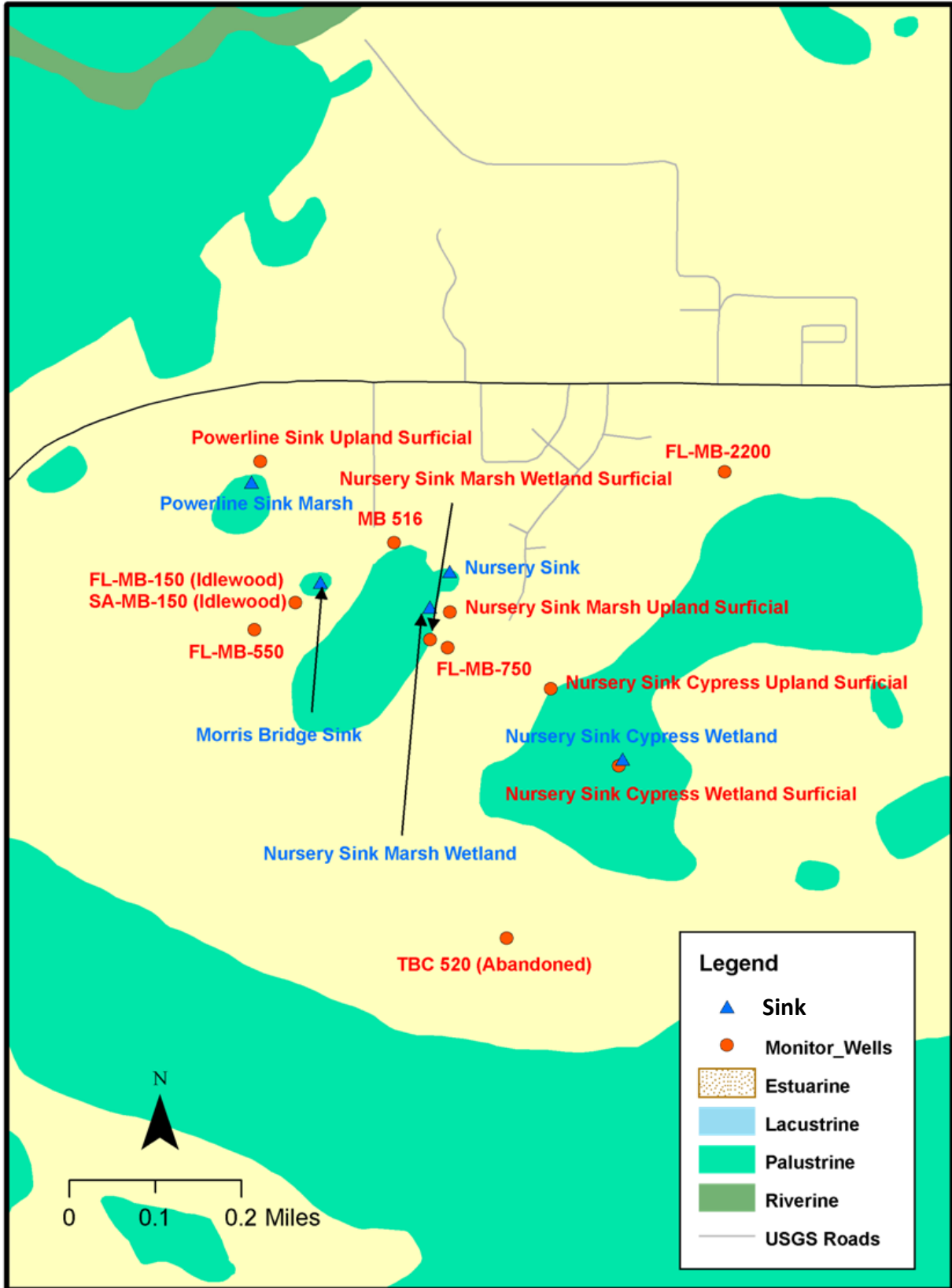


Figure 3.

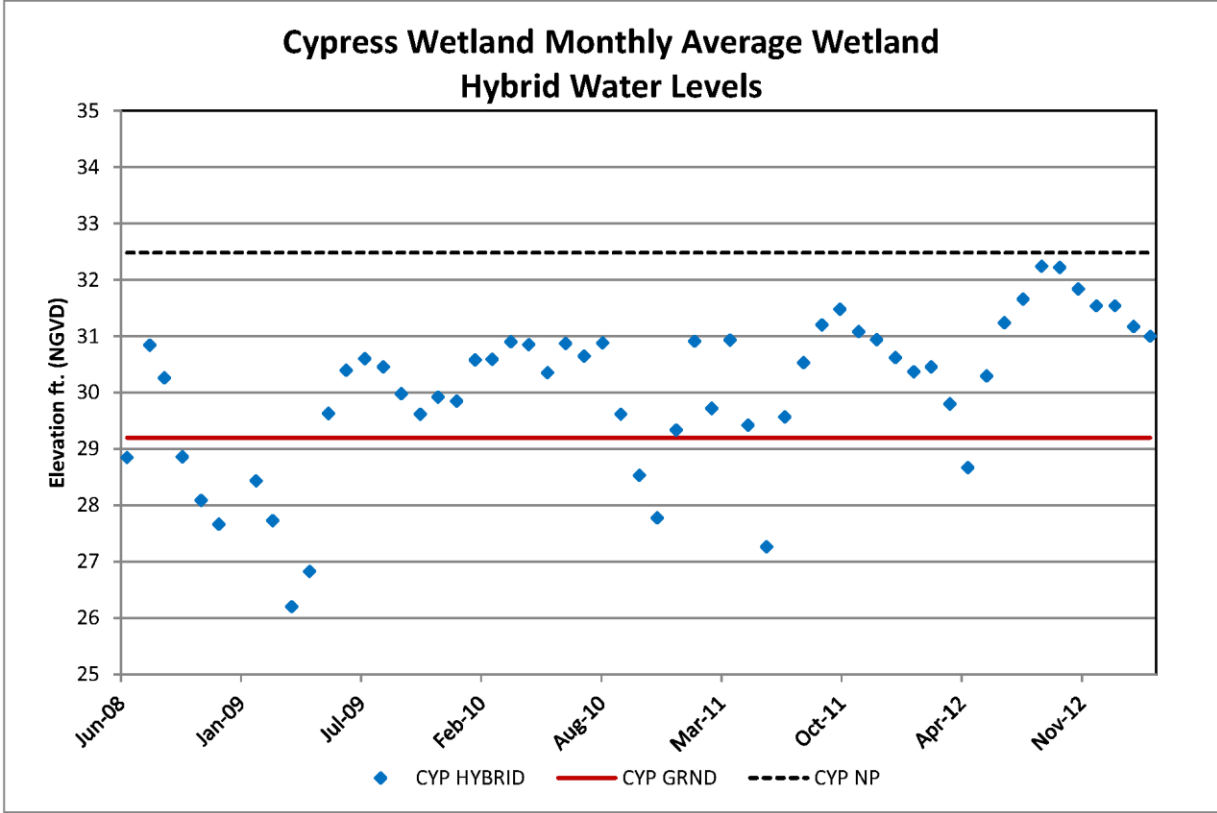


Figure 4a.

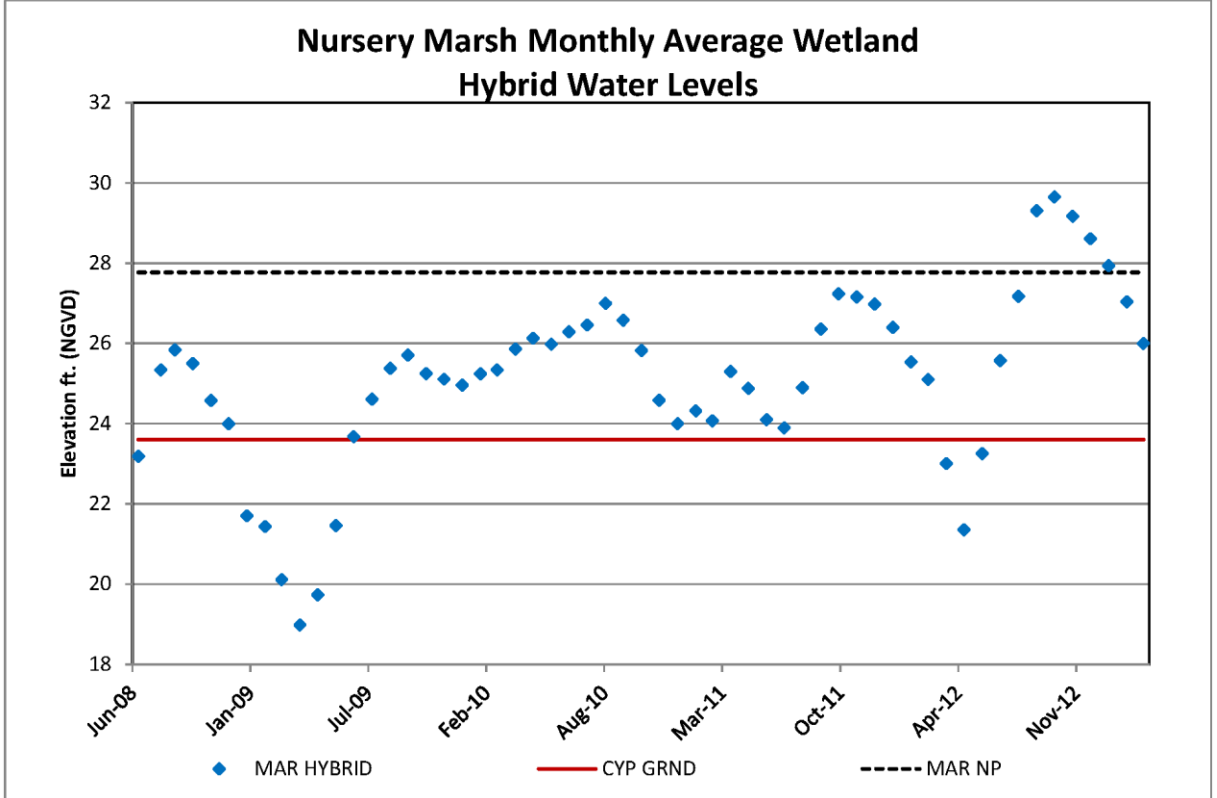


Figure 4b.

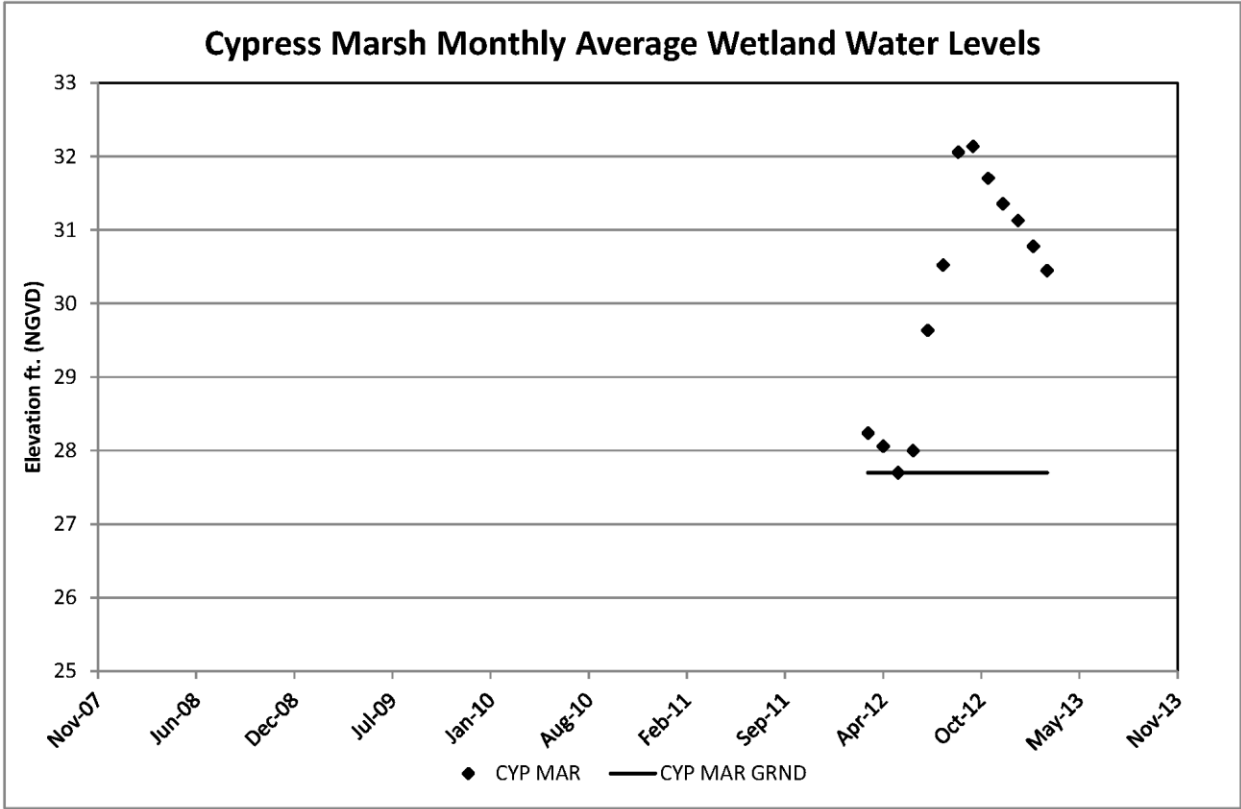


Figure 4c.

Morris Bridge Sink Project Wetlands Proposed Survey Transects

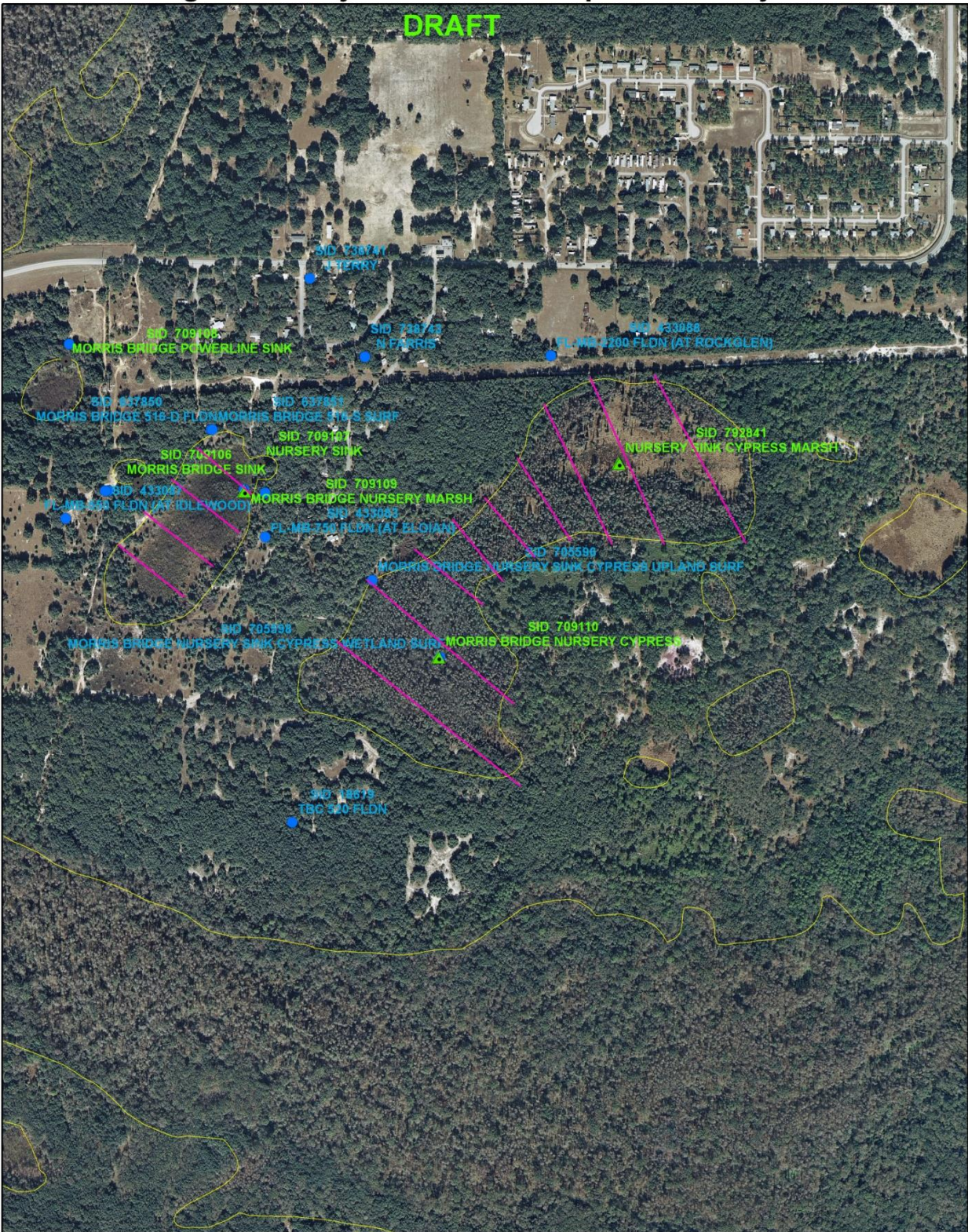


Figure 5.

Attachment A

Topographic data sources for the study area

A Digital Elevation Model (DEM) was produced from Light Detection and Ranging (LiDAR) data collected from 2005 to 2011 for the portion of Hillsborough County where Morris Bridge Sink and the Nursery marsh and cypress wetlands are located; bounded by Morris Bridge Road on the north, approximately two miles north of Fowler Avenue to the south, two miles west of US 301 and one mile east of Interstate 75 in northern Hillsborough County, Florida, comprising an area of roughly 485 acres or three-quarters of a square mile.

Figure 6 in the memorandum by Patterson and Basso (2013) was created to show the topography of the wetlands and surrounding area. Two-foot contours were derived from the District's aerial imagery between 1987 and 1997 as a reference. Using a factor of 0.846 feet obtained from NOAA VERTCON website (http://www.ngs.noaa.gov/cgi-bin/VERTCON/vert_con.prl), the scale for the Digital Elevation Model (DEM) output shown in data the Figure was converted from NAVD88 to NGVD1929 to more closely correspond to hydrologic collected for the area.

Philip G. Jackson,
GIS Staff Analyst
June 6, 2013

EXHIBIT D

WELL COMPLAINT INSTRUCTIONS

The permittee shall adhere to the following process for handling water resource, surface or ground water withdrawal point impact, dewatering complaints, or discharge/seepage of water from their property:

1. Within 48 hours of a complaint received by the Permittee related to their withdrawal or use of water or dewatering activity, the Permittee shall notify FDEP, perform a preliminary investigation to determine whether the Permittee's pumpage, dewatering activity, or discharge/seepage from their property may have caused the problem.
2. If this preliminary assessment indicates that the Permittee may be responsible, the Permittee shall, within 72 hours of complaint receipt, supply the complainant with any water necessary for health and safety purposes, such as drinking water.
3. If the resulting investigation determines that the Permittee was not responsible for the well problem, the Permittee shall document the reasons for this determination.
4. If the detailed investigation confirms that the complainant's problem was caused by the Permittee's pumpage, dewatering, or discharge or water impoundment activities:
 - A. The complainant's problem shall be fully corrected within 15 days of complaint receipt.
 - B. Impacts to wells: Full correction shall be restoration of the complainant's well to pre-impact condition or better, including the aspects of pressure levels, discharge quantity, and water quality. This detailed investigation shall include, but not be limited to, an analysis of water levels and pumpage impacts at the time of the complainant's problem, well and pump characteristics including depths, capacity, pump curves, and irrigation system requirements.
5. The Permittee shall file a report of the complaint, the findings of facts, appropriate technical data, and any mitigating action taken or to be taken by the Permittee, to FDEP, for review and approval within 20 days of the receipt of any complaint. The report shall include:
 - A. The name and address of each complainant;
 - B. The date and nature of the complaint;
 - C. A summary of the Permittee's investigation;
 - D. A summary of the Permittee's determination, including details of any mitigation activities; and
 - E. Cost of mitigation activity for each complaint.
6. A copy of the report shall be sent to the complainant within 20 days of complaint receipt.

Ryan Matthews, Esq.
Director, Office of Water Policy
Florida Department of Environmental Protection

This permit, issued under the provision of Chapter 373, Florida Statutes authorizes the Permittee to withdraw the quantities outlined above, and may require various activities to be performed by the Permittee as described in the permit, including the Special Conditions. The permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the Permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.