



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
STANDARD GENERAL PERMIT NO. 56-03089-P
DATE ISSUED: July 6, 2010**

Form #0941
08/95

PERMITTEE: CITY OF PORT ST LUCIE
121 SW PORT ST LUCIE BLVD
PORT ST LUCIE, FL 34984

PROJECT DESCRIPTION: Construction and operation of the 30 acre Howard Creek and Bur Street stormwater treatment areas (STA) to provide water quality treatment and storm attenuation for the existing developed area upstream of the STAs in the Eastern Watershed Improvement Project.

PROJECT LOCATION: ST LUCIE COUNTY, SEC 13 TWP 37S RGE 40E

PERMIT DURATION: See Special Condition No:1. See attached Rule 40E-4.321, Florida Administrative Code.

This is to notify you of the District's agency action concerning Notice of Intent for Permit Application No. 100322-14, dated March 22, 2010. This action is taken pursuant to Rule 40E-1.603 and Chapter 40E-40, Florida Administrative Code (F.A.C.).

Based on the information provided, District rules have been adhered to and an Environmental Resource General Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing.
2. the attached 19 General Conditions (See Pages : 2 - 4 of 6),
3. the attached 17 Special Conditions (See Pages 5 - 6 of 6) and
4. the attached 2 Exhibit(s)

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the Permittee (and the persons listed in the attached distribution list) no later than 5:00 p.m. on this 6th day of July, 2010, in accordance with Section 120.60(3), Florida Statutes.

BY: Donald R. Loving
Donald R. Loving
Director, Okeechobee/MSL Regulatory Division
Martin / St Lucie Service Center

Certified mail number 7009 2250 0001 5673 2852

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.
5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.
6. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.
7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit

GENERAL CONDITIONS

Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.
9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.
10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..
12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No Notice" Rule.
14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit

GENERAL CONDITIONS

application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.
17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.
18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.
19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on July 6, 2015.
2. Operation of the surface water management system shall be the responsibility of the permittee.
3. Discharge Facilities:

4-2' W X 1.5' H RECTANGULAR NOTCH weirs with crest at elev. 5' NAVD 88.
1-30' WIDE SHARP CRESTED weir with crest at elev. 6.5' NAVD 88.

Receiving body : Howard Creek
Control elev : 5 feet NAVD 88.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.
5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.
6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
7. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.
9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.
11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.
12. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.
13. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such

SPECIAL CONDITIONS

discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

14. This permit does not eliminate the need to obtain any and all necessary easements and rights of way prior to the start of any activity approved herein. This permit does not convey to the permittee, or create for the permittee, any property right, or any interest in real property; nor does it authorize any entrance upon, or activities on, property which is not owned or controlled by the permittee; or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..
15. Silt screens, hay bales, turbidity screens/barriers or other such sediment control measures shall be utilized during construction. The selected sediment control measures shall be installed prior to the commencement of construction in accordance with Exhibit No.2, and shall remain in place until all adjacent construction is completed. All areas shall be stabilized and vegetated immediately after construction to prevent erosion into the surface waters.
16. The authorization for construction of the surface water management system is issued pursuant to the water quality net improvement provisions referenced in Rule Section 40E-4.303(1), Florida Administrative Code; therefore, the state water quality certification is waived.

Water quality treatment provided by the project authorized under this permit application is for the use of the area defined in the application as a retrofit and cannot be applied to new development that may discharge to the project authorized under this permit application.

17. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, and methods of vegetation clearing, construction dewatering with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Martin/St. Lucie Service Center at (772) 223-2600 to schedule the pre-construction meeting.

SCANNED 07062010 LJ

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office.** An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. 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.

If the District takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

ENVIRONMENTAL RESOURCE PERMITS CHAPTER 40E-4

40E-4.321 Duration of Permits

(1) Unless revoked or otherwise modified the duration of an environmental resource permit issued under this chapter or Chapter 40E-40, F.A.C., is as follows:

(a) For a conceptual approval, two years from the date of issuance or the date Environmental Resource Permits - Chapter 40E-4 Effect: November 11, 200926 – (40E-4) specified as a condition of the permit, unless within that period an application for an individual or standard general permit is filed for any portion of the project. If an application for an environmental resource permit is filed, then the conceptual approval remains valid until final action is taken on the environmental resource permit application. If the application is granted, then the conceptual approval is valid for an additional two years from the date of issuance of the permit. Conceptual approvals which have no individual or standard general environmental resource permit applications filed for a period of two years shall expire automatically at the end of the two year period.

(b) For a conceptual approval filed concurrently with a development of regional impact (DRI) application for development approval (ADA) and a local government comprehensive plan amendment, the duration of the conceptual approval shall be two years from whichever one of the following occurs at the latest date:

1. The effective date of the local government's comprehensive plan amendment,
2. The effective date of the local government development order,
3. The date on which the District issues the conceptual approval, or
4. The date on which the District issues a final order pertaining to the resolution of any Section 120.57, F.S., administrative proceeding or other legal appeals.

(c) For an individual or standard general environmental resource permit, the construction phase authorizing construction, removal, alteration or abandonment of a system shall expire five years from the date of issuance or such amount of time as made a condition of the permit.

(d) For an individual or standard general environmental resource permit, the operational phase of the permit is perpetual for operation and maintenance.

(e) For a noticed general permit issued pursuant to Chapter 40E-400, F.A.C., five years from the date the notice of intent to use the permit is provided to the District.

(2)(a) Unless prescribed by special permit condition, permits expire automatically according to the timeframes indicated in this rule. If application for extension is made by electronic mail at the District's ePermitting website or in writing pursuant to subsection

(3), the permit shall remain in full force and effect until:

1. The Governing Board takes action on an application for extension of an individual permit, or
2. Staff takes action on an application for extension of a standard general permit.

(b) Installation of the project outfall structure shall not constitute a vesting of the permit.

(3) The permit extension shall be issued provided that a permittee files a written request with the District showing good cause prior to the expiration of the permit. For the purpose of this rule, good cause shall mean a set of extenuating circumstances outside of the control of the permittee. Requests for extensions, which shall include documentation of the extenuating circumstances and how they have delayed this project, will not be accepted more than 180 days prior to the expiration date.

(4) Substantial modifications to Conceptual Approvals will extend the duration of the Conceptual Approval for two years from the date of issuance of the modification. For the purposes of this section, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different water resource or environmental impacts which require a detailed review.

(5) Substantial modifications to individual or standard general environmental Environmental Resource Permits - Chapter 40E-4 Effect: November 11, 2009 27 – (40E-4) resource permits issued pursuant to a permit application extend the duration of the permit for three years from the date of issuance of the modification. Individual or standard general environmental resource permit modifications do not extend the duration of a conceptual approval.

(6) Permit modifications issued pursuant to paragraph 40E-4.331(2)(b), F.A.C. (letter modifications) do not extend the duration of the permit.

(7) Failure to complete construction or alteration of the surface water management system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization in order to continue construction unless a permit extension is granted.

Specific Authority 373.044, 373.113, 668.003, 668.004, 668.50 FS. Law Implemented 373.413, 373.416, 373.419, 373.426, 668.003, 668.004, 668.50 FS. History—New 9-3-81, Amended 1-31-82, 12-1-82, Formerly 16K-4.07(4), Amended 7-1-86, 4-20-94, 10-3-95, 5-28-00, 10-1-06.

CANNED 07062010 LJ

Last Date For Agency Action: July 20, 2010

GENERAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Ewip - Howard Creek Stormwater Treatment Area

Permit No.: 56-03089-P

Application No.: 100322-14 **Associated File:** 100323-17 WU Concurrent

Application Type: Environmental Resource (New General Permit)

Location: St Lucie County, S13/T37S/R40E

Permittee : City Of Port St Lucie

Operating Entity : City Of Port St Lucie

Project Area: 30.00 acres

Project Land Use: Other

Drainage Basin: NORTH ST LUCIE

Receiving Body: Howard Creek

Class: CLASS III

Special Drainage District: NA

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

This application is a request for an Environmental Resource Permit to authorize construction and operation of the 30 acre Howard Creek and Bur Street stormwater treatment areas (STA) to provide water quality treatment and storm attenuation for the existing developed area upstream of the STAs in the Eastern Watershed Improvement Project.

PROJECT EVALUATION:**PROJECT SITE DESCRIPTION:**

The City of Port St. Lucie Eastern Watershed is defined by four stormwater drainage basins, generally bounded by US-1/Morningside Boulevard to the west, the Ballantrae Subdivision/Martin County line to the south, Green River Parkway/The Savannas to the east and Hog Pen Slough/Port St. Lucie City limits to the north. The four Stormwater Drainage Basins and their major conveyance systems are described in the SFWMD Stormwater Management Permits obtained in the 1980's by General Development Corporation (GDC).

The Howard Creek Drainage Basin (1,200 acres) is bounded by US-1/Morningside Blvd to the west, Lennard Road to the east, Tiffany Avenue to the north and the Ballantrae Subdivision/Martin County line to the south. The primary basin facilities provide major conveyance of stormwater flows from north to south through a system of canals, large stormwater pipes and a natural drainage outfall (Howard Creek). Howard Creek ultimately outfalls into the North Fork of the St. Lucie River through the Ballantrae Subdivision.

The Howard Creek Drainage Basin is further divided into two sub-basins by US-1. As US-1 is a primary evacuation route, it was constructed at a higher elevation than the adjacent properties. Two large box culverts exist under US-1 immediately north and south of the Lennard Road intersection to convey stormwater. These box culverts are not currently utilized to their full capacity because the existing upstream and downstream conveyance systems were designed to lesser storm criteria.

The Howard Creek Stormwater Treatment Area (STA) is located in a previously undeveloped area west of US-1 and east of Carthage Road. The Bur Street STA is located in a previously undeveloped area east of Bur Street and west of the B-40 canal. Please refer to Exhibit 1. There are no permitted surface water management facilities within these project areas. There are no wetlands within or adjacent to the proposed Howard Creek STA. However, there is a small 0.29- acre hydric pine flatwood wetland located within the proposed Bur Street STA.

PROJECT BACKGROUND:

In August 2008, Tropical Storm Fay produced as much as 14-inches of rainfall during a 48-hour period over the City of Port St. Lucie, exceeding the rainfall amounts from Hurricanes Frances and Jeanne in 2004. Further, the August 2008 rainfall exceeded the South Florida Water Management District's (SFWMD) criteria for a 100-year, 3-day storm event, typically utilized to set Finish Floor Elevations. Based on these comparisons, Tropical Storm Fay was a significant rainfall event for the City.

Tropical Storm Fay caused flooding of streets, businesses and residences in Eastern Port St. Lucie, and flooded one of the City's main transportation corridors, U.S. Highway No. 1 (US-1). Therefore, the Port St. Lucie City Council authorized a drainage study to determine the causes of flooding during Tropical Storm Fay and recommend improvements to reduce the impacts of similar rainfall events. This study analyzed four Drainage Basins within Eastern Port St. Lucie; modeled the existing Primary Conveyance Systems of canals, piping and pump facilities within the watershed; and modeled the storm event experienced during Tropical Storm Fay. The study resulted in a list of recommendations for primary stormwater infrastructure improvements throughout the City of Port St. Lucie Eastern Watershed.

With regards to Tropical Storm Fay, the following is a summation of the conditions in the Howard Creek Basin cited by the applicant. The Howard Creek Basin did not have sufficient capacity to handle the volume of excess stormwater from the two upstream basins and therefore, the areas in the vicinity of Lennard Road/Cane Slough Road/Mariposa Avenue/US-1 and downstream to Westmoreland Blvd, experienced roadway, residential home and business finished floor flooding. This flooding also backed-up northward in the Howard Creek Basin and eastward in the Eastport Basins, where neighborhoods experienced street flooding.

In addition to the flood waters from the adjacent basins, the Howard Creek Basin flooding was attributed to the current, limited discharge capacity of the Howard Creek outfall south of US-1, reduced in part due to the vegetation overgrowth. In addition, the debris created from the storm event combined to create a high tailwater effect that greatly reduced the flow from the upstream storm system and severely limited the discharge capacity into the North Fork of the St. Lucie River.

PROPOSED PROJECT:

The proposed Howard Creek Stormwater Treatment Area (STA) improvement consists of the construction of a 19-acre STA (marsh flow way) on a City of Port St. Lucie-owned property and re-alignment of the existing Howard Creek channel to the center of the platted drainage right-of-way for the area immediately downstream from the STA. Construction of the STA will include a weir and regrading of the County Line Ditch from the west side of the existing US-1 Box Culverts to the STA to ensure positive drainage into the STA. Please refer to Exhibit 2.1 [ten pages].

The re-alignment of the existing Howard Creek channel and regrading of the County Line ditch is intended to restore the historic conveyance capacity and reduce the tailwater effects on the upstream drainage basins. The construction of the STA provides additional detention storage and water quality treatment for the upstream drainage basins north of the Lennard Road/US-1 intersection and, consequently, will improve water quality treatment and provide storm attenuation of Howard Creek stormwater flows to the North Fork of the St. Lucie River Estuary. This improvement will be constructed on City owned property and within the existing Howard Creek drainage right-of-way and no additional property is to be acquired.

The Bur Street STA improvement consists of the installation of culverts/ditches for the Giffen Avenue neighborhood, the installation of larger culverts and inlets under Westmoreland Boulevard and Pyramid Road in the B-34 Canal, and construction of a 3.7 acre STA located east of Bur Street to provide water quality treatment and storm attenuation. Please refer to Exhibit 2.1, pages 5 and 6 of 10. Note that the Bur Street STA can overflow to the B-40 canal (northeast), or through the proposed 18-inch culvert to the canal at the northern boundary of Ballantrae Golf Club.

The Level of Service (LOS) criteria that were used in evaluating proposed modifications to the stormwater systems within the Howard Creek drainage basin are as follows: The pre vs. post- modification peak discharge rates could not be increased. The Finished Floor Elevations of structures should be at or above the flood elevation of a 100-year, 3-day storm event. Roads should have no greater than 8-inches of stormwater over the crown of the road, 12 hours after the peak stage in a 100-year, 3-day storm event to allow for safe passage.

The Construction Plans/Specifications and Staff Report elevations are referenced to North American Vertical Datum of 1988 (NAVD88); the Drainage Report and flood routings are referenced to National Geodetic Vertical Datum of 1929 (NGVD29). Add 1.48 feet to the NAVD88 elevations to convert to NGVD29 elevations.

WATER QUANTITY :

Discharge Rate :

The applicant's engineer has provided an analysis to demonstrate that the peak flow rate to Howard Creek and the North Fork of the St Lucie River, resulting from the 25 year 3 day storm within the project area, given the proposed surface water management system improvements, will decrease over the historical peak flow rate. Please see the pre vs post design storm summary table [Exhibit 2.2, three pages] for additional detail. In particular, please refer to change in discharge rate for Sub-basin HD03 HOWARD CK / Z-STA Outfall.

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NAVD 88)	WSWT Ctrl Elev (ft, NAVD 88)	Method Of Determination
HD03-Howard CK	43.40	5	5.00	Wet Season Soil Borings

Receiving Body :

Basin	Str.#	Receiving Body
Hd03-Howard Ck	CS-1	Howard Creek

Discharge Structures: Note: The units for all the elevation values of structures are (ft, NAVD 88)

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
HD03-Howard CK	CS-1	1	Sharp Crested	30'				6.5 (crest)
HD03-Howard CK	CS-1	4	Rectangular Notch	2'	1.5'			5 (crest)

WATER QUALITY :

No adverse water quality impacts are anticipated as a result of the proposed project. The project is designed to provide a net improvement to the water quality entering Howard Creek and ultimately the North Fork of the St. Lucie River from an existing urban area.

The applicant has stated that the proposed STA's will provide approximately 18.4 acre-feet of additional water quality treatment over approximately 1,344 acres of existing urban development.

Silt screens, hay bales, turbidity screens/barriers or other such sediment control measures shall be utilized during construction. The selected sediment control measures shall be installed prior to the commencement of construction in accordance with Exhibit No.2, and shall remain in place until all adjacent construction is completed. All areas shall be stabilized and vegetated immediately after construction to prevent erosion into the surface waters.

Future development may not rely upon the water quality treatment being provided in the proposed system to meet District permitting requirements and shall provide water quality treatment and attenuation for any proposed development or re-development in the basins (see Special Conditions).

The authorization for construction of the surface water management system is issued pursuant to the water quality net improvement provisions referenced in Rule Section 40E-4.303(1), Florida Administrative Code; therefore, the state water quality certification is waived (see Special Conditions).

WETLANDS:

The proposed Burr Street STA contains a small 0.29- acre hydric pine flatwoods wetland. The wetland is surrounded by roads and residential communities. Bahia grass and Andropogon virginicus are the dominant species. In its current condition, the wetland provides little function. The applicant proposes to excavate the wetland as part of the STA construction. Since the wetland is less than one half acre in size in accordance with Rule 4.2.2.1 B.O.R, no mitigation is required.

CANNED 07062010 LJ

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

07062010 11:11

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that irrigation will not be necessary for the project at this time. Planting plan will be irrigated using water trucks.

The applicant has indicated that dewatering is required for construction of this project. Application # 100323-17 has been submitted and is being processed concurrently with this application.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation, unless the work qualifies for a No-Notice Short-Term Dewatering permit pursuant to Chapter 40E-20.302(3) or is exempt pursuant to Section 40E-2.051, FAC.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

None required.

Waste Water System/Supplier:

None required.

Right-Of-Way Permit Status:

A District Right-of-Way Permit is not required for this project.

DRI Status:

This project is not a DRI.

Historical/Archeological Resources:

The District has received correspondence from the Florida Department of State, Division of Historical Resources indicating that the agency has no objections to the issuance of this permit.

DCA/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF REVIEW:

CANNED 07062010 LJ

DIVISION APPROVAL:

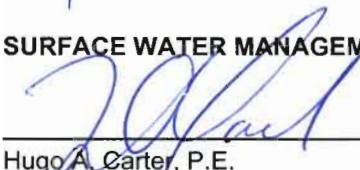
NATURAL RESOURCE MANAGEMENT:



Melinda Parrott

DATE: June 30, 2010

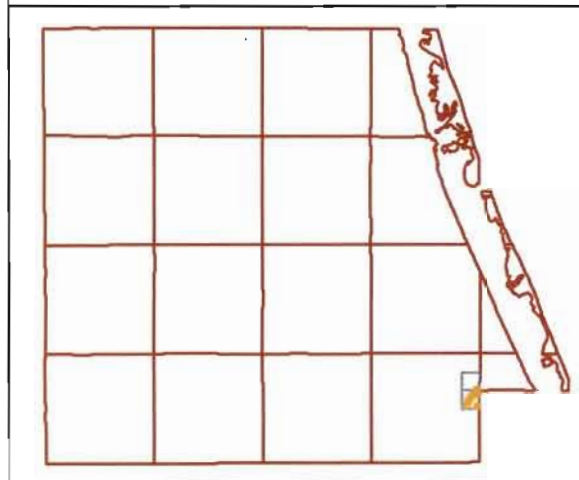
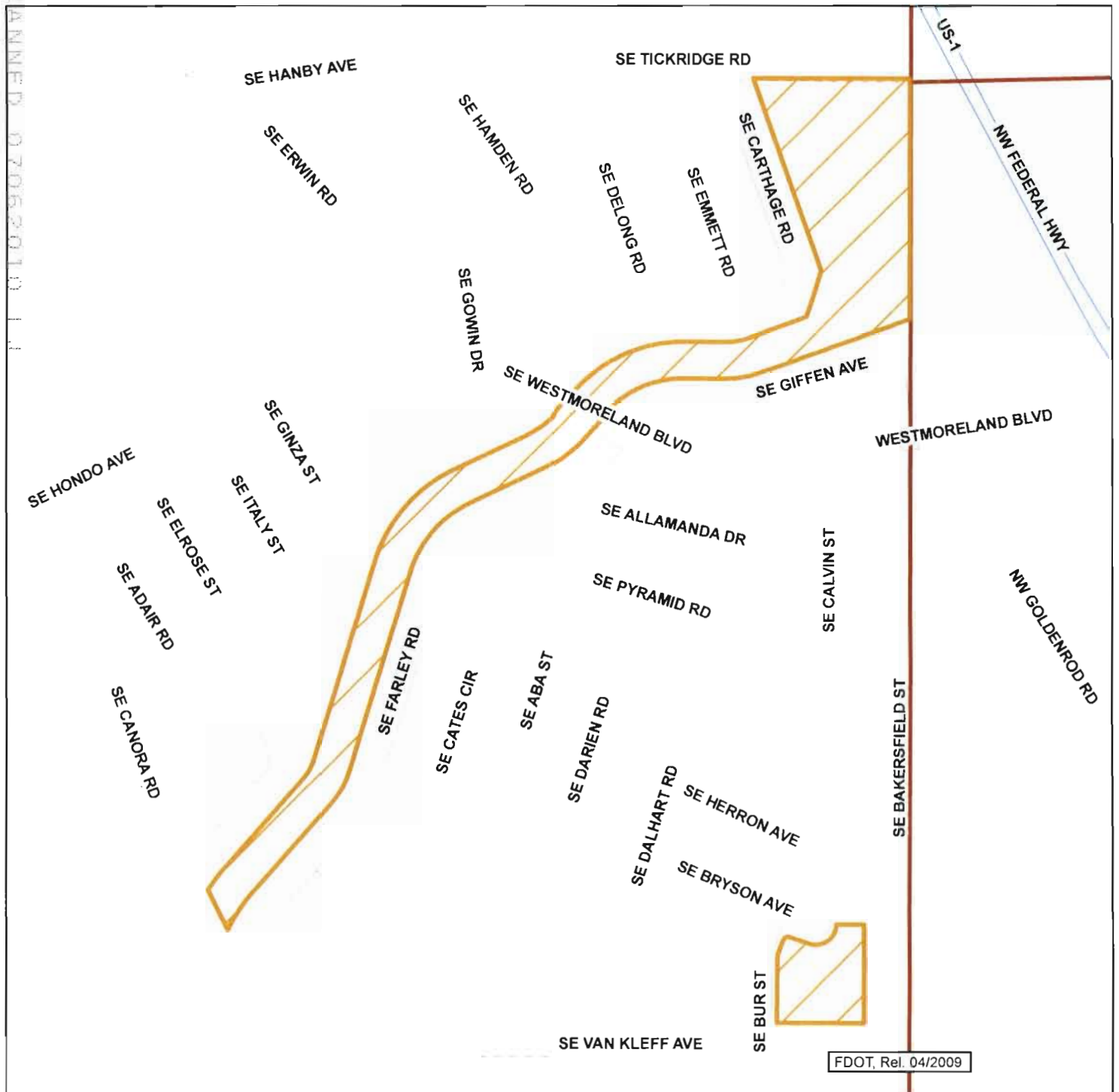
SURFACE WATER MANAGEMENT:



Hugo A. Carter, P.E.

DATE: 2 July 10

SCANNED 07062010 11



ST LUCIE COUNTY, FLORIDA

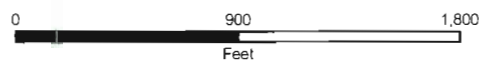
Legend

 Application

Application Number: 100322-14

Permit Number:

Project Name: EWIP - HOWARD CREEK STORMWATER RETROFIT



Map Date: 6/25/2010

Exhibit : 1

CONSTRUCTION PLANS AND SPECIFICATIONS OF EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP) HOWARD CREEK STORMWATER RETROFIT FOR CITY OF PORT ST. LUCIE LYING IN SEC. 13, TWP. 37 S., RNG. 40 E. ST. LUCIE COUNTY, FLORIDA

NOTE: THESE PLANS ARE IN ENGLISH UNITS

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE
STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION:

DESIGN STANDARDS DATED 2010.

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
CONSTRUCTION DATED 2007.

THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN,
CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS
(GREENBOOK) DATED MAY, 2007.



LOCATION MAP



CITY OFFICIALS

MAYOR
VICE MAYOR
COUNCILWOMAN
COUNCILMAN
COUNCILWOMAN

PATRICIA P. CHRISTENSEN
JACK KELLY
MICHELLE BERGER
CHRISTOPHER COOPER
LINDA BARTZ

INTERIM CITY MANAGER
CITY ENGINEER

JERRY BENTROTT
PATRICIA ROEBLING, P.E.

ENGINEER

MR. JOSEPH W. CAPRA, P.E.
CAPTEC ENGINEERING, INC.
301 NW FLAGLER AVENUE, STE. 201
STUART, FLORIDA 34994
PHONE: (772) 692-4344
FAX: (772) 692-4341
P.E. NO. 37638



Civil Engineering Professionals

Engineering Business
No. EB-0007857

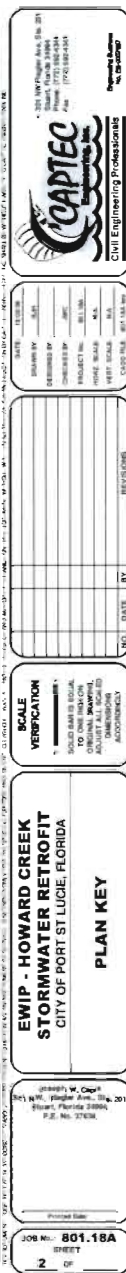


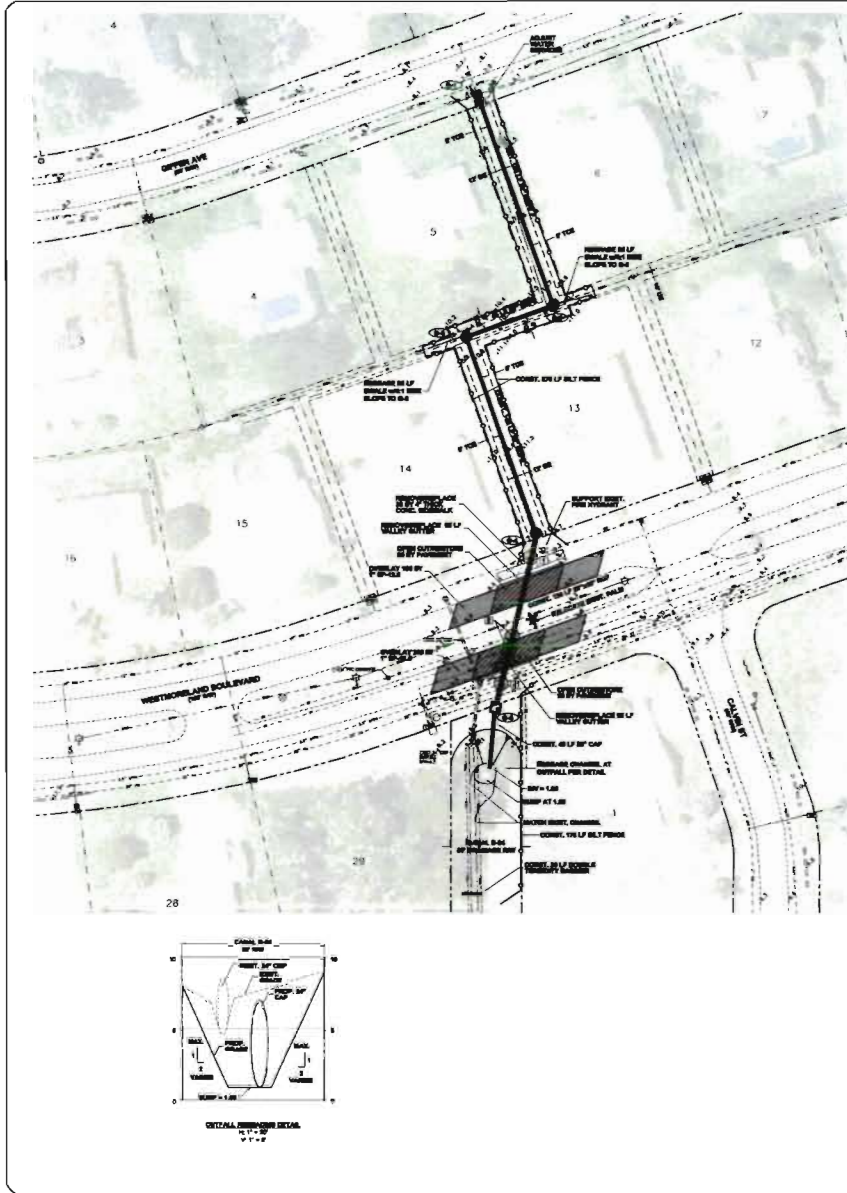
VICINITY MAP

SHEET INDEX

SHEET NUMBER	SHEET TITLE/DESCRIPTION
1	COVER SHEET
2	PLAN KEY
3 - 4	HOWARD CREEK STA
5	GIFFEN AVENUE BYPASS
6	BUR STA
7	DETAILS
8	GENERAL NOTES
D1 - D2	CLEARING, EROSION CONTROL, & DEWATERING PLAN

PROJECT NO. 801.18A
EWIP - HOWARD CREEK STORMWATER RETROFIT

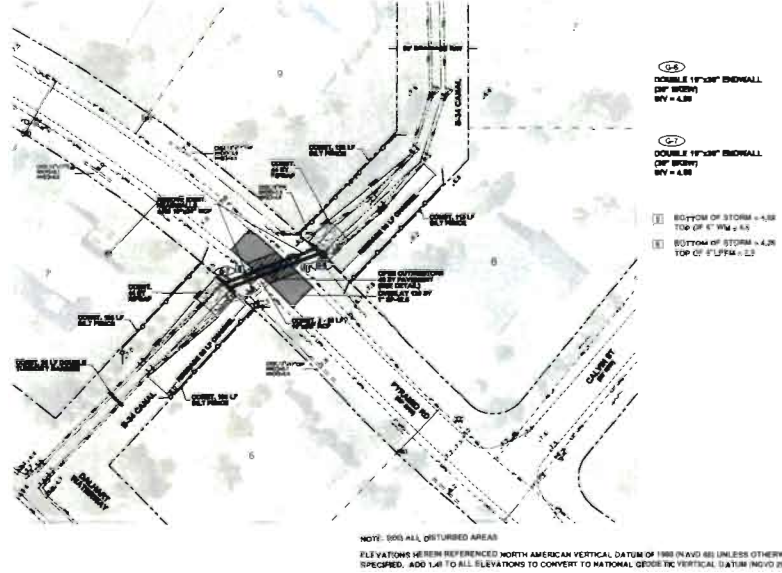




- (G-1)**
TYPE E INLET, TYPE J BOTTOM
18" x 24" INLET SLOTS AT 7.80
GRATE ELEV = 7.80
RV = 3.00
- (G-2)**
TYPE E INLET, TYPE J BOTTOM
18" x 24" INLET SLOTS AT 19.30
GRATE ELEV = 19.30
RV = 3.00
- (G-3)**
TYPE E INLET, TYPE J BOTTOM
18" x 24" INLET SLOTS AT 14.00
GRATE ELEV = 14.00
RV = 3.00
- (G-4)**
TYPE E INLET, TYPE J BOTTOM
18" x 24" INLET SLOTS AT 9.30
GRATE ELEV = 9.30
RV = 3.00
- (G-5)**
MANHOLE TYPE J-6
COVER ELEV = 8.75 (ADJUST IN FIELD)
INVERT = 4.30
RV = 1.30

- 1 BOTTOM OF 18" RM = 5.8
TOP OF STORM = 4.40
- 2 STORM UNDER 10' x 4' PVC CONDUITS & TELEPHONE LINES
STORM UNDER BURIED ELECTRIC LINES
- 3 BOTTOM OF 18" RM = 6.7
TOP OF STORM = 5.30
- 4 BOTTOM OF 24" RM = 1.4
TOP OF STORM = 1.00
STORM UNDER BURIED TELEPHONE LINES

NOTE: CONTRACTOR TO LOCATE, VERIFY AND CORROBORATE ADJUSTMENT OF ALL OBTAINED UTILITIES AND ALL UTILITIES IN CONFLICT



NOTE: SEE ALL DISTURBED AREAS

ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.48 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODESIC VERTICAL DATUM (NGVD 83).

APPENDIX 11A (REVISED 2011) 11A-11A (REVISED 2011) 11A-11A (REVISED 2011) CAPTEC Engineering, Inc. Checked and Approved By

SCALE
VERIFICATION
1" = 100'

**EWIP - HOWARD CREEK
STORMWATER RETROFIT
CITY OF PORT ST. LUCIE, FLORIDA
GIFFEN AVENUE BYPASS**

Project No. 801.18A
SHEET 5 OF 8

8

CALL 48 HOURS BEFORE
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ORDER OF EXCAVATION

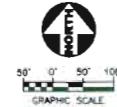
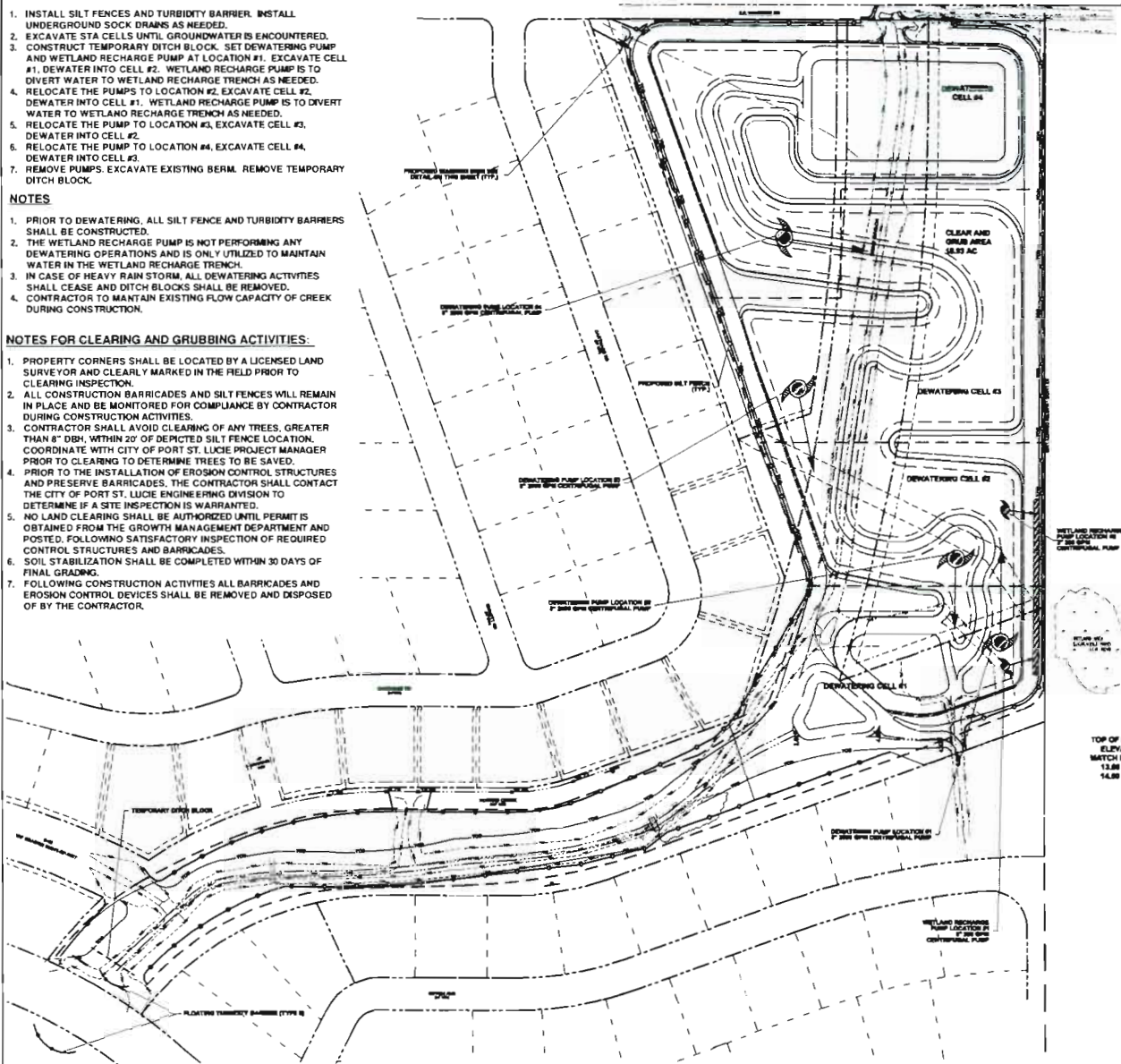
1. INSTALL SILT FENCES AND TURBIDITY BARRIER. INSTALL UNDERGROUND SOCK DRAINS AS NEEDED.
2. EXCAVATE STA CELLS UNTIL GROUNDWATER IS ENCOUNTERED.
3. CONSTRUCT TEMPORARY DITCH BLOCK. SET DEWATERING PUMP AND WETLAND RECHARGE PUMP AT LOCATION #1. EXCAVATE CELL #1. DEWATER INTO CELL #2. WETLAND RECHARGE PUMP IS TO DIVERT WATER TO WETLAND RECHARGE TRENCH AS NEEDED.
4. RELOCATE THE PUMPS TO LOCATION #2. EXCAVATE CELL #2. DEWATER INTO CELL #1. WETLAND RECHARGE PUMP IS TO DIVERT WATER TO WETLAND RECHARGE TRENCH AS NEEDED.
5. RELOCATE THE PUMP TO LOCATION #3. EXCAVATE CELL #3. DEWATER INTO CELL #2.
6. RELOCATE THE PUMP TO LOCATION #4. EXCAVATE CELL #4. DEWATER INTO CELL #3.
7. REMOVE PUMPS. EXCAVATE EXISTING BERM. REMOVE TEMPORARY DITCH BLOCK.

NOTES

1. PRIOR TO DEWATERING, ALL SILT FENCE AND TURBIDITY BARRIERS SHALL BE CONSTRUCTED.
2. THE WETLAND RECHARGE PUMP IS NOT PERFORMING ANY DEWATERING OPERATIONS AND IS ONLY UTILIZED TO MAINTAIN WATER IN THE WETLAND RECHARGE TRENCH.
3. IN CASE OF HEAVY RAIN STORM, ALL DEWATERING ACTIVITIES SHALL CEASE AND DITCH BLOCKS SHALL BE REMOVED.
4. CONTRACTOR TO MAINTAIN EXISTING FLOW CAPACITY OF CREEK DURING CONSTRUCTION.

NOTES FOR CLEARING AND GRUBBING ACTIVITIES:

1. PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO CLEARING INSPECTION.
2. ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY CONTRACTOR DURING CONSTRUCTION ACTIVITIES.
3. CONTRACTOR SHALL AVOID CLEARING OF ANY TREES, GREATER THAN 8" DBH, WITHIN 20' OF DEPICTED SILT FENCE LOCATION. COORDINATE WITH CITY OF PORT ST. LUCIE PROJECT MANAGER PRIOR TO CLEARING TO DETERMINE TREES TO BE SAVED.
4. PRIOR TO THE INSTALLATION OF EROSION CONTROL STRUCTURES AND PRESERVE BARRICADES, THE CONTRACTOR SHALL CONTACT THE CITY OF PORT ST. LUCIE ENGINEERING DIVISION TO DETERMINE IF A SITE INSPECTION IS WARRANTED.
5. NO LAND CLEARING SHALL BE AUTHORIZED UNTIL PERMIT IS OBTAINED FROM THE GROWTH MANAGEMENT DEPARTMENT AND POSTED. FOLLOWING SATISFACTORY INSPECTION OF REQUIRED CONTROL STRUCTURES AND BARRICADES.
6. SOIL STABILIZATION SHALL BE COMPLETED WITHIN 30 DAYS OF FINAL GRADING.
7. FOLLOWING CONSTRUCTION ACTIVITIES ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.



LEGEND:

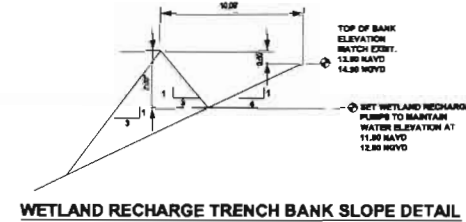
- DEWATERING PHASE BOUNDARY
- PUMP AND DIRECTION OF FLOW
- - - PROPOSED SILT FENCE
- - - PROPOSED TURBIDITY BARRIER
- ▲ WARNING SIGN LOCATIONS
- ▨ RECHARGE TRENCH AREA
- CLEAR AND GRUB AREA

DEWATERING PUMPING OPERATIONS:

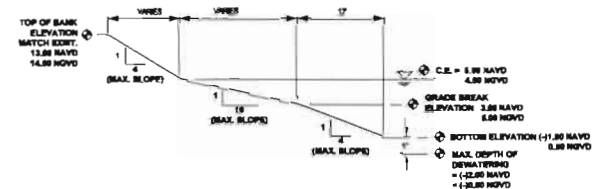
AVERAGE DAILY PUMPAGE
 A SINGLE (1) 1,500 GPM 1" DISCHARGE PUMP
 OPERATING AT 80% MAXIMUM CAPACITY FOR AN
 AVERAGE PUMPING RATE OF
 2,500 GPM x 80% = 1 PUMP x 2,000 GPM
 FOR A TOTAL OF 1,440,000 GPD

MAXIMUM DAILY PUMPAGE
 A SINGLE (1) 1,500 GPM 1" DISCHARGE PUMP
 OPERATING AT 100% MAXIMUM CAPACITY FOR A
 MAXIMUM PUMPING RATE OF
 2,500 GPM x 100% = 1 PUMP x 2,500 GPM
 FOR A TOTAL OF 1,680,000 GPD

TOTAL PUMPAGE
 TOTAL PUMPAGE ÷ AVG DAILY 240 DAYS
 = 1.22 MGPD x 240 DAYS
 = 292,800 GALLONS



WETLAND RECHARGE TRENCH BANK SLOPE DETAIL



TYPICAL WET DETENTION AREA BANK SLOPE DETAIL



SIGN DETAIL

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1-800-432-4770
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 SUNSHINE STATE ONE CALL
 OF FLORIDA, INC.

ELEVATIONS HEREIN REFERENCED NORTH
 AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
 UNLESS OTHERWISE SPECIFIED



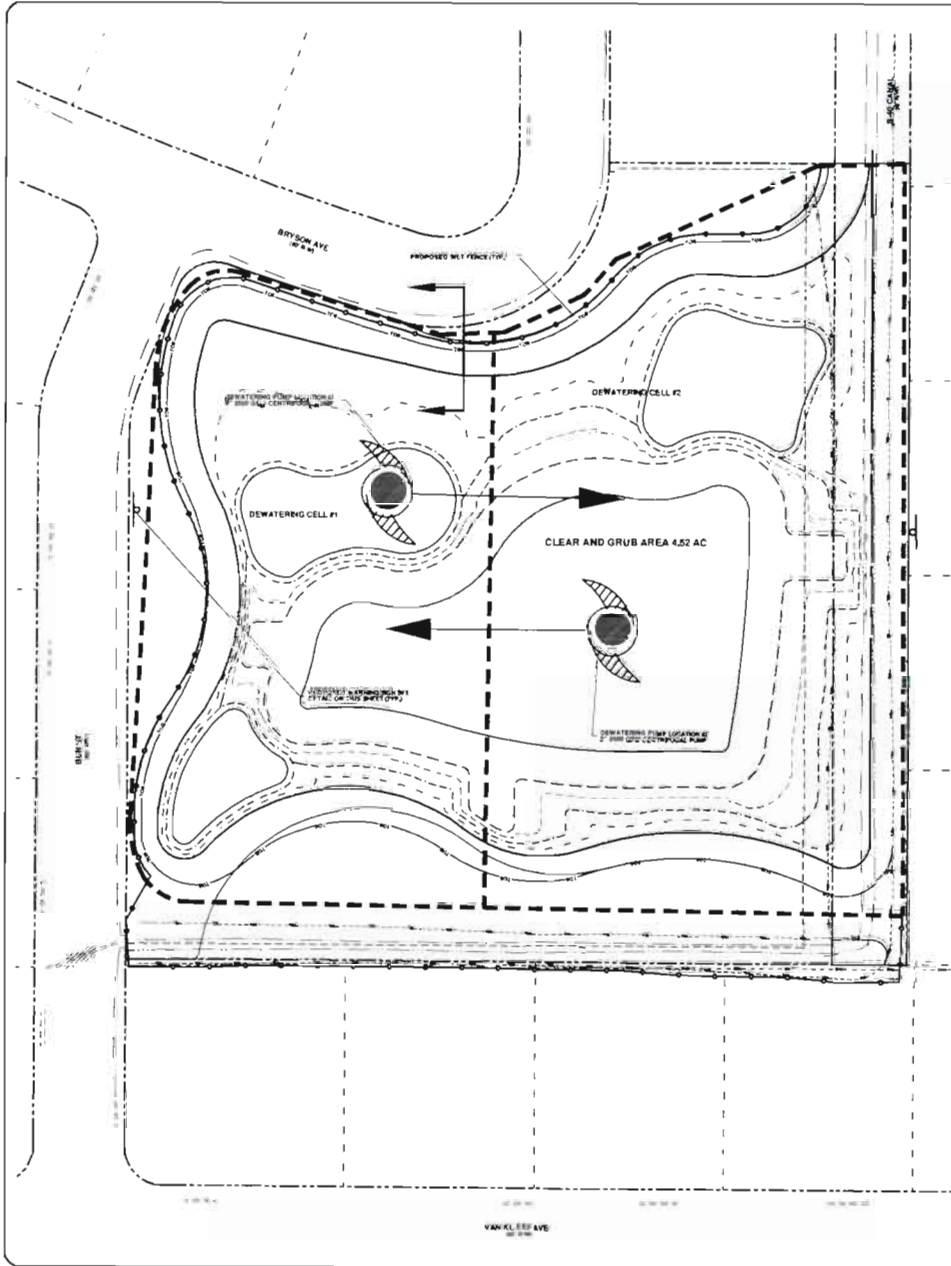
DATE	BY	APP'D	REV
5/21/2010	AW		
5/21/2010	AW		
5/21/2010	AW		
5/21/2010	AW		
5/21/2010	AW		

SCALE
 VERIFICATION
 1" = 10' HORIZONTAL
 1" = 2' VERTICAL
 ALL DIMENSIONS
 UNLESS OTHERWISE
 SPECIFIED

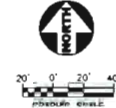
**EWIP - HOWARD CREEK
 STORMWATER RETROFIT**
 CITY OF PORT ST. LUCIE, FLORIDA
**HOWARD CREEK STA
 CLEARING, EROSION CONTROL
 & DEWATERING PLAN**

Prepared By: [Signature]
 Checked By: [Signature]
 Date: 5/21/2010
 P.E. No. 27038

JOB No. **801.18A**
 SHEET
D1 OF **2**



DEWATERING PUMPING OPERATIONS:
AVERAGE DAILY PUMPAGE
 A SINGLE (1) 2,500 GPM 8" DISCHARGE PUMP
 OPERATING AT 80% MAXIMUM CAPACITY FOR AN
 AVERAGE PUMPING RATE OF
 2,000 GPM $\times$ 40% $\times$ 1 PUMP = 1,000 GPM
 FOR A TOTAL OF 1,000,000 GPD
MAXIMUM DAILY PUMPAGE
 A SINGLE (1) 2,500 GPM 8" DISCHARGE PUMP
 OPERATING AT 80% MAXIMUM CAPACITY FOR A
 MAXIMUM PUMPING RATE OF
 2,500 GPM $\times$ 80% $\times$ 1 PUMP = 2,000 GPM
 FOR A TOTAL OF 2,000,000 GPD
TOTAL PUMPAGE
 TOTAL PUMPAGE $\times$ AVG DAILY $\times$ 60 DAYS
 = 1.44 MG $\times$ 60 DAYS
 = 86,400,000 GALLONS



LEGEND:

- DEWATERING PHASE BOUNDARY
- PUMP AND DIRECTION OF FLOW
- PROPOSED SILT FENCE
- PROPOSED TURBIDITY BARRIER
- WARNING SIGN LOCATIONS
- RECHARGE TRENCH AREA
- CLEAR AND GRUB AREA

ORDER OF EXCAVATION

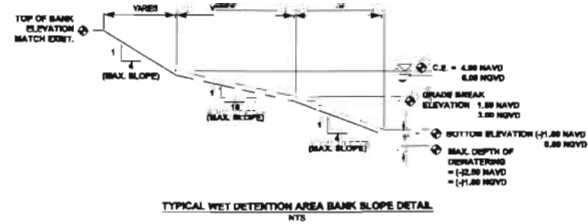
1. INSTALL SILT FENCES AND TURBIDITY BARRIER, INSTALL UNDERGROUND SOCK DRAINS.
2. EXCAVATE STA CELLS UNTIL GROUNDWATER IS ENCOUNTERED.
3. SET DEWATERING PUMP AT LOCATION #1. EXCAVATE CELL #1. DEWATER INTO CELL #2.
4. RELOCATE THE PUMP TO LOCATION #2. EXCAVATE CELL #2. DEWATER INTO CELL #1.
5. REMOVE PUMPS. EXCAVATE EXISTING BERM. REMOVE TEMPORARY DITCH BLOCK.

NOTES:

1. PRIOR TO DEWATERING, ALL SILT FENCE AND TURBIDITY BARRIERS SHALL BE CONSTRUCTED.
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NOTES FOR CLEARING AND GRUBBING ACTIVITIES:

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6. SOIL STABILIZATION SHALL BE COMPLETED WITHIN 30 DAYS OF FINAL GRADING.
7. FOLLOWING CONSTRUCTION ACTIVITIES ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.



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 SUNSHINE STATE ONE CALL
 OF FLORIDA, INC.

ELEVATION
 AMERICAN
 UNLESS OTHERWISE SPECIFIED

1320 NW Highway Ave, Suite 100
 Ft. Lauderdale, FL 33304
 Phone: (772) 884-3344
 Fax: (772) 884-3344

DATE: 5/21/2010	DRAWN BY: JTB	CHECKED BY: JTB	PROJECT NO.: 100322-14	SHEET NO.: 2
PROJECT NAME: BUR STREET STA CLEARING, EROSION CONTROL & DEWATERING PLAN				

SCALE:

VERIFICATION:

1 SOLID BARS IS EQUAL TO 100' ON THE GROUND

AS SHOWN ON ALL SHEETS

EWIP - HOWARD CREEK STORMWATER RETROFIT CITY OF PORT ST. LUCIE, FLORIDA

BUR STREET STA CLEARING, EROSION CONTROL & DEWATERING PLAN

DESIGNED BY: JTB

CHECKED BY: JTB

APPROVED BY: JTB

DATE: 5/21/2010

PROJECT NO.: 100322-14

SHEET NO.: 2

Exhibit 10 - EASTERN WATERSHED STORMWATER STUDY

SUMMARY OF PRE-IMPROVED AND PROPOSED BASIN ANALYSIS

Note: Stages/Discharges in green reflect a decrease or acceptable LOS, while those in red reflect an increase or unacceptable LOS.

Sub-Basin Name	Minimum Road Crown (ft - NGVD)	Minimum FFE EI (ft - NGVD)	Storm Event	Maximum Stage Pre-Improved (ft - NGVD)	Maximum Stage Proposed (ft - NGVD)	Change in Stage (ft-NGVD)	Pre Max. Road Flood (100Y) (ft)	Prop. Max. Road Flood (100Y) (ft)	Pre Max. FFE Flood (100Y) (ft)	Prop. Max. FFE Flood (100Y) (ft)	Maximum Discharge Pre-Improved (CFS)	Maximum Discharge Proposed (CFS)	Change in Discharge (CFS)
EP 2-07	17.3	18.8	010YR1D	16.45	16.45	0.00	-0.80	-0.80	-2.30	-2.30	98.3	21.7	-77
EP 2-07	17.3	18.8	025YR3D	17.16	17.16	0.00	-0.09	-0.09	-1.60	-1.60	147.4	48.2	-99
EP 2-07	17.3	18.8	100YR3D	17.49	17.49	0.00	0.24	0.24	-1.26	-1.26	172.9	60.6	-112
EP 2-08	17.0	18.5	010YR1D	16.44	16.44	0.00	-0.51	-0.51	-2.01	-2.01	91.5	94.7	3
EP 2-08	17.0	18.5	025YR3D	17.14	17.14	0.00	0.19	0.19	-1.31	-1.31	205.5	198.9	-7
EP 2-08	17.0	18.5	100YR3D	17.47	17.47	0.00	0.52	0.52	-0.98	-0.98	275.0	238.9	-36
EP 2-09	17.6	19.1	010YR1D	16.40	16.40	0.00	-1.20	-1.20	-2.70	-2.70	0.5	33.3	33
EP 2-09	17.6	19.1	025YR3D	17.09	17.09	0.00	-0.51	-0.51	-2.01	-2.01	2.8	44.4	42
EP 2-09	17.6	19.1	100YR3D	17.51	17.51	0.00	-0.09	-0.09	-1.59	-1.59	4.6	48.2	44
EP 2-10	17.4	18.9	010YR1D	16.37	16.37	0.00	-1.03	-1.03	-2.53	-2.53	75.0	75.0	0
EP 2-10	17.4	18.9	025YR3D	16.95	16.95	0.00	-0.45	-0.45	-1.95	-1.95	132.7	132.7	0
EP 2-10	17.4	18.9	100YR3D	17.23	17.23	0.00	-0.17	-0.17	-1.67	-1.67	177.1	177.1	0
EP 2-11	17.7	19.2	010YR1D	16.33	16.33	0.00	-1.37	-1.37	-2.87	-2.87	391.9	98.3	-294
EP 2-11	17.7	19.2	025YR3D	16.72	16.72	0.00	-0.98	-0.98	-2.48	-2.48	905.6	147.4	-758
EP 2-11	17.7	19.2	100YR3D	16.95	16.95	0.00	-0.75	-0.75	-2.25	-2.25	1156.6	173.0	-984
EP 2-12	17.2	18.7	010YR1D	16.35	16.35	0.00	-0.80	-0.80	-2.30	-2.30	229.7	91.5	-138
EP 2-12	17.2	18.7	025YR3D	16.84	16.84	0.00	-0.31	-0.31	-1.82	-1.82	556.3	205.5	-351
EP 2-12	17.2	18.7	100YR3D	17.03	17.03	0.00	-0.12	-0.12	-1.62	-1.62	789.7	274.9	-515
EP 2-SH	18.2	21.0	010YR1D	16.50	16.50	0.00	-1.70	-1.70	-4.50	-4.50	0.5	0.5	0
EP 2-SH	18.2	21.0	025YR3D	17.48	17.48	0.00	-0.72	-0.72	-3.52	-3.52	0.2	2.8	3
EP 2-SH	18.2	21.0	100YR3D	17.96	17.96	0.00	-0.24	-0.24	-3.04	-3.04	13.3	4.6	-9
HD00-TW			010YR1D	4.00	4.00						543.5	433.0	-111
HD00-TW			025YR3D	4.00	4.00						1187.3	939.0	-248
HD00-TW			100YR3D	4.00	4.00						1538.2	1263.1	-275
HD01-HOWARD CK	N/A	9.8	010YR1D	6.05	5.33	-0.72	N/A	N/A	-3.75	-4.47	411.0	267.6	-123
HD01-HOWARD CK	N/A	9.8	025YR3D	7.10	6.67	-0.43	N/A	N/A	-2.70	-3.13	911.7	671.3	-240
HD01-HOWARD CK	N/A	9.9	100YR3D	7.52	7.13	-0.39	N/A	N/A	-2.28	-2.67	1166.1	924.3	-242
HD02-HOWARD CK	9.5	11.0	010YR1D	6.14	5.40	-0.74	-3.36	-4.10	-4.86	-5.60	293.4	114.3	-179
HD02-HOWARD CK	9.5	11.0	025YR3D	7.27	6.79	-0.49	-2.23	-2.72	-3.73	-4.22	557.0	429.8	-127
HD02-HOWARD CK	9.5	11.0	100YR3D	7.73	7.28	-0.45	-1.77	-2.22	-3.27	-3.72	787.2	584.5	-203
Z-STA-OUTFALL	12.0	13.5	010YR1D	7.98	5.52	-2.46	-4.02	-6.48	-5.47	-7.93	203.2	43.4	-160
Z-STA-OUTFALL	12.0	13.5	025YR3D	10.01	8.53	-1.47	-1.98	-3.47	-3.44	-4.92	431.5	393.0	-39
Z-STA-OUTFALL	12.0	13.5	100YR3D	11.69	9.33	-2.36	-0.91	-2.67	-1.76	-4.12	724.1	535.9	-188
HD03-Howard Ck	12.0	13.5	010YR1D	7.98	7.87	-0.11	-4.02	-4.13	-5.52	-5.63	203.2	41.0	-162
HD03-Howard Ck	12.0	13.5	025YR3D	10.01	10.29	0.29	-1.99	-1.71	-3.49	-3.21	431.5	392.8	-39
HD03-Howard Ck	12.0	13.5	100YR3D	11.69	11.11	-0.58	-0.31	-0.89	-1.81	-2.39	724.1	535.5	-189
HD04-HOWARD CK	13.0	14.5	010YR1D	7.97	8.95	0.97	-5.03	-4.05	-6.53	-5.55	0.3	35.3	35
HD04-HOWARD CK	13.0	14.5	025YR3D	10.00	11.43	1.43	-3.00	-1.57	-4.50	-3.07	0.2	138.8	139
HD04-HOWARD CK	13.0	14.5	100YR3D	11.69	12.48	0.78	-1.31	-0.53	-2.81	-2.03	13.3	192.9	180

*NOTE: EXISTING CONDITIONS MODELING FOR THE 100 YEAR, 3-DAY STORM STAGE ARE APPROXIMATELY 15.9 NGVD MIN FOR BASINS EAST OF US 1.

Exhibit 10 - EASTERN WATERSHED STORMWATER STUDY

SUMMARY OF PRE-IMPROVED AND PROPOSED BASIN ANALYSIS

Note: Stages/Discharges in green reflect a decrease or acceptable LOS, while those in red reflect an increase or unacceptable LOS.

Sub-Basin Name	Minimum Road Crown (ft - NGVD)	Minimum FFE EI (ft - NGVD)	Storm Event	Maximum Stage		Change in Stage (ft-NGVD)	Pre Max. Road Flood (100Y) (ft)	Prop. Max. Road Flood (100Y) (ft)	Pre Max. FFE Flood (100Y) (ft)	Prop. Max. FFE Flood (100Y) (ft)	Maximum Discharge Pre-Improved (CFS)	Proposed (CFS)	Change in Discharge (CFS)
HD18-OLD WALMT	15.0	17.6	010YR1D	15.02	15.02	0.00	0.02	0.02	-2.58	-2.58	93.5	2.8	-91
HD18-OLD WALMT	15.0	17.6	025YR3D	15.90	15.87	-0.03	0.90	0.87	-1.70	-1.73	272.8	5.7	-267
HD18-OLD WALMT	15.0	17.6	100YR3D	16.18	16.14	-0.04	1.18	1.14	-1.42	-1.47	351.7	6.6	-345
HD19-AUTOZONE	15.0	17.7	010YR1D	14.60	14.60	0.00	-0.39	-0.39	-3.09	-3.09	200.4	0.4	-200
HD19-AUTOZONE	15.0	17.7	025YR3D	15.36	15.27	-0.09	0.37	0.28	-2.33	-2.42	200.4	0.8	-200
HD19-AUTOZONE	15.0	17.7	100YR3D	15.69	15.57	-0.12	0.70	0.58	-2.00	-2.12	200.4	1.0	-199
HD20-JENNING RV	14.3	17.0	010YR1D	12.72	12.65	-0.07	-1.58	-1.65	-4.28	-4.35	154.8	0.7	-154
HD20-JENNING RV	14.3	17.0	025YR3D	15.00	14.62	-0.37	0.69	0.32	-2.01	-2.38	322.5	3.1	-319
HD20-JENNING RV	14.3	17.0	100YR3D	15.33	15.17	-0.15	1.03	0.87	-1.68	-1.83	393.8	8.3	-386
HD21-LENNARD N	14.0	15.3	010YR1D	13.41	12.62	-0.79	-0.59	-1.36	-1.92	-2.71	38.9	22.4	-17
HD21-LENNARD N	14.0	15.3	025YR3D	15.22	15.01	-0.21	1.22	1.01	-0.11	-0.32	55.2	288.2	233
HD21-LENNARD N	14.0	15.3	100YR3D	15.50	15.32*	-0.18	1.50	1.32	0.17	-0.01	75.7	339.3	264
HD23-SAMS WETLD	15.5	15.9	010YR1D	12.72	13.51	0.79	-2.78	-1.99	-3.13	-2.34	203.2	5.6	-198
HD23-SAMS WETLD	15.5	15.9	025YR3D	14.59	14.25	-0.33	-0.91	-1.25	-1.26	-1.60	431.5	119.6	-312
HD23-SAMS WETLD	15.5	15.9	100YR3D	15.24	15.12*	-0.11	-0.27	-0.38	-0.62	-0.73	724.1	178.5	-546
HD24-SAMS CLUB	15.1	15.9	010YR1D	N/A	15.06	N/A	N/A	0.01	N/A	-0.78	N/A	47.8	N/A
HD24-SAMS CLUB	15.1	15.9	025YR3D	N/A	15.17	N/A	N/A	0.12	N/A	-0.68	N/A	68.8	N/A
HD24-SAMS CLUB	15.1	15.9	100YR3D	N/A	15.24*	N/A	N/A	0.18	N/A	-0.62	N/A	81.9	N/A
HD25-WALMART	15.8	17.5	010YR1D	N/A	15.52	N/A	N/A	-0.23	N/A	-1.98	N/A	1.4	N/A
HD25-WALMART	15.8	17.5	025YR3D	N/A	16.27	N/A	N/A	0.52	N/A	-1.23	N/A	16.4	N/A
HD25-WALMART	15.8	17.5	100YR3D	N/A	16.50	N/A	N/A	0.75	N/A	-1.00	N/A	28.1	N/A
HD26-RES	11.5	13.0	010YR1D	10.04	10.04	0.00	-1.46	-1.46	-2.96	-2.96	86.3	33.8	-53
HD26-RES	11.5	13.0	025YR3D	10.47	10.47	0.00	-1.03	-1.03	-2.53	-2.53	161.7	56.9	-105
HD26-RES	11.5	13.0	100YR3D	11.54	11.12	-0.42	0.04	-0.38	-1.46	-1.88	203.1	69.1	-134
HD27-RES	10.7	12.2	010YR1D	8.14	8.14	0.00	-2.56	-2.56	-4.06	-4.06	167.4	99.4	-68
HD27-RES	10.7	12.2	025YR3D	8.80	8.80	0.00	-1.90	-1.90	-3.40	-3.40	330.0	220.3	-110
HD27-RES	10.7	12.2	100YR3D	9.08	9.08	0.00	-1.62	-1.62	-3.12	-3.12	417.0	287.2	-130
HD28-RES	8.0	9.5	010YR1D	7.63	7.63	0.00	-0.37	-0.37	-1.87	-1.87	253.6	184.1	-70
HD28-RES	8.0	9.5	025YR3D	8.52	8.46	-0.05	0.52	0.46	-0.98	-1.04	497.9	380.2	-118
HD28-RES	8.0	9.5	100YR3D	8.91	8.84	-0.07	0.91	0.84	-0.69	-0.66	630.1	476.1	-154
HD29-RES	7.7	9.2	010YR1D	7.55	7.50	0.05	-0.16	-0.10	-1.66	-1.60	99.7	26.3	-73
HD29-RES	7.7	9.2	025YR3D	7.82	7.90	0.07	0.12	0.19	-1.38	-1.31	150.1	138.2	-12
HD29-RES	7.7	9.2	100YR3D	7.90	7.96	0.06	0.20	0.26	-1.30	-1.25	183.3	182.9	0
HD30-RES	6.4	7.9	010YR1D	5.75	5.47	-0.29	-0.67	-0.96	-2.17	-2.46	290.2	153.5	-137
HD30-RES	6.4	7.9	025YR3D	6.40	6.09	-0.31	-0.02	-0.34	-1.52	-1.84	522.6	297.7	-225
HD30-RES	6.4	7.9	100YR3D	6.72	6.36	-0.37	0.30	-0.07	-1.20	-1.57	695.3	376.4	-319
HD31-HOWARD CK	9.1	11.9	010YR1D	10.88	9.54	-1.35	1.78	0.44	-1.01	-2.35	35.2	21.7	-14
HD31-HOWARD CK	9.1	11.9	025YR3D	11.68	10.05	-1.63	2.58	0.95	-0.21	-1.84	61.2	36.0	-25
HD31-HOWARD CK	9.1	11.9	100YR3D	12.00	10.34	-1.66	2.90	1.24	0.11	-1.55	76.1	38.2	-38

*NOTE: EXISTING CONDITIONS MODELING FOR THE 100 YEAR, 3-DAY STORM STAGE ARE APPROXIMATELY 15.9 NGVD MIN FOR BASINS EAST OF US 1.

Exhibit 10 - EASTERN WATERSHED STORMWATER STUDY

SUMMARY OF PRE-IMPROVED AND PROPOSED BASIN ANALYSIS

Note: Stages/Discharges in green reflect a decrease or acceptable LOS, while those in red reflect an increase or unacceptable LOS.

Sub-Basin Name	Minimum Road Crown (ft - NGVD)	Minimum FFE EI (ft - NGVD)	Storm Event	Maximum Stage Pre-Improved (ft - NGVD)	Maximum Stage Proposed (ft - NGVD)	Change in Stage (ft-NGVD)	Pre Max. Road Flood (100Y) (ft)	Prop. Max. Road Flood (100Y) (ft)	Pre Max. FFE Flood (100Y) (ft)	Prop. Max. FFE Flood (100Y) (ft)	Maximum Discharge Pre-Improved (CFS)	Maximum Discharge Proposed (CFS)	Change in Discharge (CFS)
M020	13.4	16.5	010YR1D	9.87	9.82	-0.05	-3.53	-3.58	-6.63	-6.68	90.2	86.2	-4
M020	13.4	16.5	025YR3D	11.04	10.92	-0.13	-2.36	-2.48	-5.46	-5.58	234.6	183.2	-51
M020	13.4	16.5	100YR3D	11.53	11.46	-0.07	-1.87	-1.94	-4.97	-5.04	297.5	243.4	-54
M030	13.8	15.0	010YR1D	13.09	13.05	-0.04	-0.73	-0.78	-1.92	-1.96	281.0	42.1	-239
M030	13.8	15.0	025YR3D	14.43	14.31	-0.12	0.61	0.49	-0.57	-0.69	473.9	72.2	-402
M030	13.8	15.0	100YR3D	15.00	14.92	-0.09	1.18	1.10	0.00	-0.09	583.3	80.2	-503
M040	13.5	15.0	010YR1D	13.05	13.02	-0.04	-0.45	-0.48	-1.95	-1.98	52.2	1.0	-51
M040	13.5	15.0	025YR3D	14.38	14.25	-0.13	0.88	0.75	-0.62	-0.75	76.2	5.1	-71
M040	13.5	15.0	100YR3D	15.01	14.91	-0.09	1.51	1.41	0.01	-0.09	92.6	5.8	-87
M050	13.9	15.0	010YR1D	13.09	13.05	-0.04	-0.82	-0.86	-1.92	-1.96	207.5	86.5	-121
M050	13.9	15.0	025YR3D	13.89	13.79	-0.10	-0.01	-0.11	-1.11	-1.21	384.4	161.0	-223
M050	13.9	15.0	100YR3D	14.23	14.23	0.00	0.32	0.33	-0.78	-0.77	462.8	205.4	-257
ZZ-M050A	14.7	17.7	010YR1D	13.08	13.05	-0.04	-1.62	-1.66	-4.62	-4.66	42.5	39.6	-3
ZZ-M050A	14.7	17.7	025YR3D	13.91	13.80	-0.10	-0.80	-0.90	-3.80	-3.90	73.7	71.4	-2
ZZ-M050A	14.7	17.7	100YR3D	14.29	14.28	0.00	-0.41	-0.42	-3.41	-3.42	83.7	78.2	-5
M070	15.2	17.0	010YR1D	15.42	15.36	-0.06	0.22	0.16	-1.58	-1.64	193.9	91.6	-102
M070	15.2	17.0	025YR3D	15.67	15.66	-0.02	0.47	0.46	-1.33	-1.34	357.0	136.4	-221
M070	15.2	17.0	100YR3D	15.72	15.72	0.00	0.52	0.52	-1.28	-1.28	416.9	143.3	-274
M080	15.2	16.0	010YR1D	14.76	14.74	-0.02	-0.44	-0.46	-1.24	-1.26	9.2	5.8	-3
M080	15.2	16.0	025YR3D	14.83	14.83	0.00	-0.37	-0.37	-1.17	-1.17	16.7	4.5	-12
M080	15.2	16.0	100YR3D	14.85	14.85	0.00	-0.35	-0.35	-1.15	-1.15	20.8	11.0	-10
M150	15.4	19.0	010YR1D	13.67	13.67	0.00	-1.73	-1.73	-5.33	-5.33	38.8	5.5	-33
M150	15.4	19.0	025YR3D	14.82	14.77	-0.05	-0.58	-0.63	-4.18	-4.23	61.8	8.2	-54
M150	15.4	19.0	100YR3D	15.38	15.33	-0.05	-0.02	-0.07	-3.62	-3.67	75.8	8.3	-68
NORTH FORK	N/A	N/A	010YR1D	5.00	5.00	N/A	N/A	N/A	N/A	N/A	93.5	89.6	-4
NORTH FORK	N/A	N/A	025YR3D	6.25	6.25	N/A	N/A	N/A	N/A	N/A	272.8	258.4	-14
NORTH FORK	N/A	N/A	100YR3D	8.00	8.00	N/A	N/A	N/A	N/A	N/A	351.7	340.8	-11
ZZZ-US1-BOX-DN	13.0	13.3	010YR1D	9.19	8.68	-0.51	-3.82	-4.32	-4.12	-4.62	32.2	10.6	-22
ZZZ-US1-BOX-DN	13.0	13.3	025YR3D	11.37	11.87	0.50	-1.63	-1.13	-1.93	-1.43	223.4	307.3	84
ZZZ-US1-BOX-DN	13.5	13.3	100YR3D	11.96	12.26	0.30	-1.49	-1.19	-1.34	-1.04	279.3	388.4	109
ZZZ-US1-BOX-UP	13.5	15.0	010YR1D	9.19	8.68	-0.51	-4.26	-4.77	-5.81	-6.32	23.4	9.3	-14
ZZZ-US1-BOX-UP	13.5	15.0	025YR3D	11.50	12.07	0.57	-1.95	-1.38	-3.50	-2.93	218.7	303.6	85
ZZZ-US1-BOX-UP	13.5	15.0	100YR3D	12.06	12.53	0.47	-1.40	-0.92	-2.95	-2.47	271.0	380.6	110
MC DITCH-HOWARD	15.1	15.9	010YR1D	9.60	8.75	-0.86	-5.50	-6.38	-6.30	-7.16	28.1	9.3	-19
MC DITCH-HOWARD	15.1	15.9	025YR3D	11.82	12.20	0.39	-3.28	-2.90	-4.09	-3.70	219.9	303.6	84
MC DITCH-HOWARD	15.1	15.9	100YR3D	12.23	12.66	0.44	-2.87	-2.44	-3.67	-3.24	272.3	380.5	108

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*NOTE: EXISTING CONDITIONS MODELING FOR THE 100 YEAR, 3-DAY STORM STAGE ARE APPROXIMATELY 15.9 NGVD MIN FOR BASINS EAST OF US 1.

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