Draft Edwards Bottomlands after Debby 2024

Site visits were done on 8/27/2024, 8/28/2024, 8/30/2024 and 8/31/2024 at the Suwannee River Water Management District Edwards Bottomlands Project along Alligator Creek in Starke. Those visits revealed significant issues that will reduce the flow of stormwater through the part of the Edwards Bottomlands Project east of the pipeline utility crossing during significant rain events. This reduced flow will increase the risk of flooding of homes, apartments, businesses, and infrastructure along Alligator Creek from 301 to the Starke Golf Course and the homes along SR 230 east of NE 14th Ave.

The Edwards Bottomlands Project was funded by the Florida Department of Transportation as a wetlands mitigation project and was designed, permitted, constructed, and now inspected by the SRWMD. The Edwards Bottomlands Project is on property owned by the City of Starke which was issued an Environmental Resource Permit from the SRWMD for the project.

While this is an evaluation of the current conditions of the Edwards Bottomlands Project it should be noted that these conditions are the result of flawed project design and permitting, failure to follow the plans associated with Environmental Resource Permit issued for the Edwards Bottomlands Project, and the failure to conduct the maintenance activities required by the Environmental Resource Permit.

The Bradford Soil and Water Conservation District is urging the Suwannee River Water Management District and Florida Department of Transportation to initiate a plan to address the issues noted below that reduce flow through the site during significant rain events and restore Alligator Creek to a flow capacity it had prior to the construction of the Edwards Bottomlands Project by the Suwannee River Water Management District.

Deficiencies in the design, construction and of the Edwards Bottomlands Project

1. The As Built plans do not match the plans in the Environmental Resource Permit.

2. Flow modeling was done on the Environmental Resource Permit plans and not the As Built plans.

3. The design of the Edwards Bottomlands Project has resulted in excessive erosion on the site.

4. The use of gamma grass as a ground cover in the coverage in the Edwards Bottomlands Project planting plans has reduced out of channel flows and trapped debris which also reduces flows during flooding events.

5. No access road for site maintenance was included in the plans.

6. The Suwannee River Water Management District has failed to:

a. remove accumulated sediments from the site as required by the Environmental Resource Permit.
b. remove the trash and debris from the site as required by the Environmental Resource Permit.
c. failed to control the invasive and nuisance plants on the site as required by the Environmental Resource Permit and the ACOE Permit.
d. the growth requirements for the planted wetland species in the Environmental Resource Permit and the mortality rate for the ACOE Permit have not been met.

Correcting the above Deficiencies

There are clear remedies to all the above Deficiencies if the Suwannee River Water Management District, Florida Department of Transportation, and the Army Corp of Engineers are willing to acknowledge the current conditions found at the Edwards Bottomland Project do not meet the requirements established by the Environmental resource Permit and the Army Corp of Engineers Permit for the project.

The Environmental resource Permit states:

> 23. The permittee shall monitor and maintain the wetland mitigation area(s) until the criteria set forth in the Wetland Mitigation Success Criteria Conditions(s) are met. The permittee shall perform corrective actions identified by the District if the District identifies a wetland mitigation deficiency.

The Army Corp of Engineers Permit states:

> In the event that the above performance standards have not been achieved, the Permittee shall undertake a remediation program approved by the Corps in accordance with the Remediation Special Condition of this permit.

The Bradford Soil and Water Conservation District suggests the following actions to address the listed deficiencies.

1. The As Built plans do not match the plans in the Environmental Resource Permit.

Develop a new set of plans for the Bottomland Project that incorporate corrective actions. Amend the Environmental Resource Permit and the Army Corp of Engineers Permit to incorporate the new plans.

The new plans would remove the extreme ox bows at the east and west ends of the Edwards Bottomlands project by opening a new channel at the neck of the oxbow. The ox bow would be filled to 1 foot of the secondary channel level to create a potential pool for wetland plants.

2. Flow modeling was done on the Environmental Resource Permit plans and not the As Built plans.

Perform flow modeling on the new plans.

3. The design of the Edwards Bottomlands Project has resulted in excessive erosion on the site.

Alter the channel path to eliminate the sharp bends. Decrease bank slopes.

4. The use of gamma grass as a ground cover in the coverage in the Edwards Bottomlands Project planting plans has reduced out of channel flows and trapped debris which also reduces flows during flooding events.

Remove the debris trapped in the gamma grass. Mow the gamma grass and treat the regrowth with herbicide.

5. No access road for site maintenance was included in the plans.

Add an access road to the plans. The access road is critical for site maintenance as trash and debris will be an ongoing issue. Mowing can also be an important management tool. Culverts could be used to connect Alligator Creek with the constructed wetlands on the easter edge of the Edwards Bottomlands Project. *A shallow drainage feature could be added to connect the created wetland with the remnant stream bed just to the west of the created wetland.*

The ultimate goal of the Edwards Bottomlands Project should be to make have it as a park and entrance to a nature trail that would extend to Lake Rowell. The access road is needed for the public to access the site.

6. The Suwannee River Water Management District has failed to:

a. remove accumulated sediments from the site as required by the Environmental Resource Permit.
The removed sediments would be used to fill the ox bows and possibly as cover for the Old Starke Dump

b. remove the trash and debris from the site as required by the Environmental Resource Permit.
Haul off the trash. Chip the natural woody debris and use it as cover for the Old Starke Dump.

c. failed to control the invasive and nuisance plants on the site as required by the Environmental Resource Permit and the ACOE Permit.
Based on over 15 years of work on invasive plants along Alligator Creek, it is clear that at least initially monthly evaluations and treatments will be needed to reduce invasive plant populations to meet the coverage limits from an accurate evaluation of invasive plant cover. Cut stem application should be used to treat larger invasive plants to avoid damage to desirable vegetation.

d. the growth requirements for the planted wetland species in the Environmental Resource Permit and the mortality rate for the ACOE Permit.

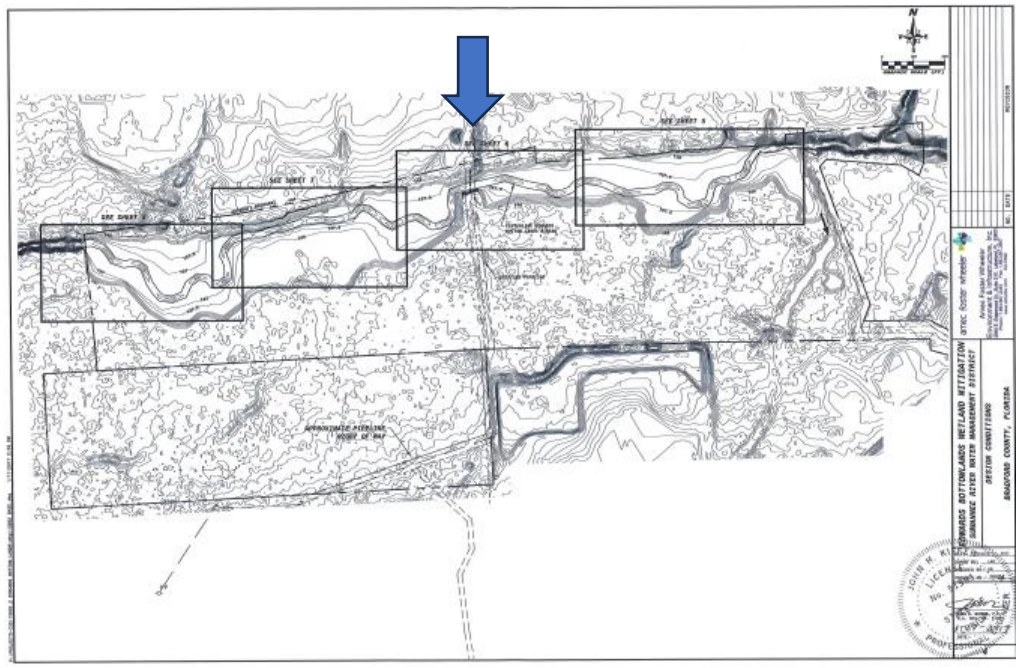
A new planting plan should be developed for woody wetland plants. Planting densities should be lower. Ground cover plants should not be required. The killed gamma grass root systems should stabilize the soils until existing plants on the site can naturally replace the gamma grass.

Supporting Information and Images

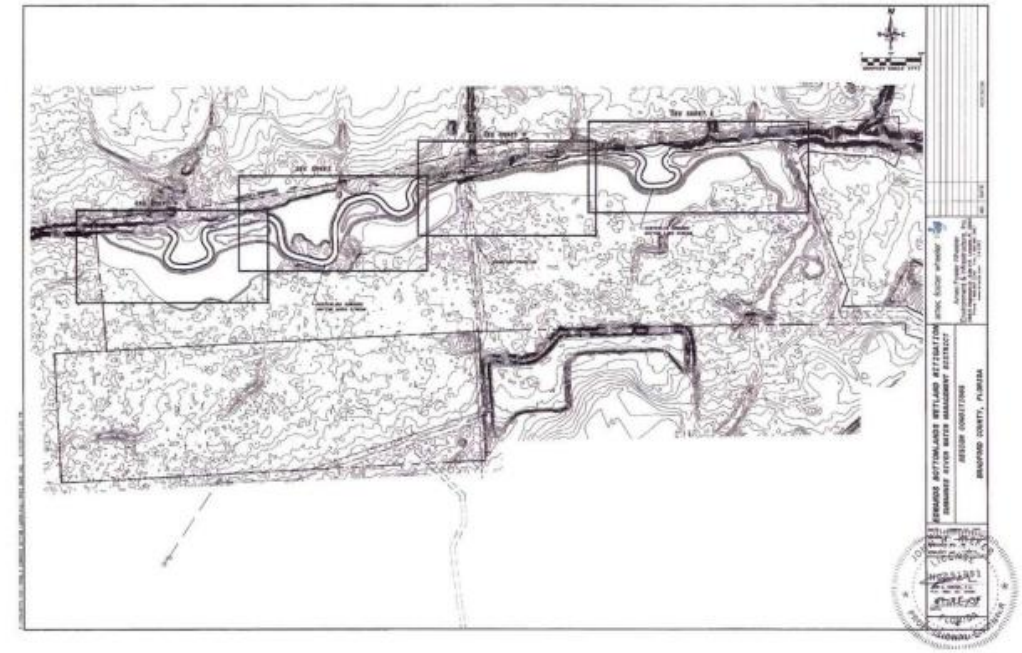
Alligator Creek Debby 2024 Water Levels

Alligator Creek level east of pipe line utility on 8/6/2024 at 9:00 am after Debby 2024. Alligator Creek water level peaked at 146.87 feet at 3:00pm on 8/5/2024. At the time of the above image water level at the gage on the 301 bridge was 144.7 feet.

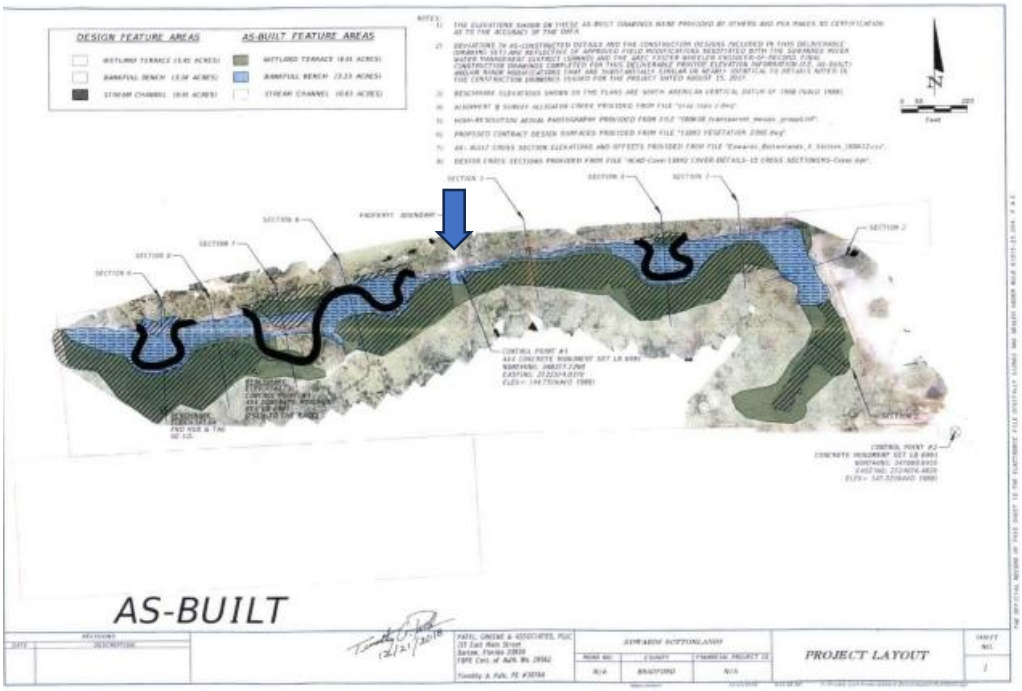
Plans



Environmental Resource Permit plans dated 1/17/17. Environmental Resource Permit issued 2/14/2017. Blue arrow added to show location of pipeline utility easement.



Plans date 8/15/2017 that were for the 7/11/2019 Army Corp of Engineers Permit. The plans were after the Environmental Resource Permit issued by the Suwannee River Water Management District.



As Built plans dated 12/21/2018. Blue arrow added to show location of pipeline utility easement.

Erosion

Significant bank erosion seen in the above Image from 8/27/2024

Trash and Debris

First oxbow viewed from the south bank of Alligator Creek on 4/1/2024 no trash and debris at blue arrow.

First oxbow viewed from the south bank of Alligator Creek on 8/30/2024. Blue arrow shows the location of the trash and debris trapped by woody vegetation that was allowed to grow in the secondary channel.

The above 3 images show the trash and debris on 6/17/2024 at the blue arrow the first oxbow image. The child's battery car first seen about 50 yards downstream of the Laura Street bridge. The trash grew because materials were blocked by the woody vegetation that colonized the bare secondary channel.

First ox bow trash deposit viewed from the east. Image from 8/27/2024

First oxbow trash deposit viewed from the west. Image is from 8/28/2024. Childs battery car now trapped by woody plants and covered by new trash and debris.

Trees Across Alligator Creek

Trees across Alligator Creek trap debris and trash and block or reduce flow. The above 3 images are from 8/27/2024

Sediment Deposit blocking flow into the constructed wetlands at the eastern edge of the Edwards Bottomlands Project.

The following two images show the constructed wetland on 12/17/2018.

The following images from 8/30/2024 and 8/31/24 show sediment deposits restricting the flow into and out of the constructed wetlands.

8/302024

Gage in the image from 8/30/2024 can be seen in an image from 10/2/2020 and before the sediment deposit.

Small eroded area that lets water pass into and out of the constructed wetland. Image is from 8/30/2024/

Sediment deposit viewed from the constructed wetland. Image is from 8/31/24.

Image is from 8/31/2024.

Potential service road crossing with culverts to allow flow into and out of the constructed wetlands.

Blue arrow shows where the old service road that went along Alligator Creek to the pipeline utility crossing was located. The road was removed to create the wetland area.

Same location 8/31/2024 showing sediment deposit at stream bank.

Permit Language

ERP Individual Permit

PERMITTEE:
Ricky Thompson
City of Starke
209 N Thompson St
Starke, FL 32091

PERMIT NUMBER: ERP-007-228878-1
DATE ISSUED: February 14, 2017
DATE EXPIRES: February 14, 2022
COUNTY: Bradford
TRS: S32 T6S R22E, S33 T6S R22E

PROJECT: Edwards Bottomlands Mitigation Area

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

21. Successful establishment of the wetland mitigation will have occurred when:

a) At least 80 percent of the planted individuals in each stratum have survived throughout the monitoring period and are showing signs of normal growth, based upon standard growth parameters such as height and base diameter, or canopy circumference; and,

b) At least 80 percent cover by appropriate wetland species has been obtained; and,

c) Hydrologic conditions generally conform to those specified in the mitigation plan; and,

d) The above criteria have been achieved by the end of a 5-year period following initial planting; and,

e) less than 5% areal coverage of plants on the Florida Exotic Pest Plant Council's list of Florida's most invasive species within the mitigation area are not present.

22. Monitoring reports for the Edwards Bottomlands Mitigation Area (EBLMA) shall be conducted which reflect the objectives of the EBLMA as noted in and in accordance with the final 12 Point Mitigation Plan approved by the USACE.

23. The permittee shall monitor and maintain the wetland mitigation area(s) until the criteria set forth in the Wetland Mitigation Success Criteria Conditions(s) are met. The permittee shall perform corrective actions identified by the District if the District identifies a wetland mitigation deficiency.

24. The Permittee will substantially conform to all criteria and reporting conditions as outlined in the SBMA 12 Point Mitigation Plan as accepted by the USACE.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

July 11, 2019

REPLY TO
ATTENTION OF

Regulatory Division
North Permits Branch
Panama City Permits Section
SAJ-2016-03157 (NW-RLT)

Florida Department of Transportation, District 2
Attn: Mr. Van Humphreys
1109 South Marion Avenue
Lake City, Florida 32025

City of Starke
Attn: Mr. Bob Milner
P.O. Drawer C
Starke, Florida

Suwannee River Water Management District (Agent)
Attn: Mr. Patrick Webster
9225 CR 49
Live Oak, Florida 32060

Gentlemen: Your application for a Department of the Army permit received on March 21, 2019, has been assigned number SAJ-2016-03157. A review of the information and drawings provided shows the proposed work is to impact approximately 3.92 acres of waters of the United States in association with wetland restoration, establishment, and enhancement activities to restore historic wetlands and stream channels adjacent to Alligator Creek. Please note this authorization clarifies and supersedes SAJ-2016-03157, dated 24 January 2017 for similar work.

9. Performance Standards: To meet the objectives of the approved compensatory mitigation plan, the Permittee shall achieve the following performance standards:
a. At least 80 percent cover by appropriate wetland species (i.e., FAC or wetter).
b. Cover of Category I and II invasive exotic plant species, pursuant to the most current list established by the Florida Exotic Pest Plant Council at http://www.fleppc.org, and the nuisance species, dogfennel (Eupatorium capillifolium), Bermudagrass (Cynodon spp.), Bahiagrass (Paspalum notatum), and cattail (Typha spp.). shall total less than 5 percent.
c. Less than 20 percent mortality of planted wetland species.
d. Hydrologic enhancement will result in soils that are, at a minimum, saturated to the surface between 5 and 12.5 percent of the growing season.

The Permittee shall achieve the above performance standards by the end of the 5-year monitoring period, with no maintenance during the 5th year of monitoring. In the event that the above performance standards have not been achieved, the Permittee shall undertake a remediation program approved by the Corps in accordance with the Remediation Special Condition of this permit.