

Western Dredging Association
Summit and Expo 2015

*Turning Failure into Success with Innovative
Dredging Solutions for Aquatic Preserve
Restoration*

June 24, 2015



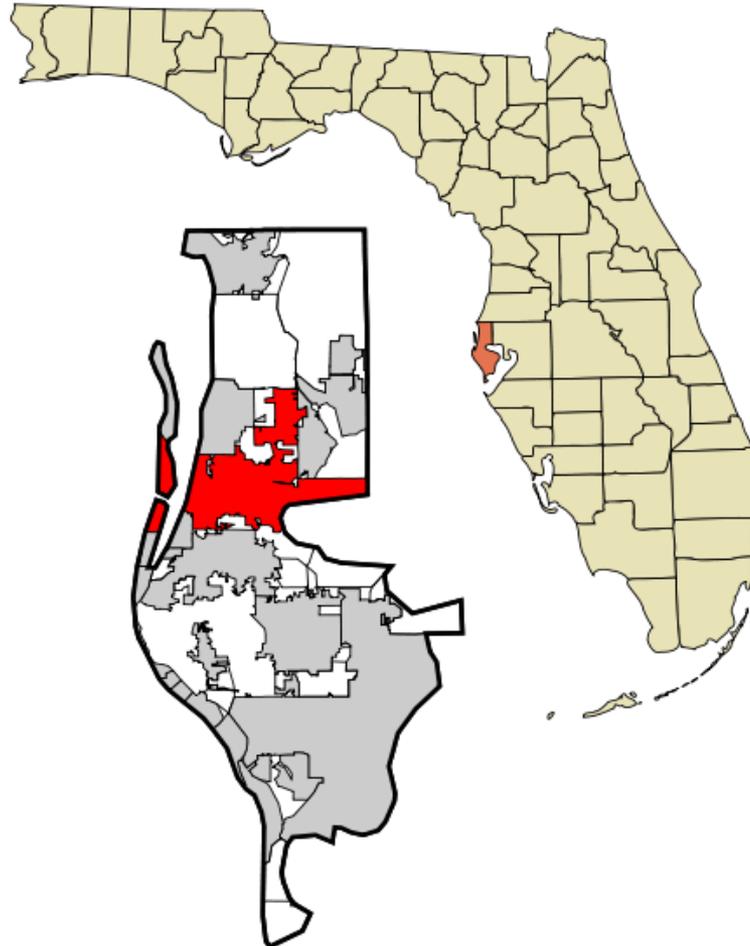
Presenter: John B. Adams, Jr., PE

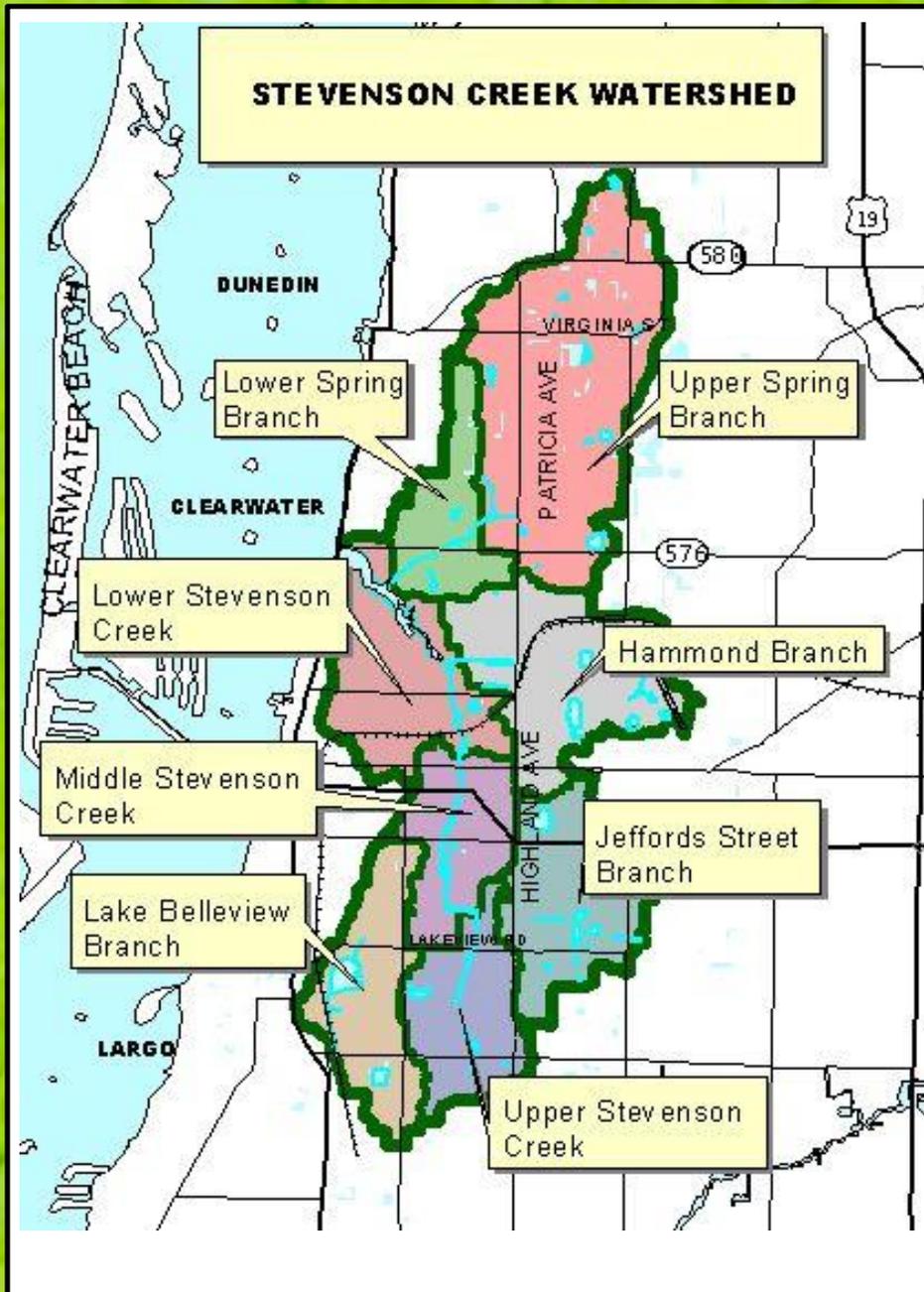
About Gator Dredging

- Waterfront Property Services, LLC dba Gator Dredging was founded in 2005
- Headquarters located in Clearwater, Florida
- Certified General Contractor & Licensed to Practice Civil Engineering in Florida and Georgia
- Professional civil engineers and environmental scientists as well as proficient construction managers.
- Created a company with the mission to streamline the dredging process.
- “Proposal to Disposal”



Aquatic System Restoration, Stevenson Creek, Clearwater, Florida





- Stevenson Creek Aquatic Preserve, Clearwater, FL
- 6,300-acre drainage area
- Historic pollution and sedimentation from stormwater run-off and sanitary sewer plant discharges



Estuary Conditions Prior to Dredging

- Shallow waters, less than 1-ft water depths at Mean Low Water (MLW)
- High organic content muck sediments
- Significant debris deposited from upstream
- Unpleasant smell for residents
- Little tidal flushing
- Loss of mangrove habitat and marine wildlife



Original Project Summary



- Cooperatively Funded Project with the City of Clearwater & US Army Corps of Engineers
- Hydraulic dredging of 115,000 cy of muck and sand sediments
- Separation of sand and organic sediments
- Dewatering at 2-ac City Brownfields Site
- Sand disposal 8 mi haul distance
- Muck disposal 21 mi haul distance
- 3.2 acres of Mangrove Habitat Area creation areas with dredged sands
- Restoration of Dewatering Site
- \$5,500,000 Project Budget
- Contract originally awarded June 2010





Dredge Scope – Reach 1



- Reach 1: Northwest portion of the Estuary.
- 1,700 feet
- 38,000m³ (63,000 cy)
- -4.4 feet NGVD



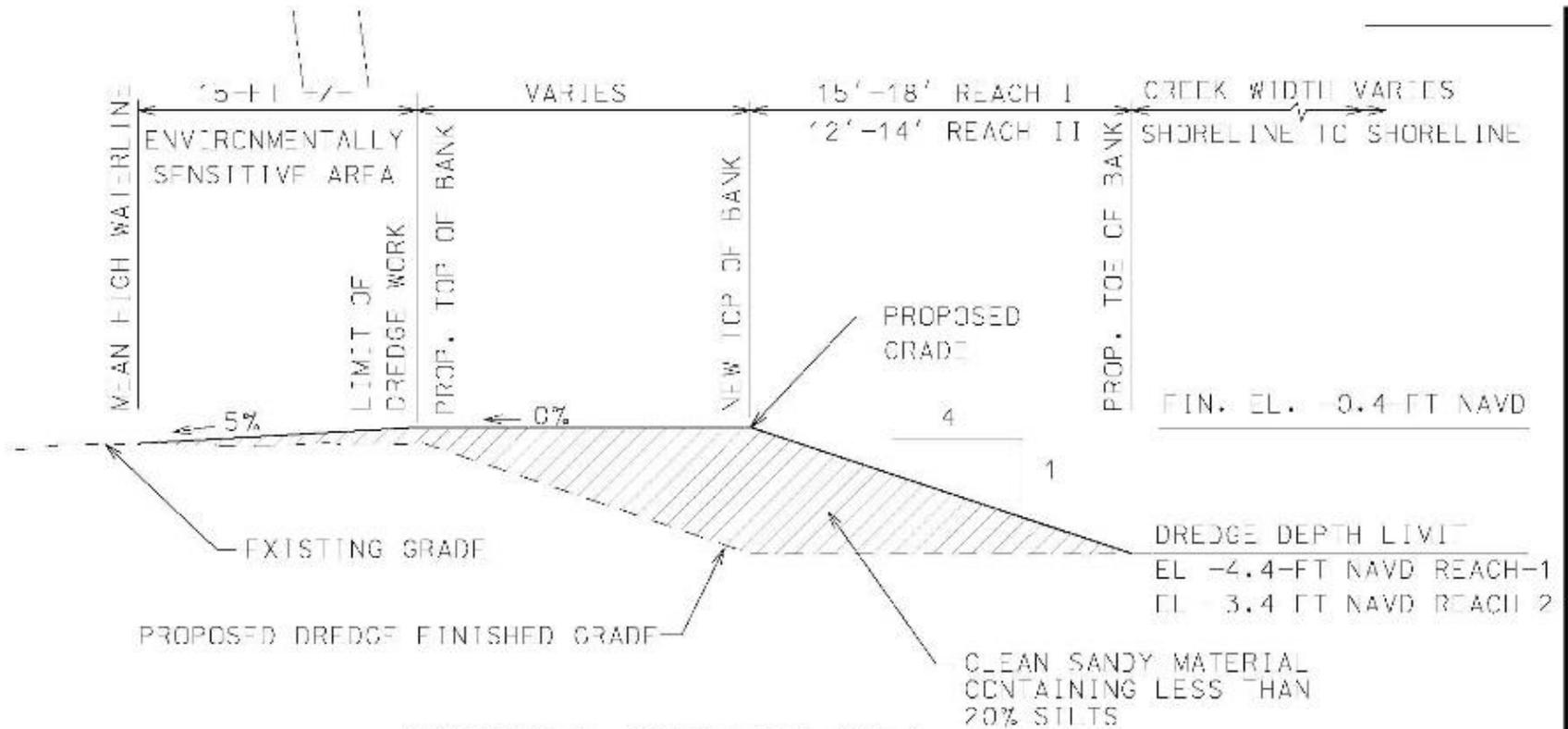
Dredge Scope – Reach 2



- Reach 2: Southeast portion of the Estuary
- 1,900 feet
- 30,500 m³ (42,000 cy)
- -3.5 feet NGVD



Mangrove Area Creation



MANROVE CREATION AREA
TYPICAL SECTION
 N.T.S.

Failed Dredging Attempts



- Two Contractors failed to complete project
- First Contractor Removed February 2012
- Second Contractor Removed December 2012
- Failure to meet permit conditions
- Not able to meet required production schedule/rates
- Surety elected to self-perform project and hired Gator Dredging June 2013

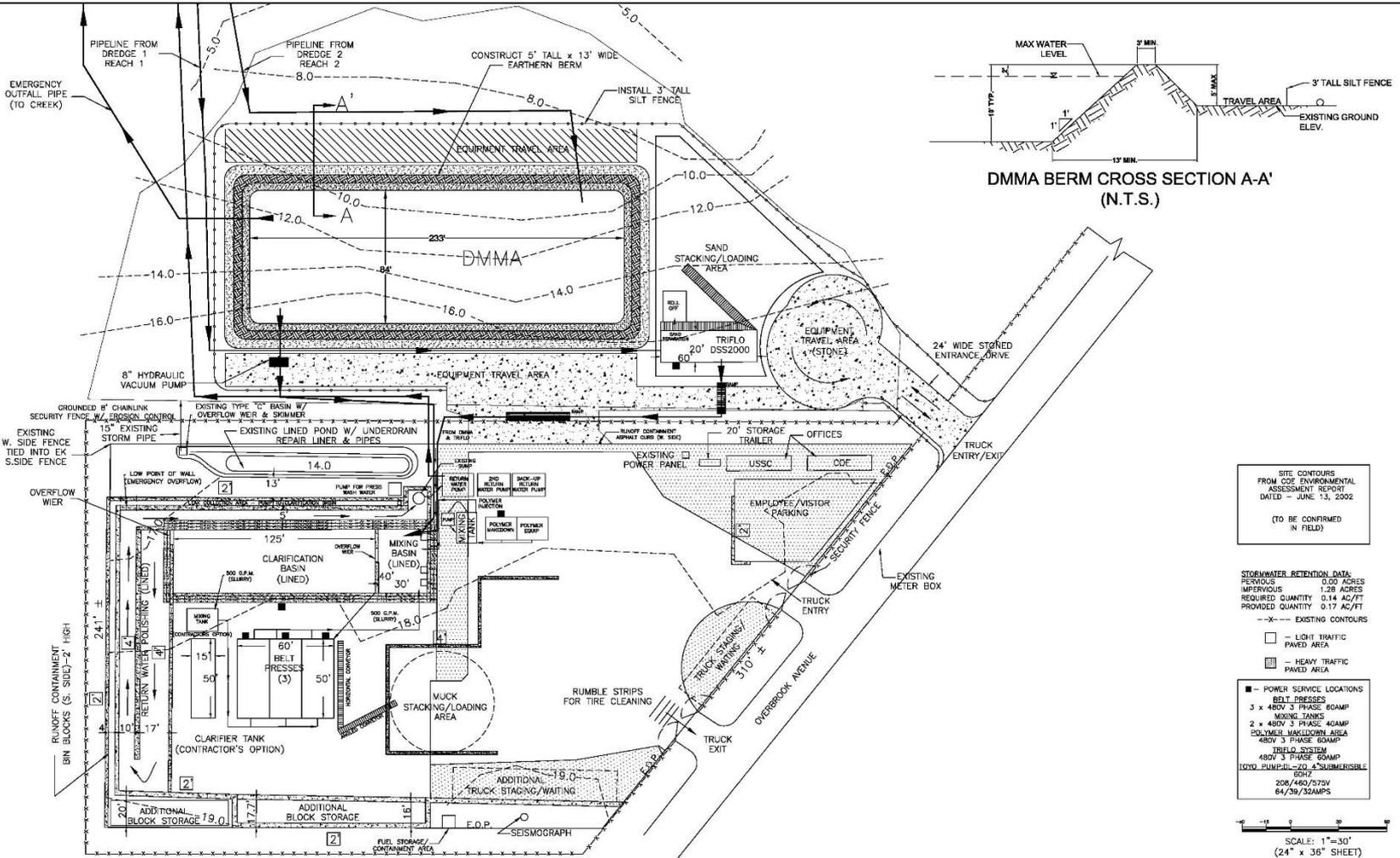


Gator Dredging's Successful Plan

- Modification of Existing Environmental Permits
- Additional Geotechnical Sampling and Classification of Sediments
- Obtain Use of City Property Adjacent to Existing Dewatering Area
- Acute / Chronic Elutriate Testing for Polymer Approval to Enhance Dewatering/Settling
- 2, 8-in Hydraulic Cutterhead Dredges; One in Each Reach
- Dredge Reach 1 (Muck Reach) to Tri-Flo DSS2000 Dewatering System (2,000 gpm) for sand scalping Overflow to Fines/Silt Dewatering Process
- Dredge Reach 2 (Sand Reach) to Open Dewatering Cell with Overflow to Fines/Silt Dewatering Process
- Mangrove Creation Areas Constructed by Direct Pumping from Dredges in Suitable Areas of the Creek
- Consistent Turbidity Monitoring



Modify Existing Permit



Aquatic Ecosystem Restoration:
Stevenson Creek

SUBMITTAL
PRELIMINARY
PERMITTING
ISSUED FOR CONSTRUCTION
RECORD DRAWING

DEWATERING SITE PLAN/DWG

EXHIBIT TITLE:

**DREDGED MATERIAL PROCESSING
AREA & DEWATERING SITE PLAN**

Project Address:

1730 Overbrook Avenue

DATE: 07/27/2013
DRAWN BY: MCD
CHECKED BY: WJC
JOB NO.: XXXXXX

REVISIONS - DATE:
01/08/2013
02/11/2013

Exhibit No.

EXHIBIT 3

Dewatering Methods

- Tri-Flo DSS2000, separated sand & debris up to 2,000 gpm
- Dewatering of fines in mixing, clarification and polishing basins (5,000 gpm, 30 min residence time)
- 500 gpm pumped to each belt filter press
- Polymer injection to enhance dewatering of silts
- Clean sand saved for mangrove creation
- Dewatered sediment disposed at an approved spoil site



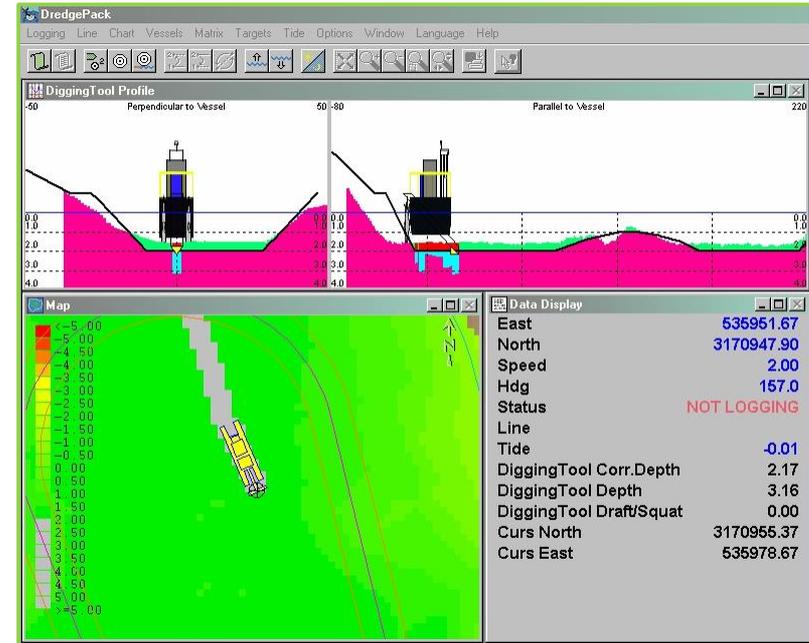
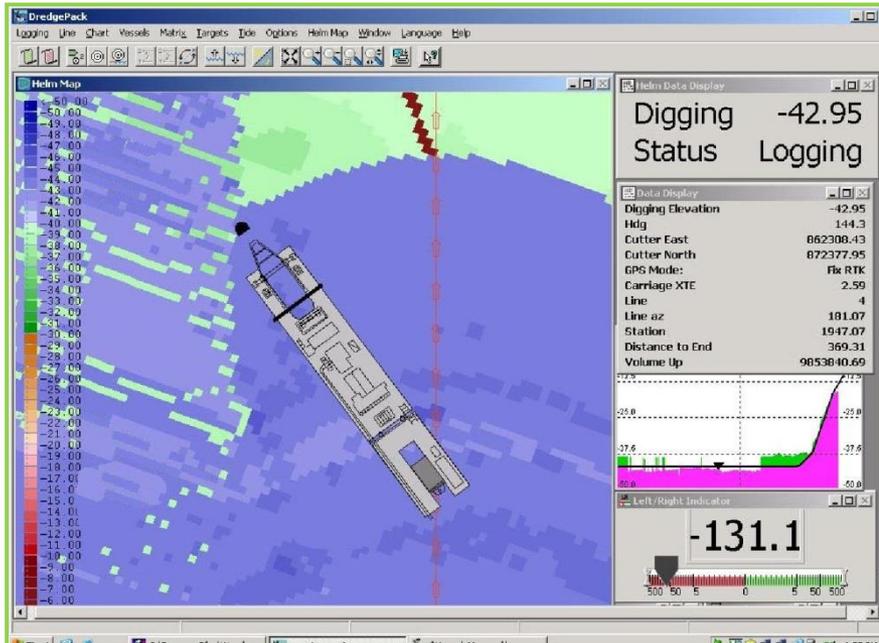






GATOR 
DREDGING

Hy-Pack Technology



- Allowed for accurate dredging & calculation of dredged sediment volumes



Lessons Learned/Conclusions

- Successfully restored water depth & improved water quality
- Assisted City to complete project that was 3 years behind schedule
- Removed organic/muck sediments
- Restored wildlife habitat
- Over 3.2 ac of New Mangrove Habitat
- Alternate use of existing dewatering site
- Modified work hours
- Beneficial reuse alternatives for dredge spoils greatly reduced disposal costs
- Hydraulic isolation of dredged waters
- Alternative dewatering technologies
- Community Outreach
- Revision of USACOE Surveyor Post-Dredge Survey Methodologies



GATOR-DONE

QUESTIONS/COMMENTS