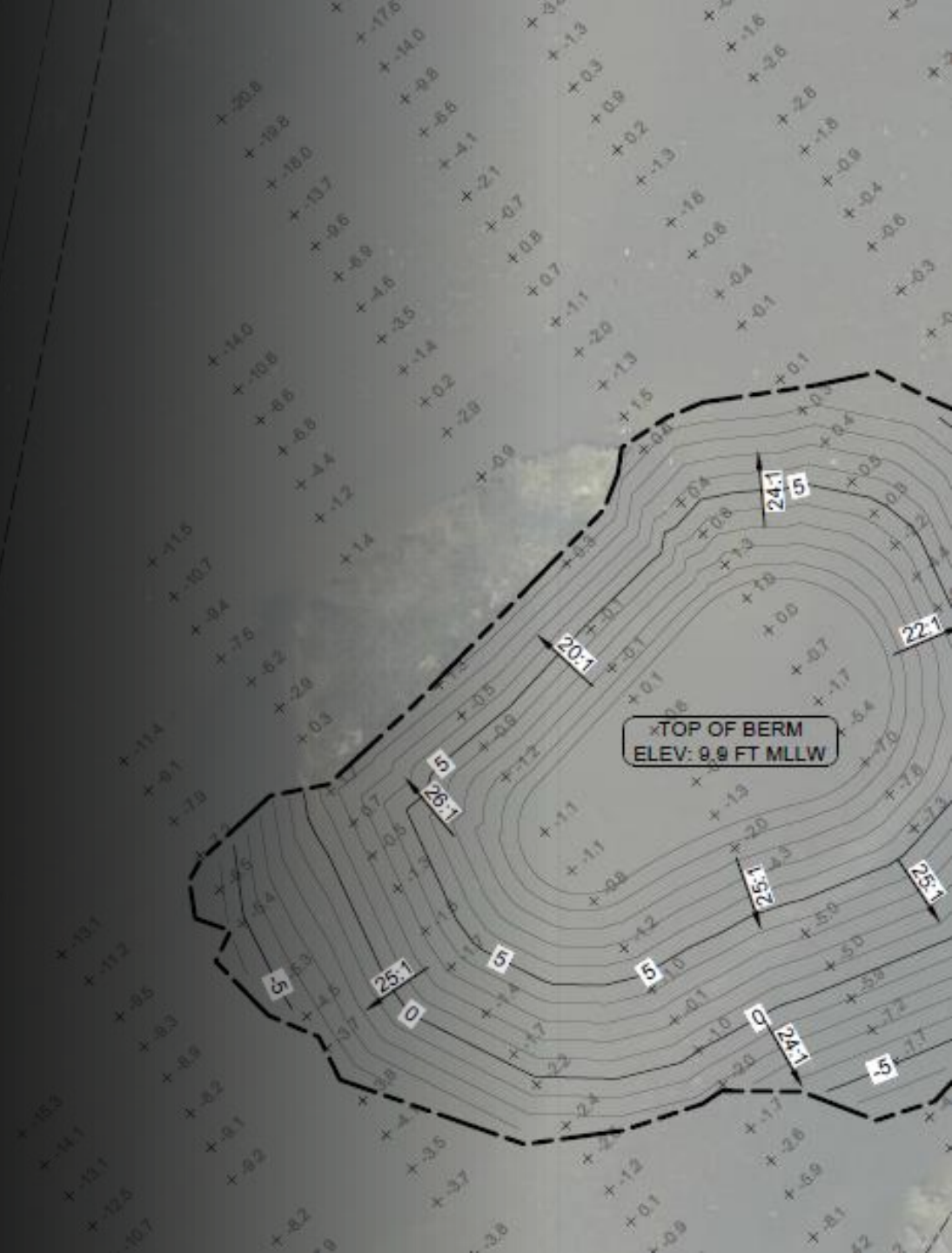




Habitat Restoration & Creation

Tim Keyes

GA DNR





Georgia Habitat Restoration projects



Maintenance:

- Annually burn, herbicide and scrape Dredge Spoil Island

Live oyster bed creation

- 300 cy of shell deployed – will be followed by some structure
- Slowly increasing AMOY nesting on this island – enhance foraging opportunities

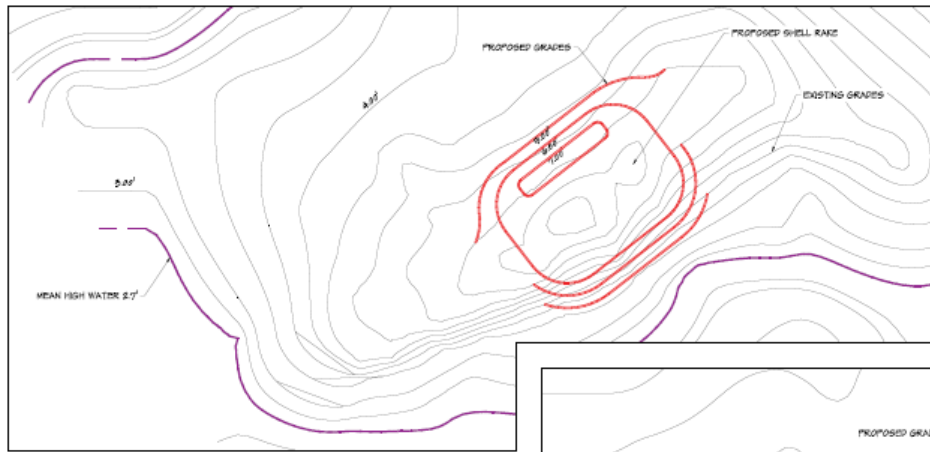
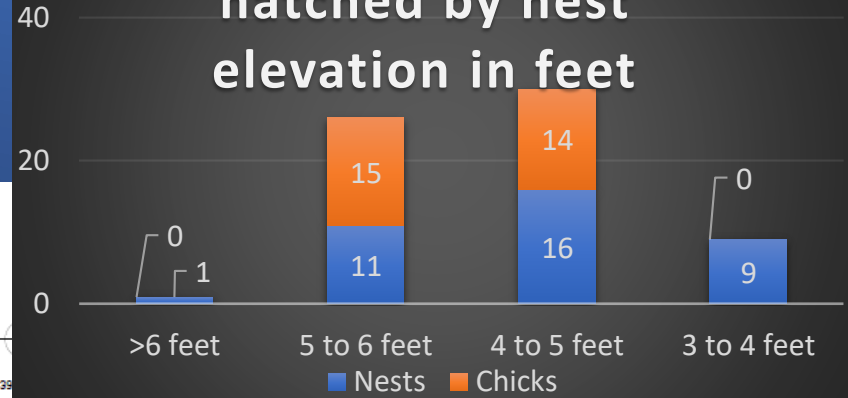
Pilot Shell Rake restoration will begin in December

- Nationwide 18 ACOE permit and CMPA permit
- 25'X15' pole frames filled and covered with 40-60 cy shell each
- get to $\geq 6'$ NAVD88
- Hopefully good report of use and productivity next season

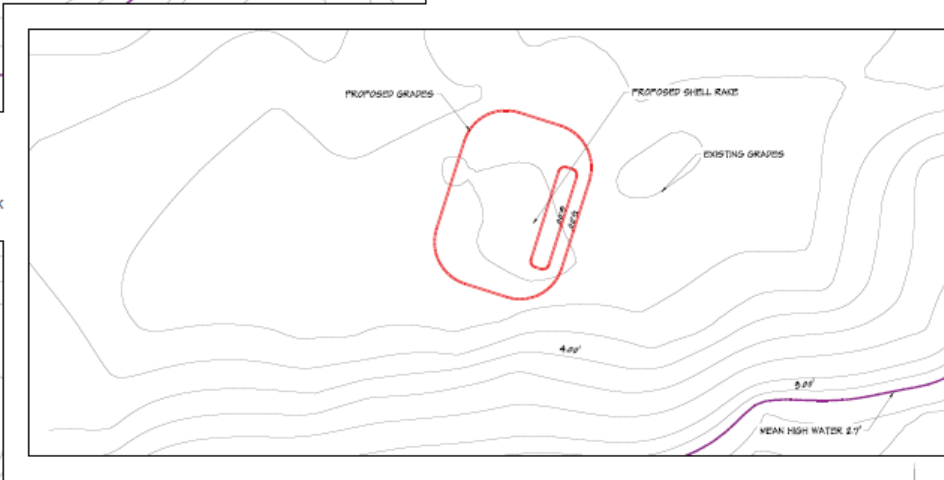
Bird Island on Intracoastal dredged project

- NEPA kickoff Jan2024
- Dredge during FY25.

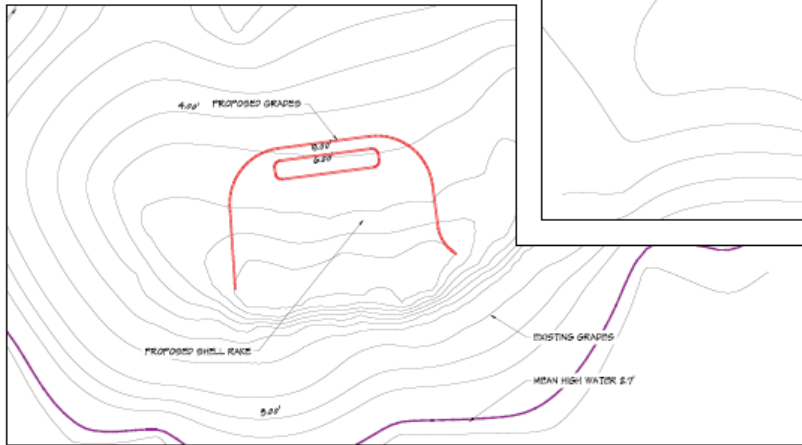
AMOY nests and chicks hatched by nest elevation in feet



SATILLA MIDDLE
Scale: 1/16"=1'-0"
22.78 CUBIC YARDS OF SHELL OR ROCK



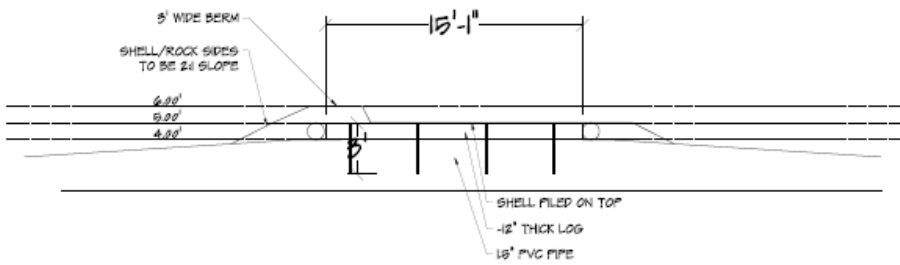
SATILLA WEST
Scale: 1/16"=1'-0"
22.55 CUBIC YARDS OF SHELL OR ROCK



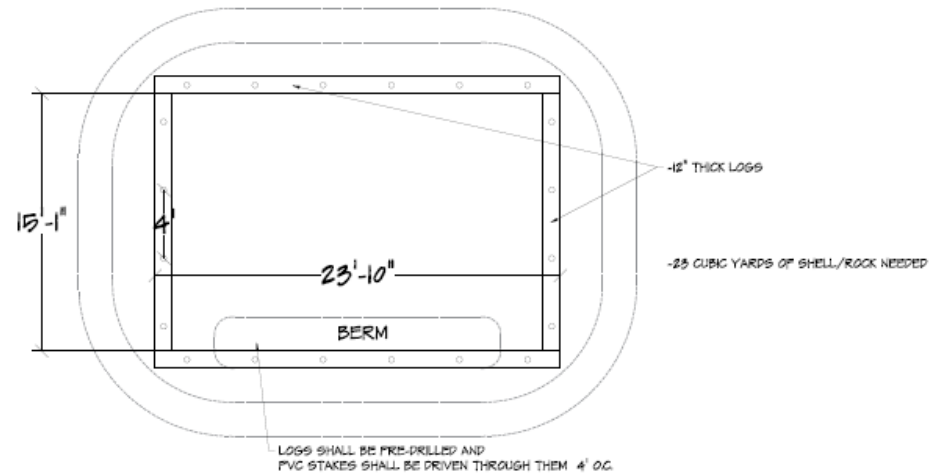
East Shell Rake Plan
Satilla Marsh Shell Rakes
Satilla Marsh Island, Georgia

Rev: 8/15/22
Rev: 3/10/22
Date: 2/18/22
Scale: as plan
Sheet: 7

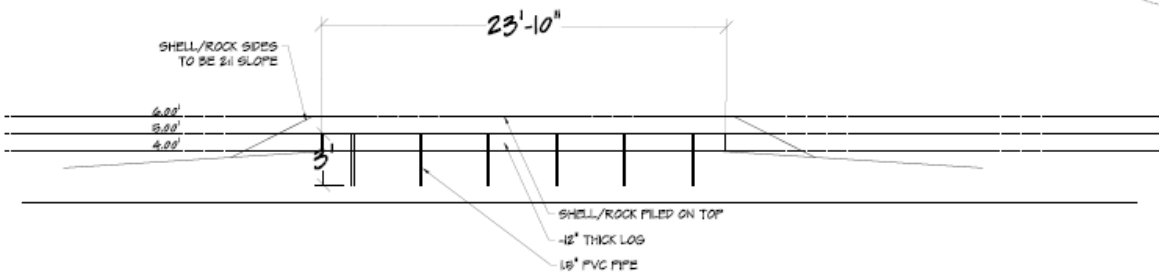




SIDE PROFILE
Scale: 1/8"-1'-0"



TOP PROFILE
Scale: 1/8"-1'-0"




FRONT PROFILE
Scale: 1/8"-1'-0"



FALCON ANCHOR ASSEMBLY WITH LOCK GRIP

COIR LOG DEVICE




LG-3 FALCON LOCKGRIP

System and Performance Loading Chart	
Maximum Working Load	Safe Working Load (Max Working Load / 1.3 Safety Factor)
LG-3 with 1/8" Cable (Loop)	1,850 lbs*
	1,425 lbs

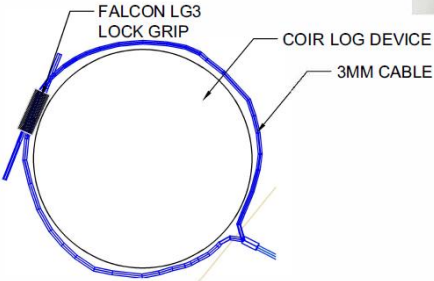
* Maximum Load verified by independent, accredited third party testing, when used in conjunction with cables supplied by Western Geos.

FL-120 FALCON ANCHOR



Soil Type	Install Depth	
	3 ft	5 ft
Loose (SPT > 4)	300	450
Medium (SPT > 10)	750	1,250
Dense (SPT > 30)	1,750	3,250
Very Dense (SPT > 50)	3,250	> 5,000

Typical Pullout Resistance*



FALCON LG3 LOCK GRIP

COIR LOG DEVICE

3MM CABLE

NOTES:

- FALCON ANCHORS ARE TO BE DRIVEN TO SPECIFIED DEPTH BASED ON SITE CONDITIONS.
- THE FALCON ANCHORS SHALL BE INSTALLED AS PER THE MANUFACTURERS RECOMMENDATION USING THE CORRECT INSTALLATION TOOLS
- AFTER THE FALCON ANCHORS ARE DRIVEN THEY MUST BE LOAD LOCKED.
- THE CONNECTION TO THE COIR LOG DEVICE WILL BE MADE BY WARPING THE 2 LEGS OF THE CABLE AROUND THE COIR LOG AND THEN CONNECTING WITH A FALCON LG-3.

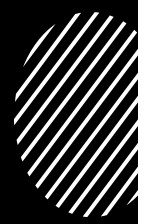
Shell Rake stabilization







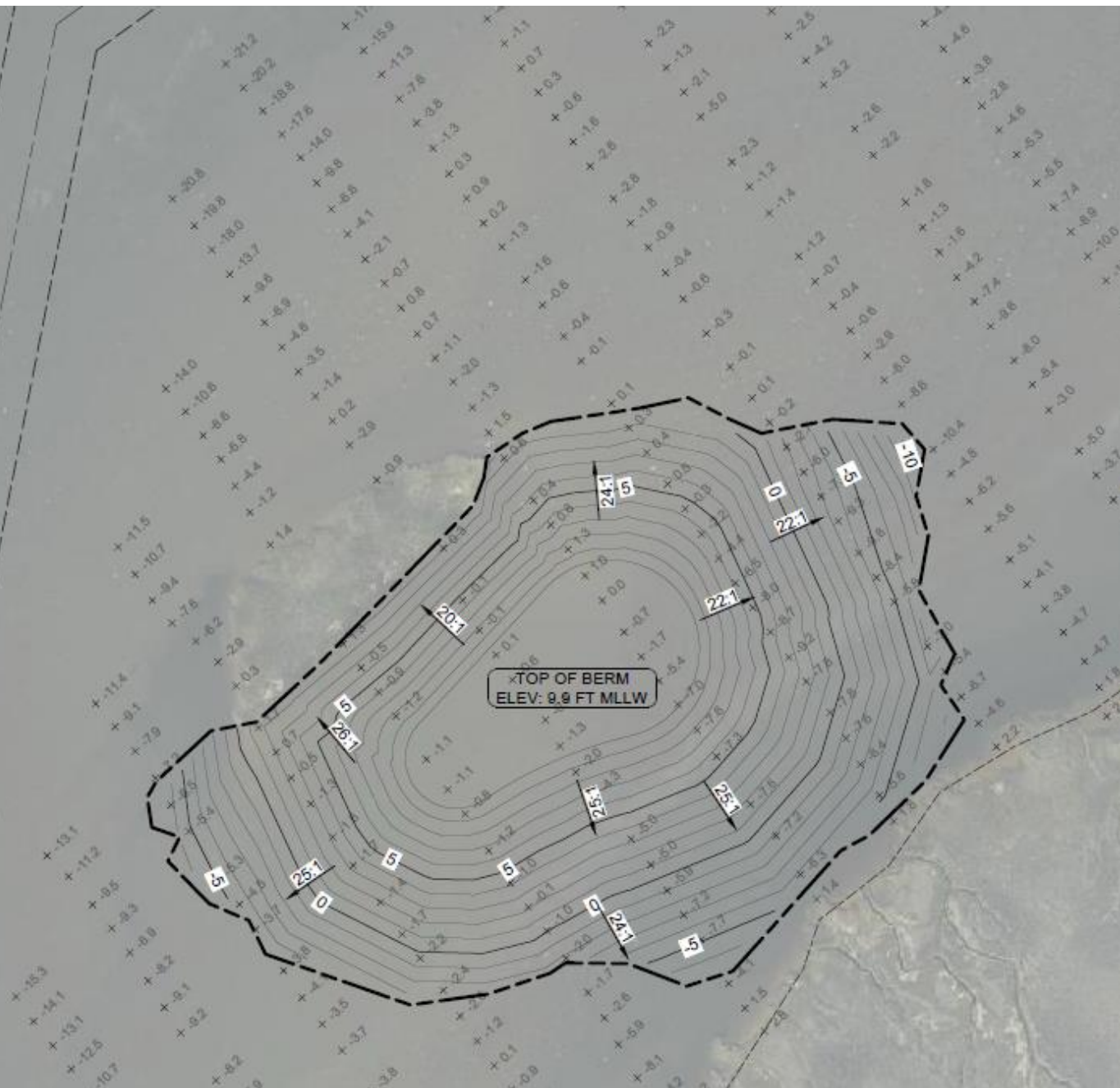
Shell rake
project
cost (6
rakes, 2
marsh
islands)



Engineering drawings -	
	\$4,400
<hr/>	
Anchors & shell bags -	
	\$2,500
<hr/>	
Shell (220 cy)	
	\$19,000
<hr/>	
Contractor	
	\$45,000
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Timbers – donated by GA Power	
<hr/>	
Total -	
	\$70,900

AIWW - CUMBERLAND

702.0 M.

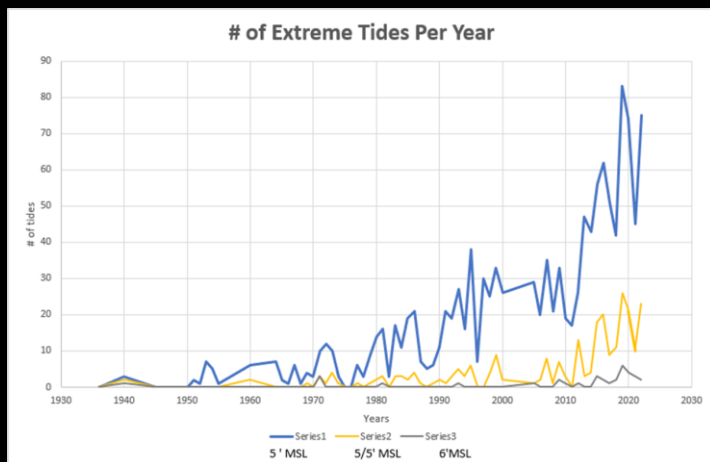


Kings Bay Submarine Base

- 12 years from filling all spoil placement sites
- 80 - year plan engineering firm
 - DMMA < bird island < Offshore disposal
- Navy convened BU working Group
 - GA Tech, UGA, SERPPAS, Navy, DNR
 - Bird Island in Cumberland Sound in priority
 - NMFS approves of my site selection based on history of nesting



Habitat Team Goals



Growing need for restoration projects

Daunting challenges to initiating and completing projects

Encourage projects within the group by facilitating sharing information of all aspects of restoration/creation projects

Create information template

Story map database

Project Template

- merged

- Project Info
 - Project Goals
 - Planning/design Elements
 - Construction Elements
 - Permitting Requirements
 - Construction Costs
- Maintenance and Monitoring
 - Outcomes
 - Lessons Learned
 - Images and Maps

Will share full draft template for feedback
Please share Project information!

Story map database

- Contract finalized for Black Cat GIS to create database
- What does the working group want from database?
- Searchable by what categories?
- Include engineering data?
- Additional map layers?
 - Conservation lands, land cover?
- Pre & Post AMOY #'s and production

Habitat Session

- Habitat creation through BU
 - Mike Molnar
- Creating foraging habitat
(reduce the commute)
 - Paul Medders & Neils Lindquist
- Vegetation Control
 - Lyra Brennan
- Maintenance needs
 - Hurricane Damage to Gomez Key
 - Janell Brush