

Lido Key Dune Project - January 15, 2022

Presentation to LKRA

Review of US Army Corps Project

Benefits of Adding Dunes

Review of Proposed Dune Concept

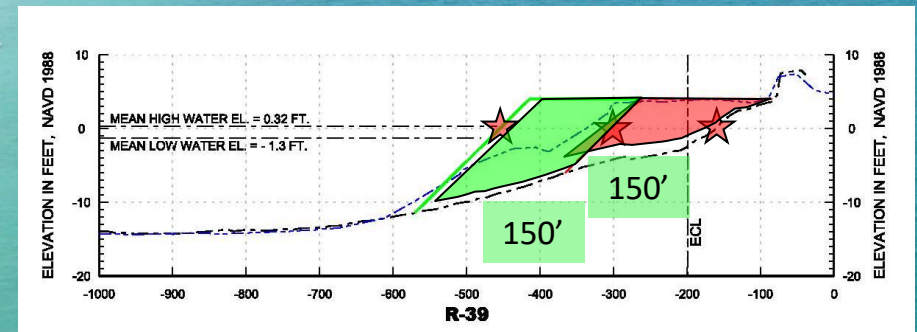
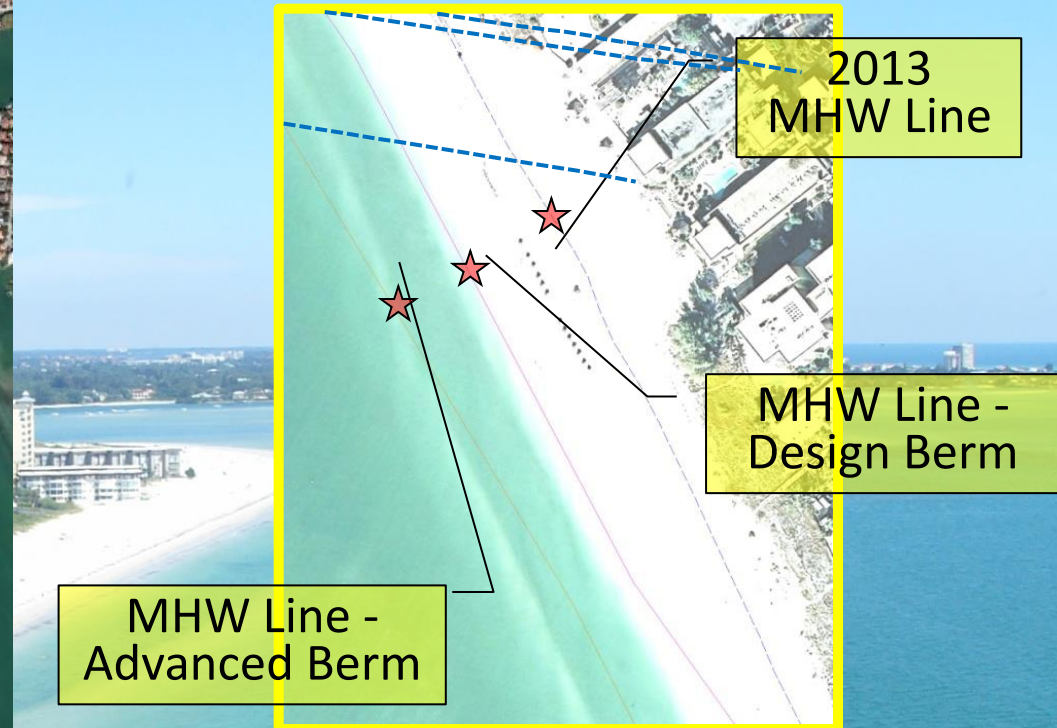
Next Steps



LIDO KEY, CITY OF SARASOTA, FLORIDA HURRICANE AND STORM DAMAGE REDUCTION PROJECT



PLACEMENT – LIDO KEY



FDEP Monument R-39
(Lime Tree
Resort/Condos)





Why Add a Dune:

Provides higher level of storm protection

Enhances coastal ecosystem

Traps wind transport and increases sand volume



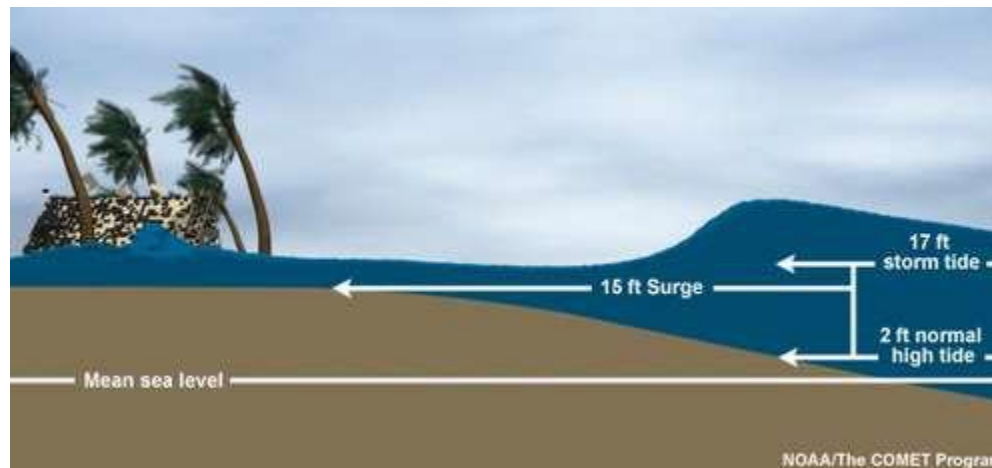
Design Considerations: Height of Dune

FEMA Dune Erosion-Frequency Relationship (2005)

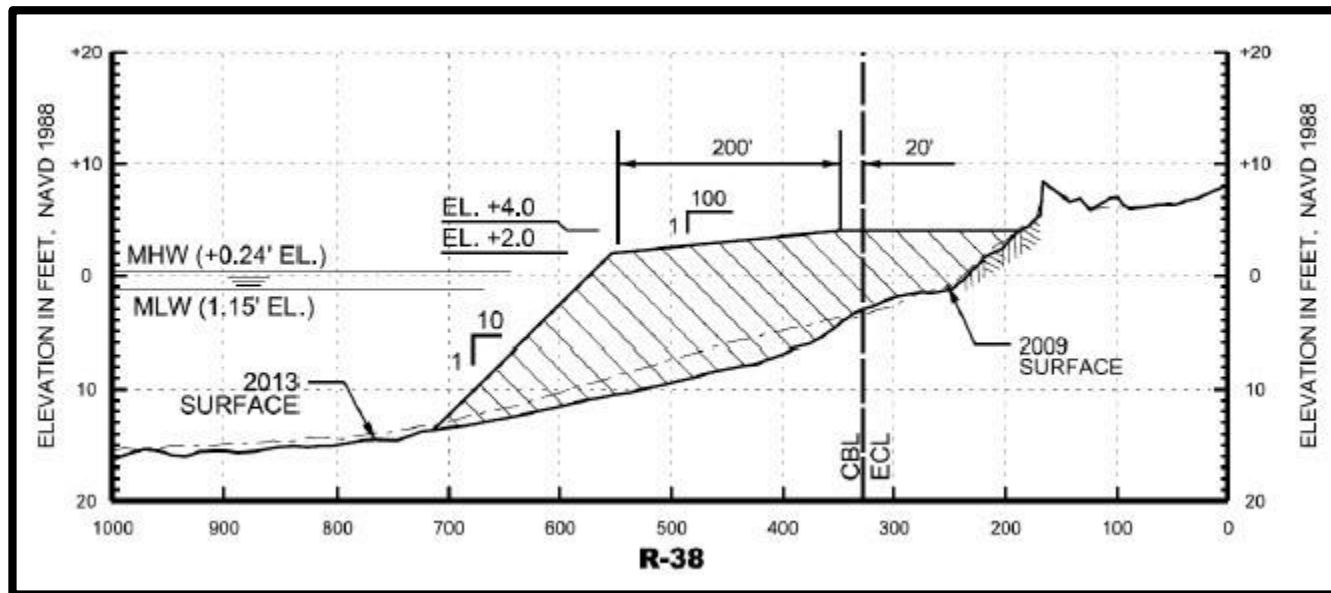
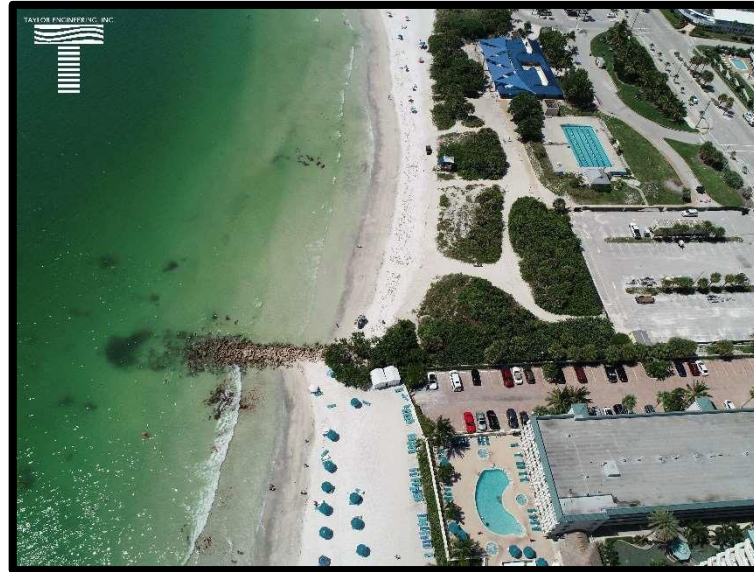
Return Period (yrs)	Dune Volume (cy/ft)
5	6
10	8
25	12
50	15
100	20

Longboat Key Still Water Levels by Return Period

Return Period (yrs)	Still Water Surface Elevation (ft NAVD)
5	+2.8
10	+4.4
25	+6.6
50	+8.3
100	+9.9



Design Considerations: ECL Location



Design Considerations: ECL Location



Design Considerations: ECL Location



Design Considerations: Before



Design Considerations: After



Design Considerations: After



Plant Selection



Dune
Sunflower –
Mature height
less than 2
feet



Blanketflower
Gaillardia –
Mature height
12-18 inches



Sea Oats –
Mature height
typically a few
feet.



Railroad Vine -
Mature height
2-6 inches



Walkways



What Next:

Continue with outreach, review details with owners and get support for concept.

Once Concept is approved – final design and permitting would begin

(approx. a 4-month process)

After the permit is approved, the project could go out for bid (3 months)

Construction would start after that and take about 2-3 months.

The permit process may include construction parameters so a final proposed timeline will be developed after input from FDEP.



Questions



Design Considerations: Storm Surge

Storm	Date	Location	Surge (ft NAVD)
Hurricane Gabrielle	Sept 14, 2001	Venice	6
Hurricane Charley	Aug 13, 2004	Punta Gorda	10-13
TS Fay	Aug 19, 2008	Naples	1-2
TS Emily	July 31, 2017	LBK	1.5-2.0
Hurricane Irma	Sept 10-11, 2017	SWF	1.5

