

Operating Rules for 8.5 Mile Square Area

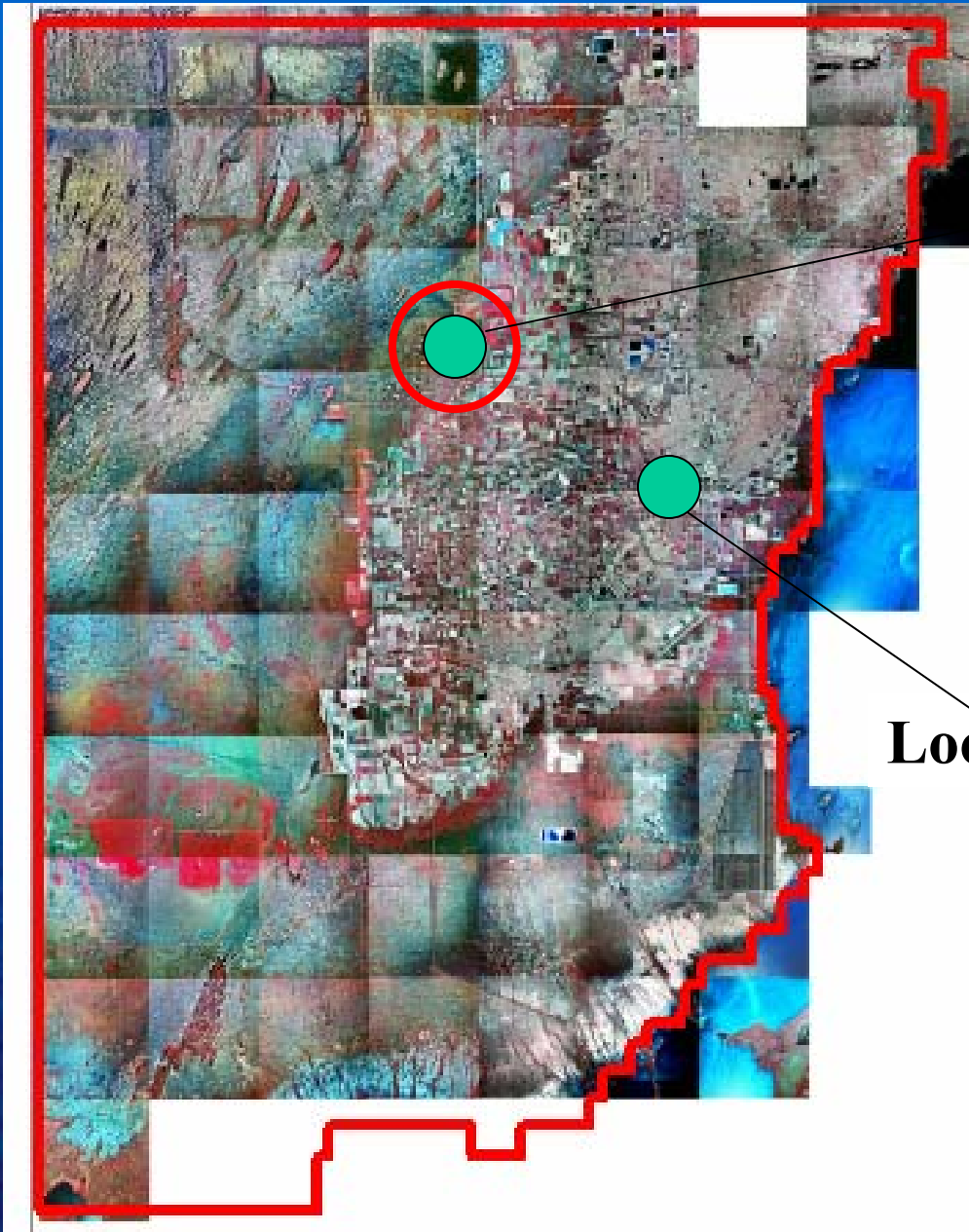
Plan 6D

Presented by:

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U.S. Army Corps of Engineers
Jacksonville District

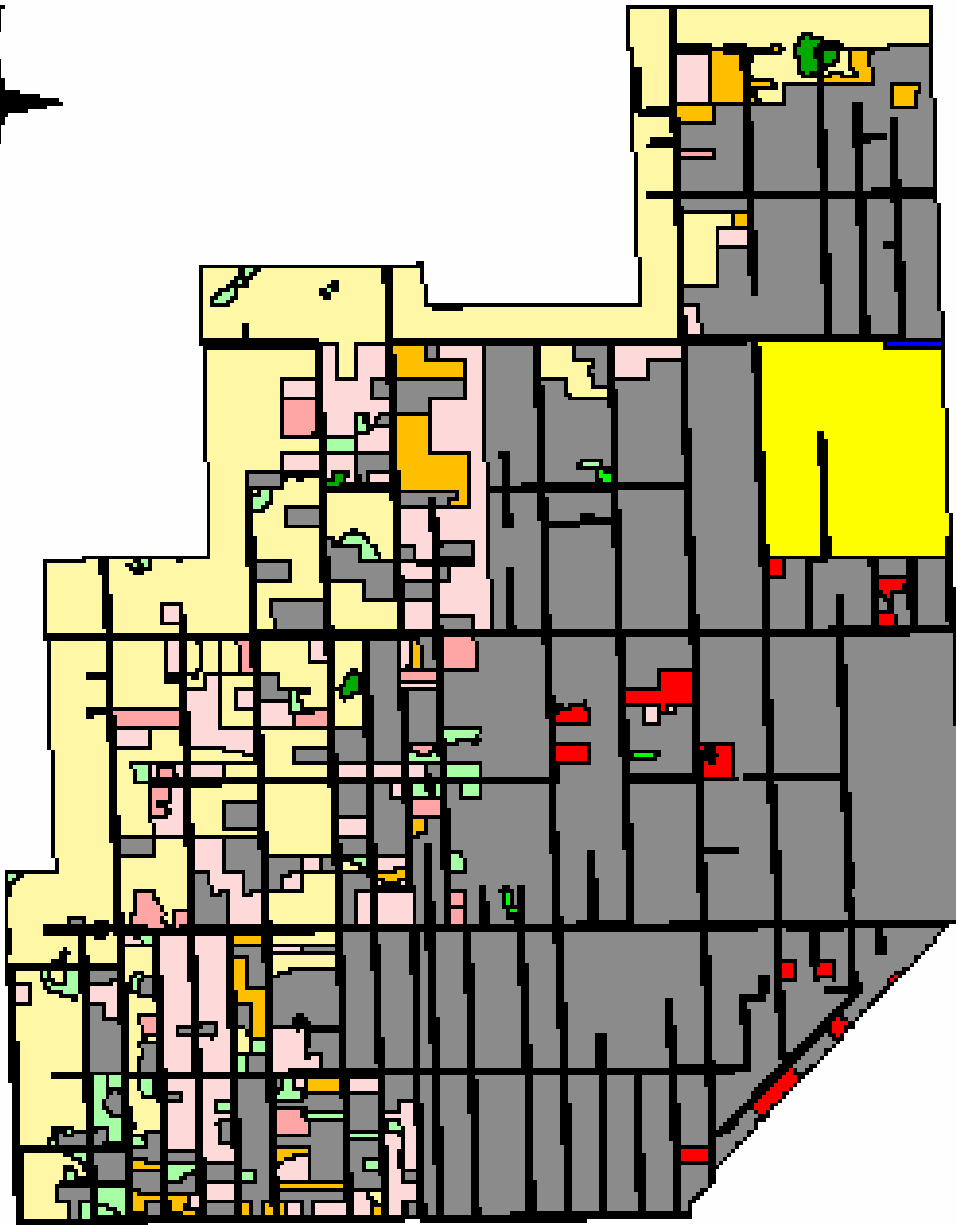
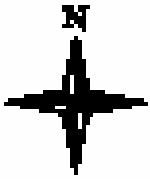
Combined Structural and Operational Plan Advisory Team
January 12, 2003



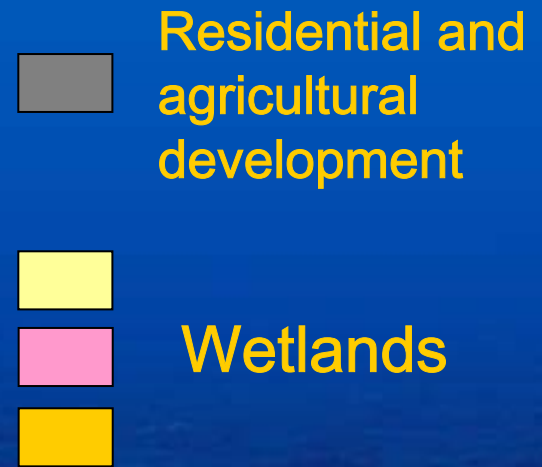
Location of 8.5 SMA

Location of Homestead

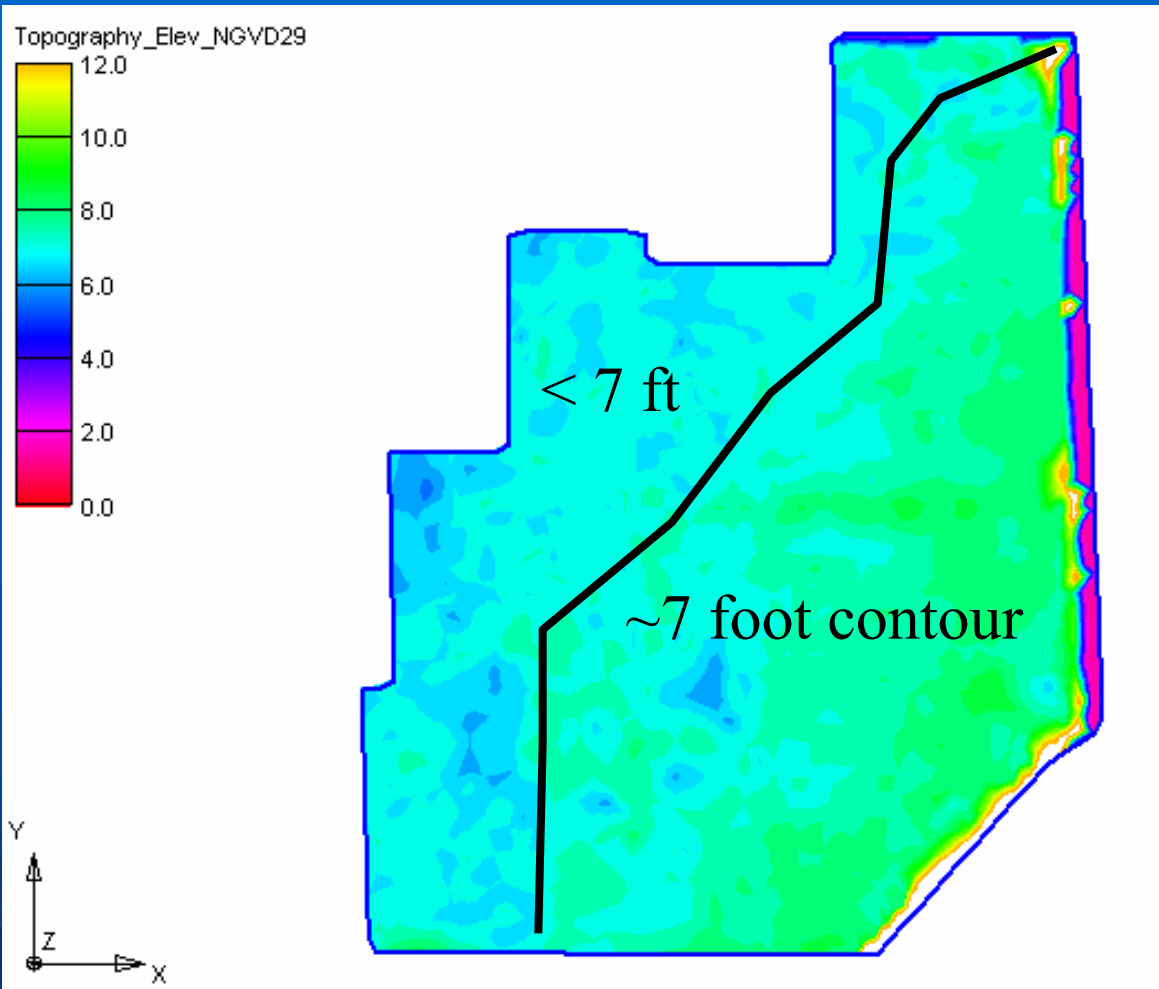




Source: 8.5 SMA
Volume 1 GRR,
July 2000



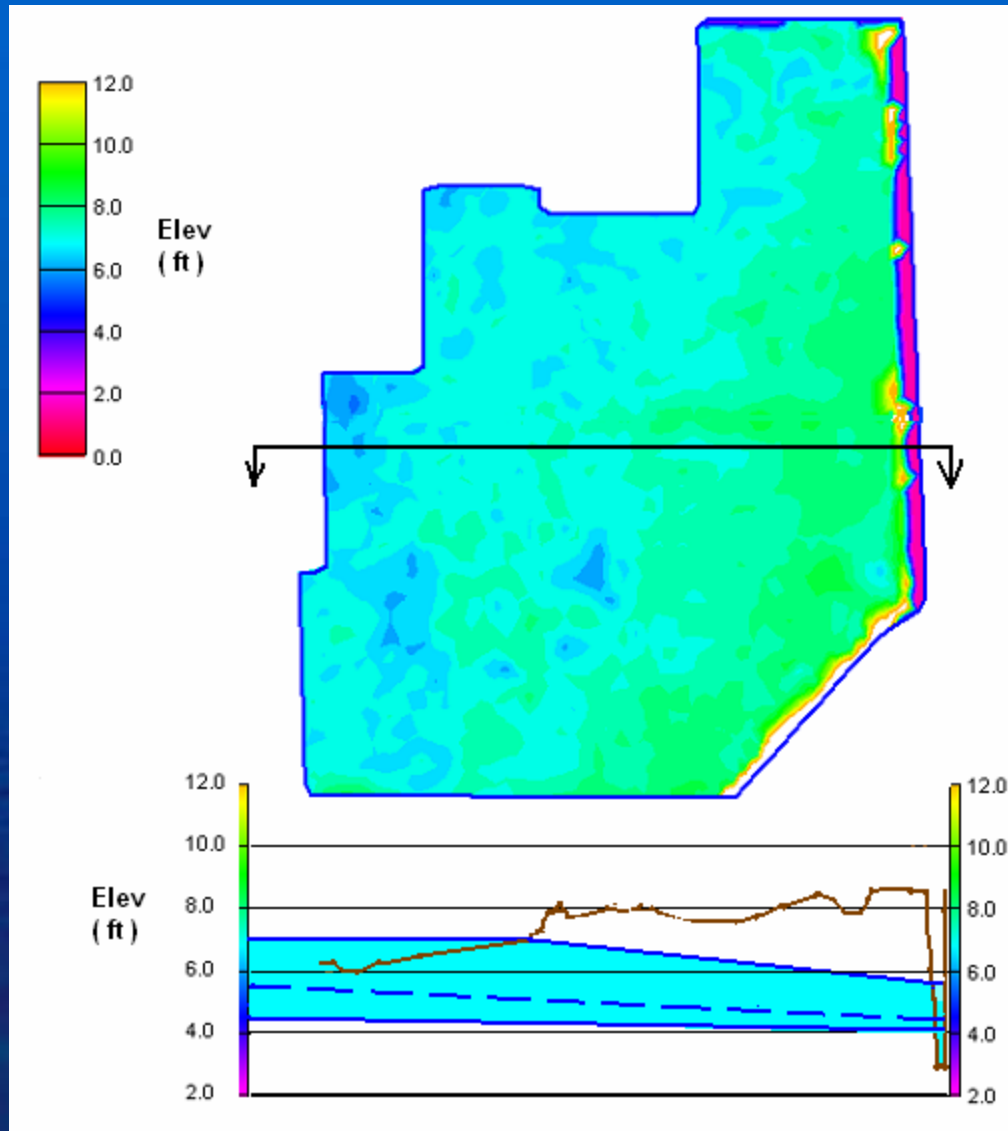
Vegetation Map
of Study Area



Detailed Topography
in 8.5 SMA Based on
1986 COE Survey of
Area

Note: Elevations are referenced to NGVD 1929

8.5 SMA Topography and Generalized Water Levels



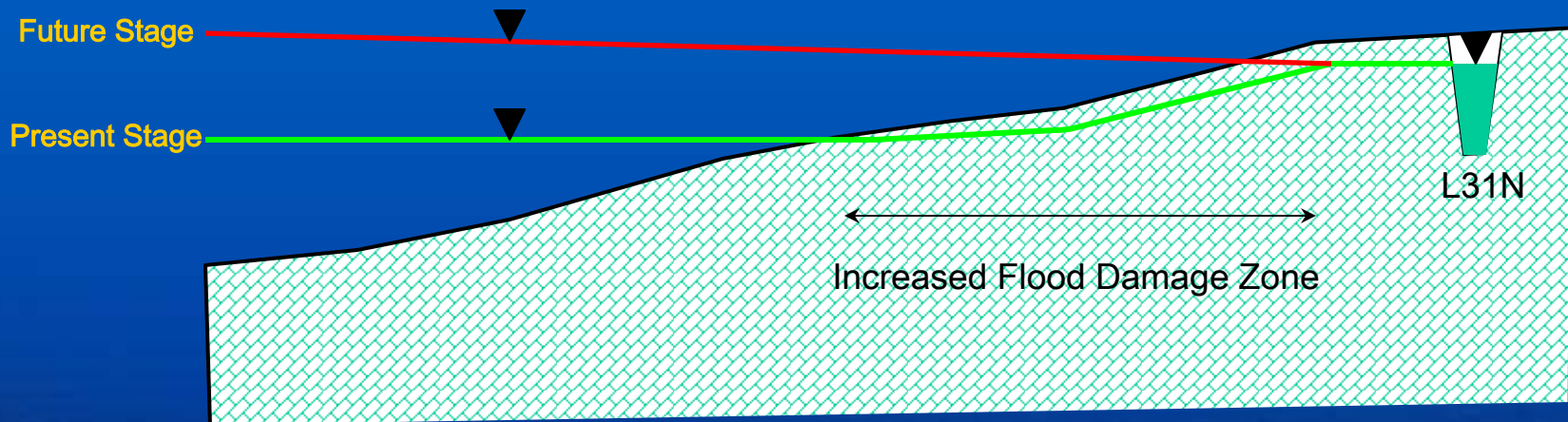
Top View

Side View

Why both a levee AND a seepage canal?

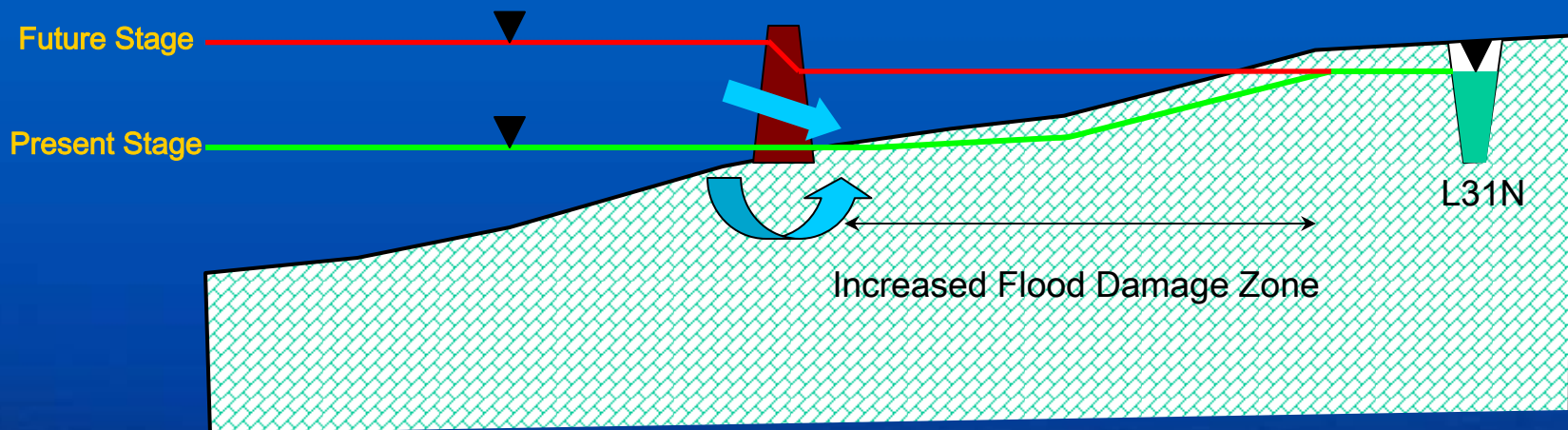
Increased stages are necessary for restoration.

Increased stages can lead to an increase in flood damages



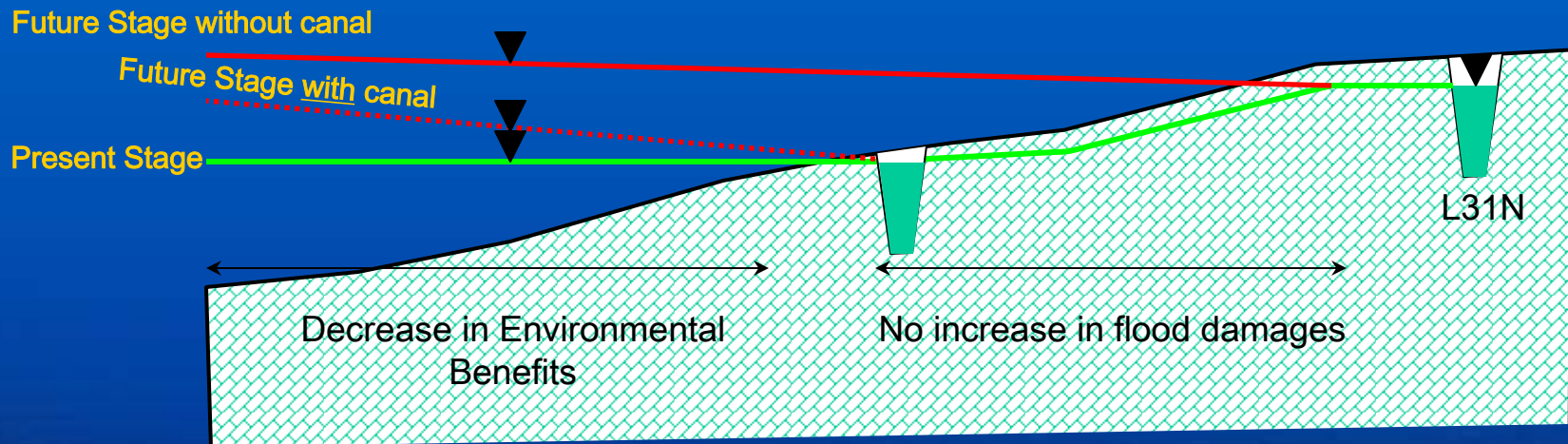
When water stages are increased west of the 8.5 SMA, flood damages will increase without a mitigation plan.

With Just a Levee



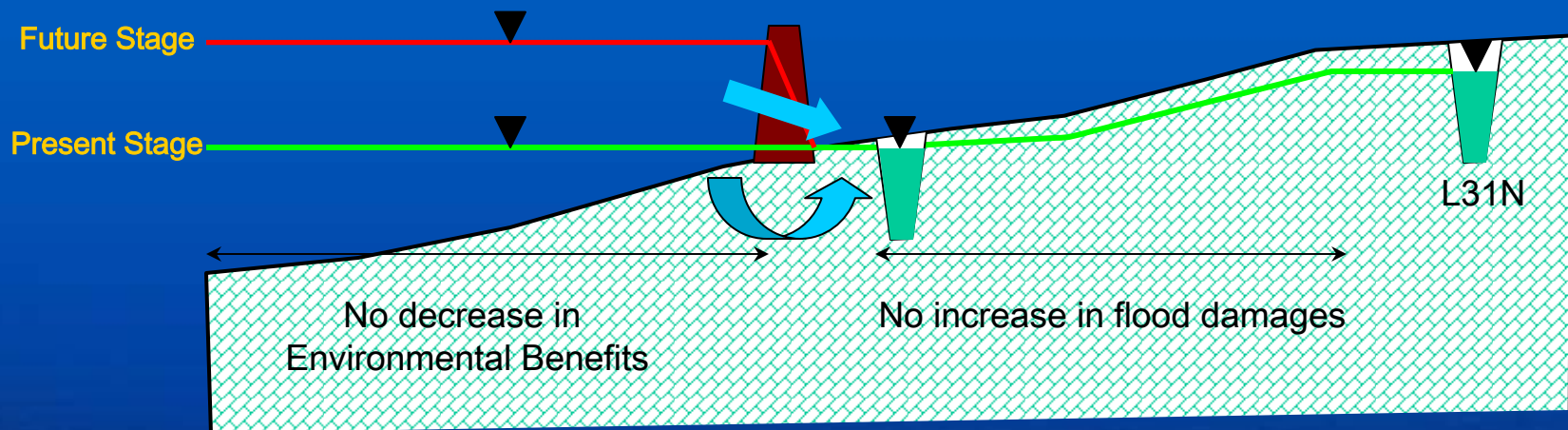
When there is just a levee and no seepage canal, the seepage will continue to cause an increase in flood damages. This is especially true if water west of the levee is high for a long duration.

With just a canal



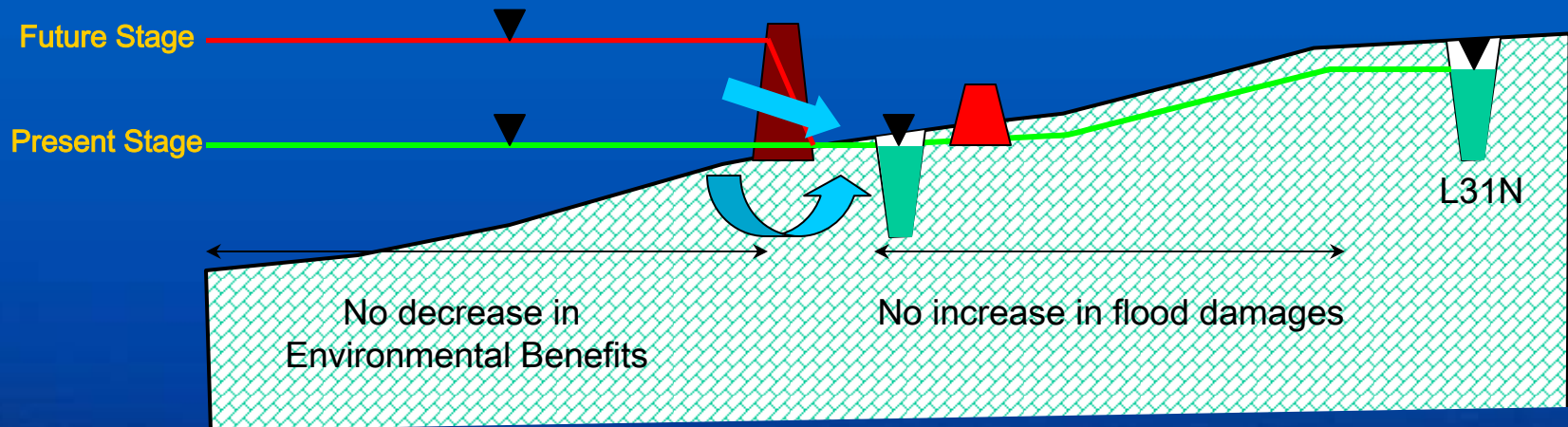
When the stage is lowered by the canal, the effects are felt both east (good) and west (bad).

With Both a Levee and a Seepage Canal

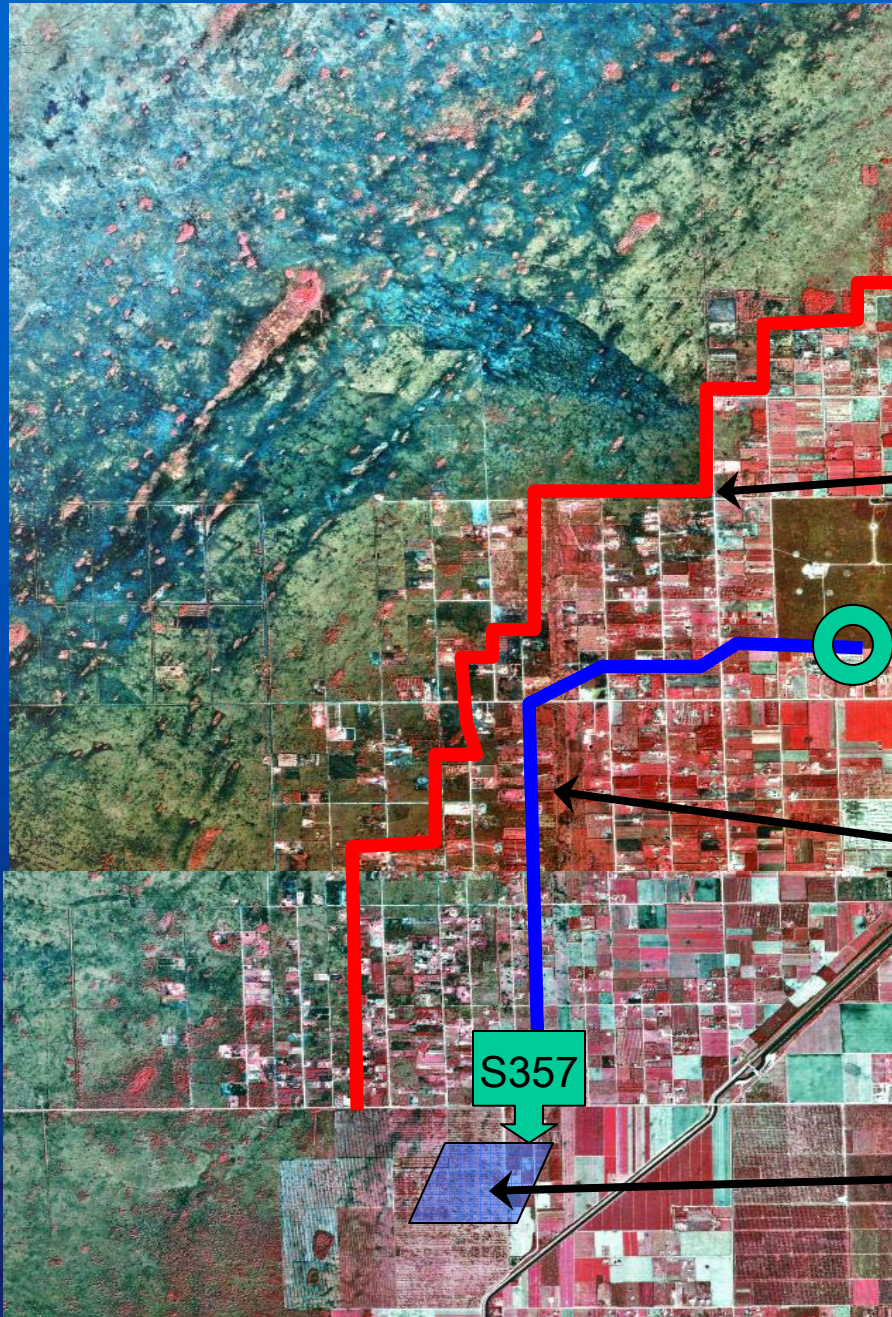


With both a levee and seepage canal, the environmental benefits can be maximized while minimizing the increase in flood damages.

The 8.5SMA project is a Ground Water Seepage Management Plan. The water removed from the seepage canal will be moved south into a Storm water treatment area (STA).



In order to insure that the water removed from the seepage canal is clean, a second, interior levee will be built to block runoff containing pollutants.

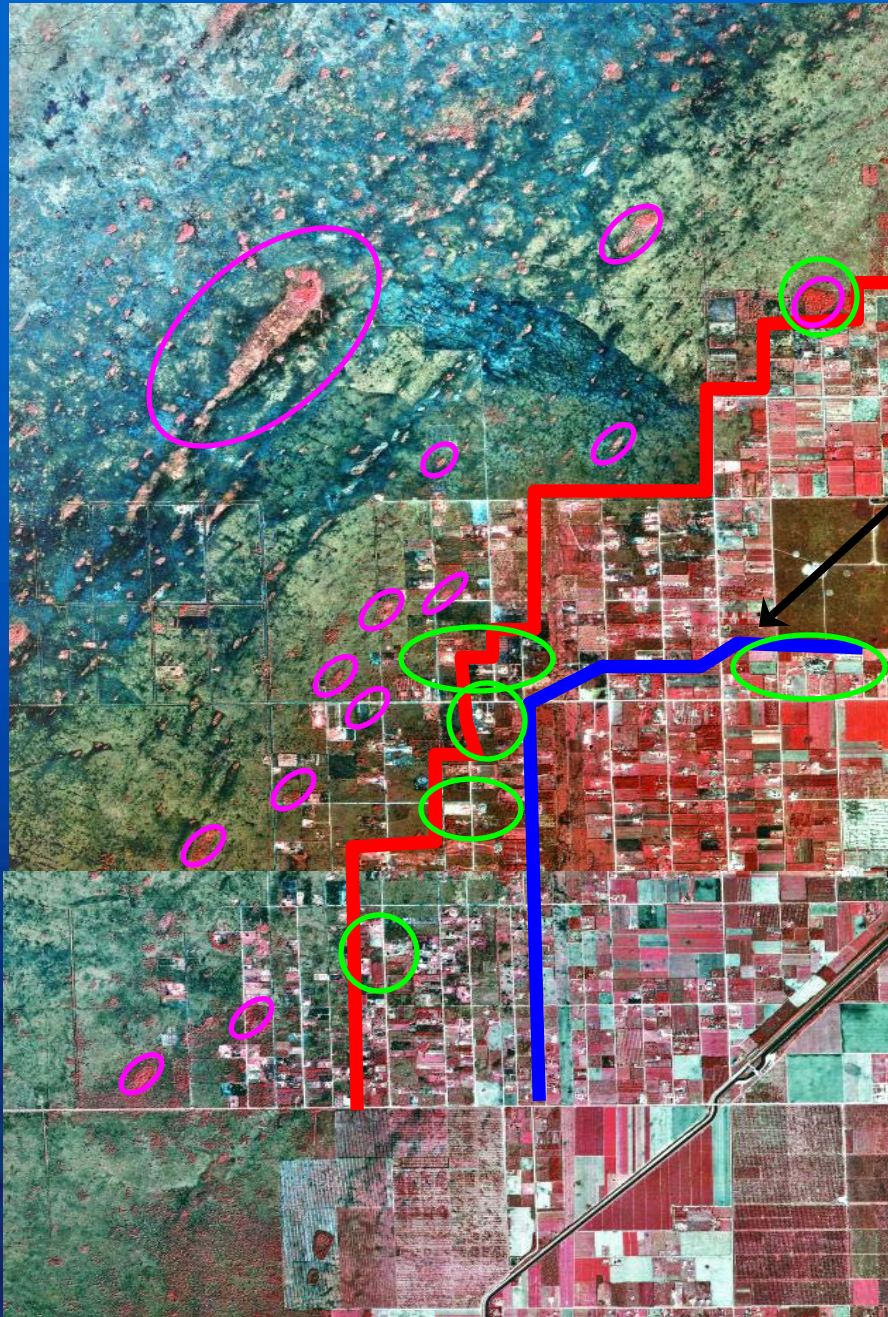


Plan 6D Levee

S357 Trigger location

Plan 6D
Seepage Canal

Discharge into STA



Proposed Levee

Proposed Seepage Canal

○ Area avoided during
Engineering optimization

○ Everglades Tree Islands

Optimization of
Plan 6D

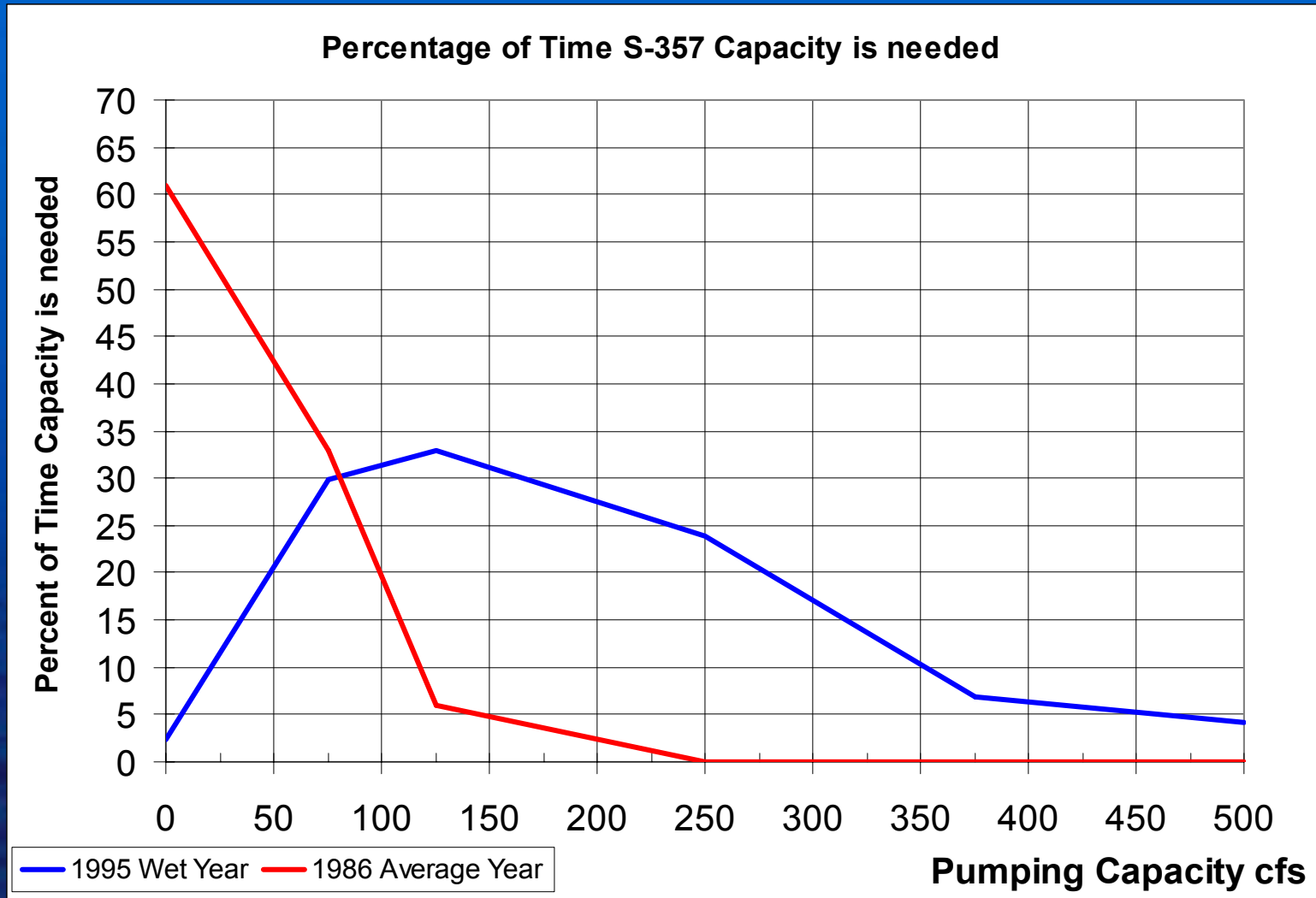
Model Operating Rules for 8.5 Mile Square Area, Plan 6D

The model study used a simple rule that would turn the S-357 pump on when the stage in the upper end of the seepage canal exceeded 1 foot below the local ground elevation.

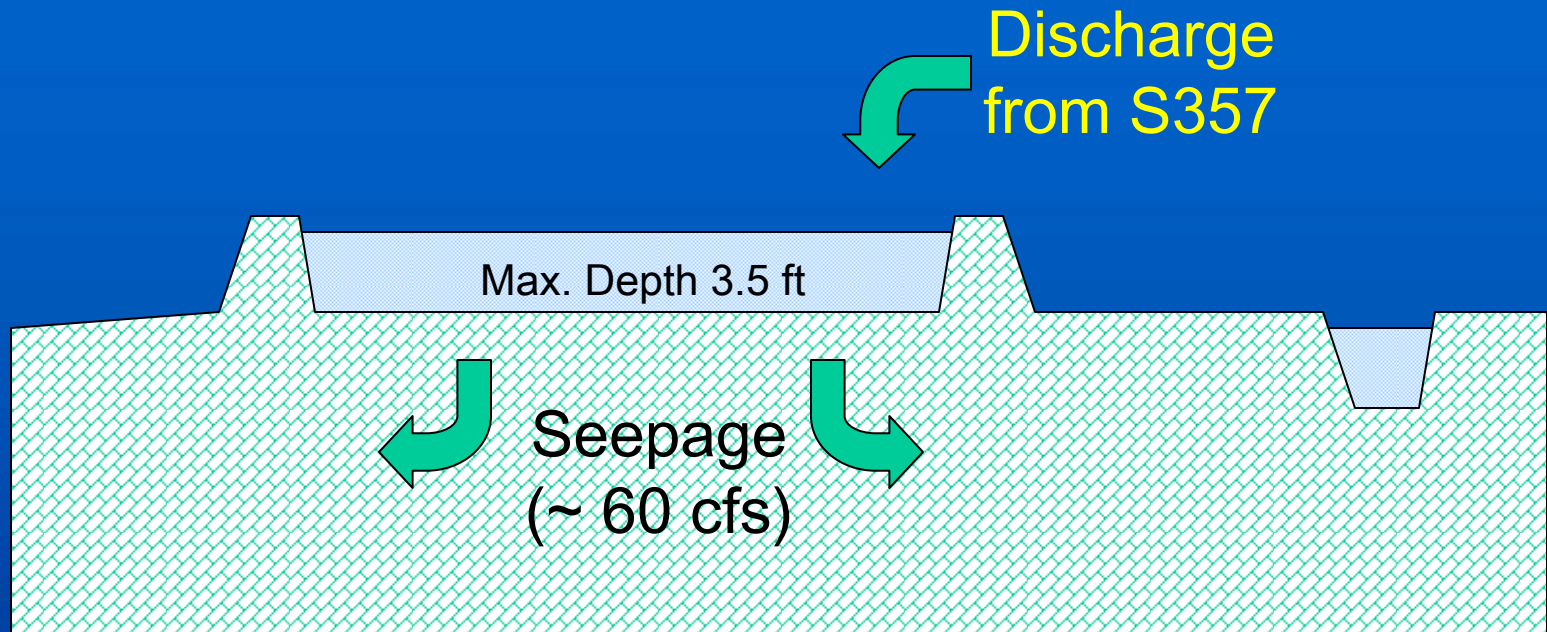
The local ground elevations is approximately 7 feet. Therefore, the pump turns on whenever the stage is > 6 feet.

The pump would remain on until the stage decreased to 5.7 feet.

Frequency of S-357 Pump Use



STA overflow

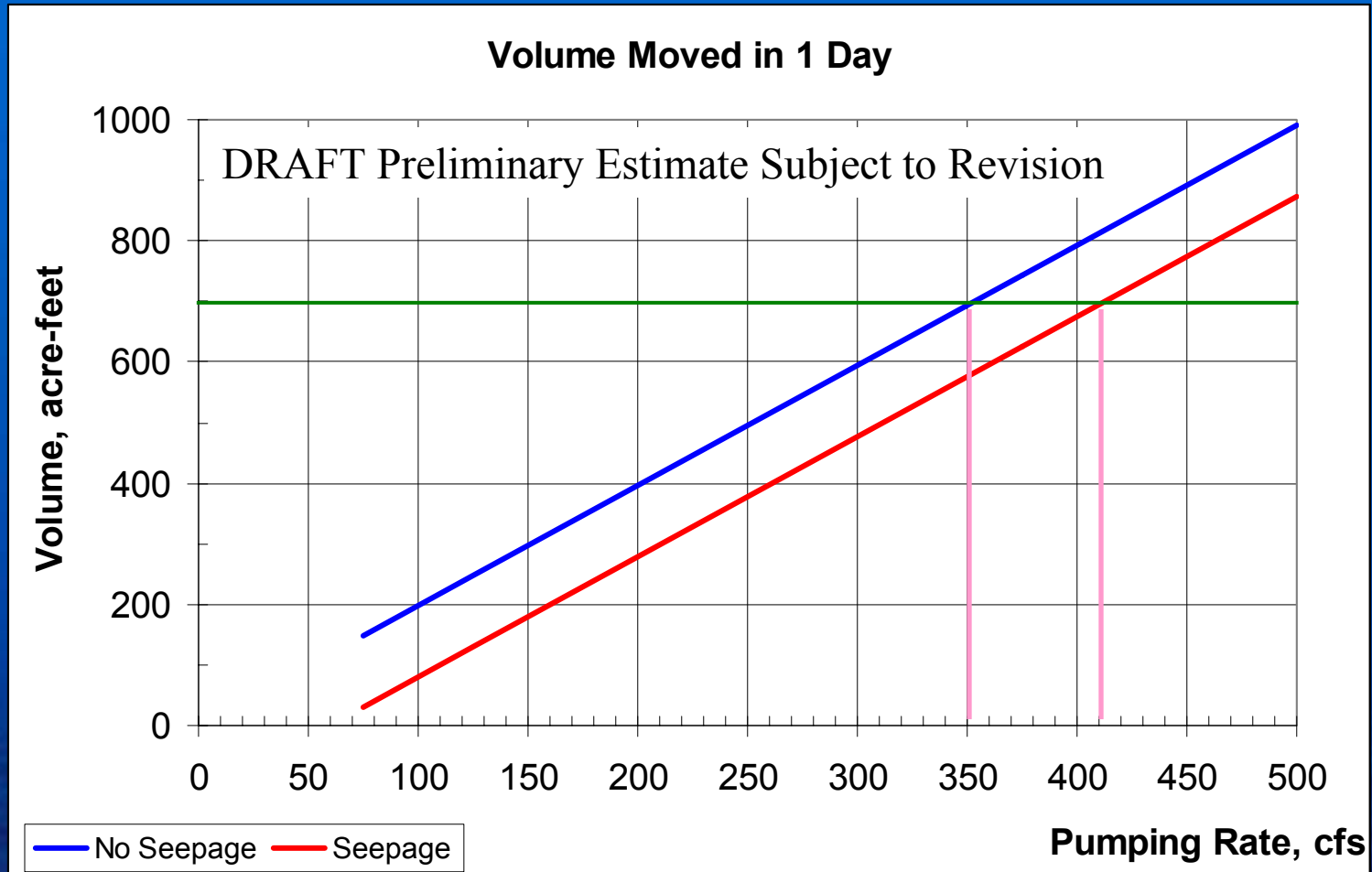


STA is about 200 acres with a maximum depth of 3.5 feet.

Storage Capacity is 700 acre-ft

STA overflow

Preliminary Estimate Subject to Revision



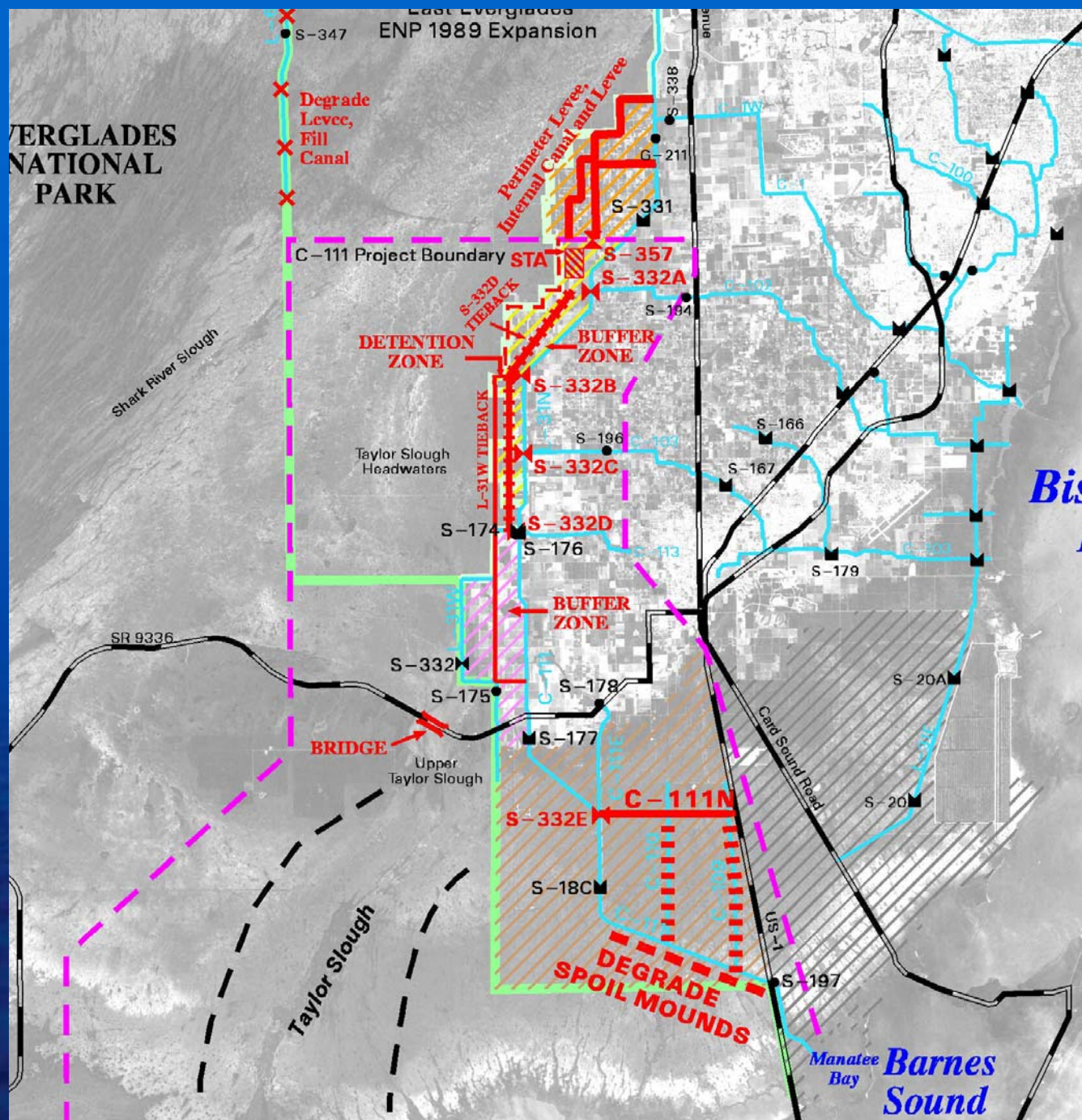
The Pumping Rate required to cause overflow is never exceeded in dry or average years.

It is exceeded no more than 10% of the time in wet years.

Actual Operations of S-357
will be determined during the
CSOP Process

No In-depth Analysis was done to
determine the frequency of
overflow from the S-357 STA into
the ENP

VERGLADES
NATIONAL
PARK



Connection of
8.5SMA / S357
with C-111

