CENTRAL EVERGLADES PLANNING PROJECT

Miami Canal Backfilling

Recommendations from the Ecological Sub Team

PRESENTED BY
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CEPP PDT #16
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Miami Canal Backfill

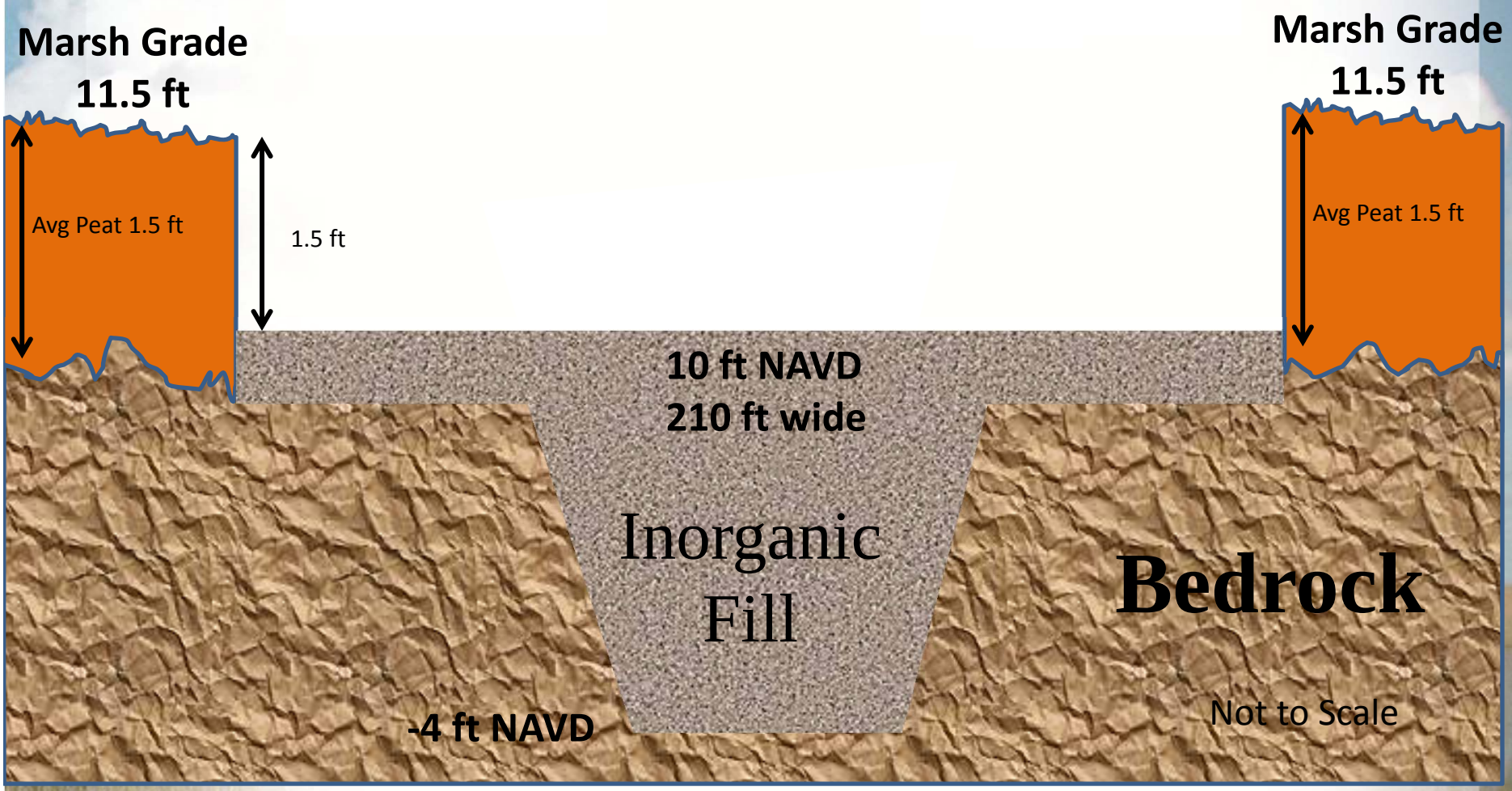
- Render the Miami Canal invisible hydrologically and ecologically at a landscape scale

- Eliminate the harmful drainage effects that the Miami Canal has on the interior Everglades marsh that results in adverse effects on aquatic flora and fauna

Eco Sub Team Miami Canal Backfill Recommendations

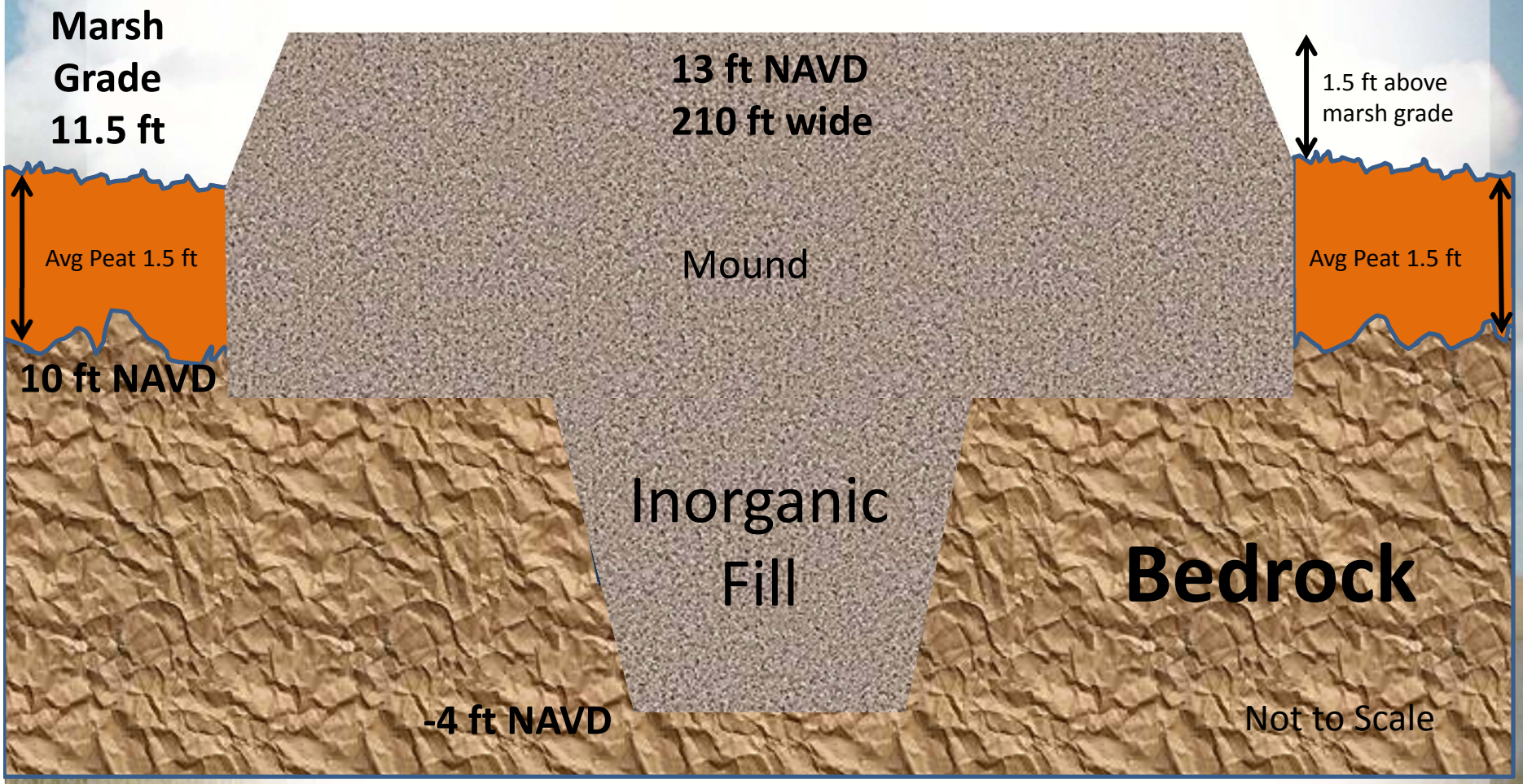
- Backfill from S-8 to I-75
  - To bedrock where peat is less than 2 ft
    - Backfill to bedrock (10 ft) from S-8 to S-339
  - To 1.5 ft below peat surface where peat depth is greater than 2 ft
    - Backfill to 11 ft (~1.5 ft below peat surface) from S-339 to I-75
  - Remove all spoil mounds on the east and west side of Miami Canal
  - Backfill below marsh grade creates conditions favoring dense wetland vegetation and peat accumulation
  - Dense vegetation and peat, along with mounds, will ultimately make canal hydrologically invisible
- Mounds S-8 to S-339
  - 210 ft wide and 210 ft long
  - Elevation of 13 ft (1.5 ft above peat surface)
  - Every 1 mile from S-8 to S-339
  - Prevents hydraulic channelizing and flow
  - Provides upland animal habitat (~17 acres)
- Spoil Mounds S-339 to I-75 – 3 Options
  - Option 1 – remove all spoil mounds and backfill to 11 ft
  - Option 2 – keep all spoil mounds on the west side and impact FWC spoil mounds on the east side and backfill to 11 ft
  - Option 3 – Keep select FWC mounds on west side and impact select FWC mounds on the east side (hybrid between Option 1 and Option 2) and backfill to 11 ft

Miami Canal Backfill
S-8 to S-339 to bedrock (10 ft)

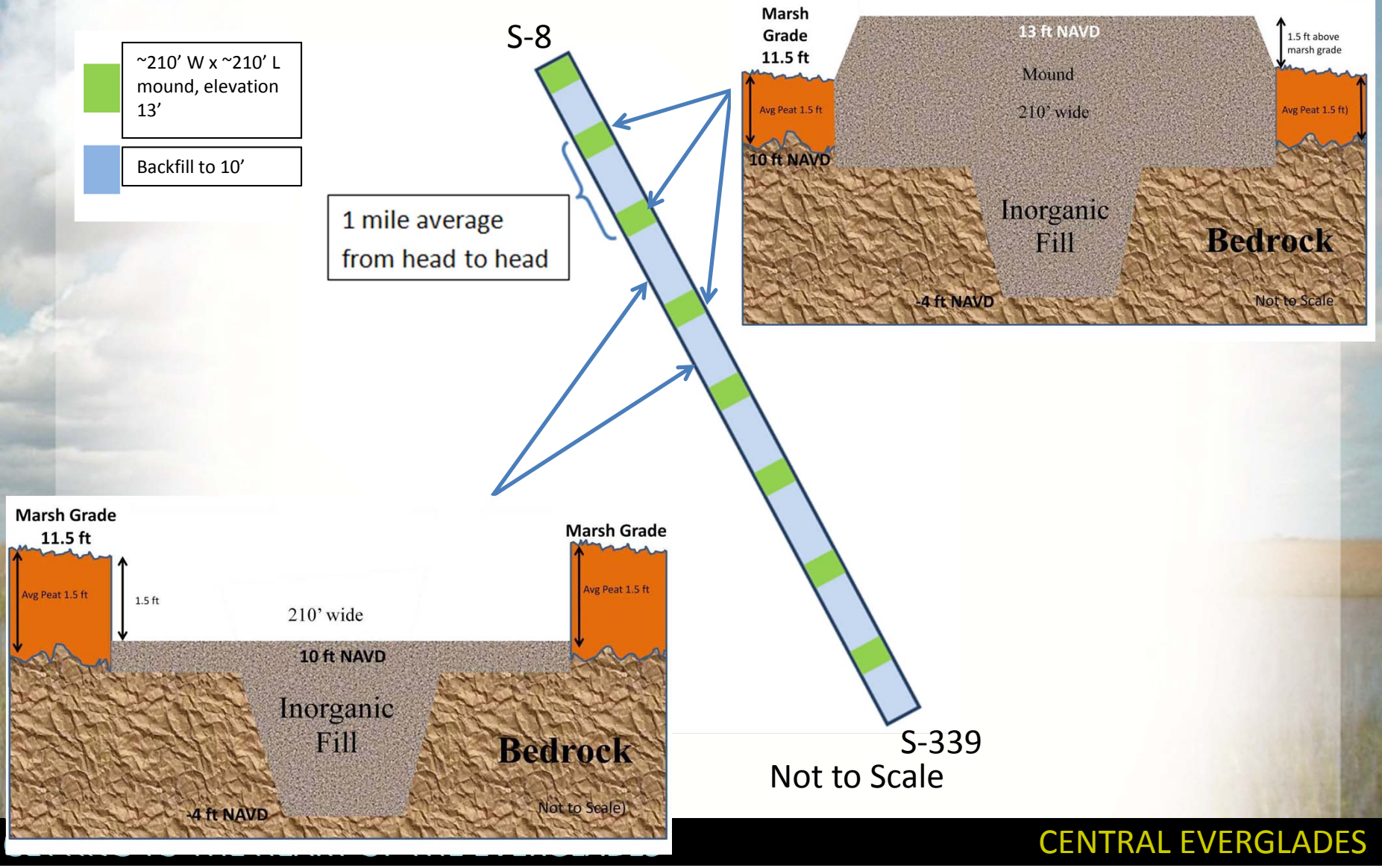


Miami Canal Mounds

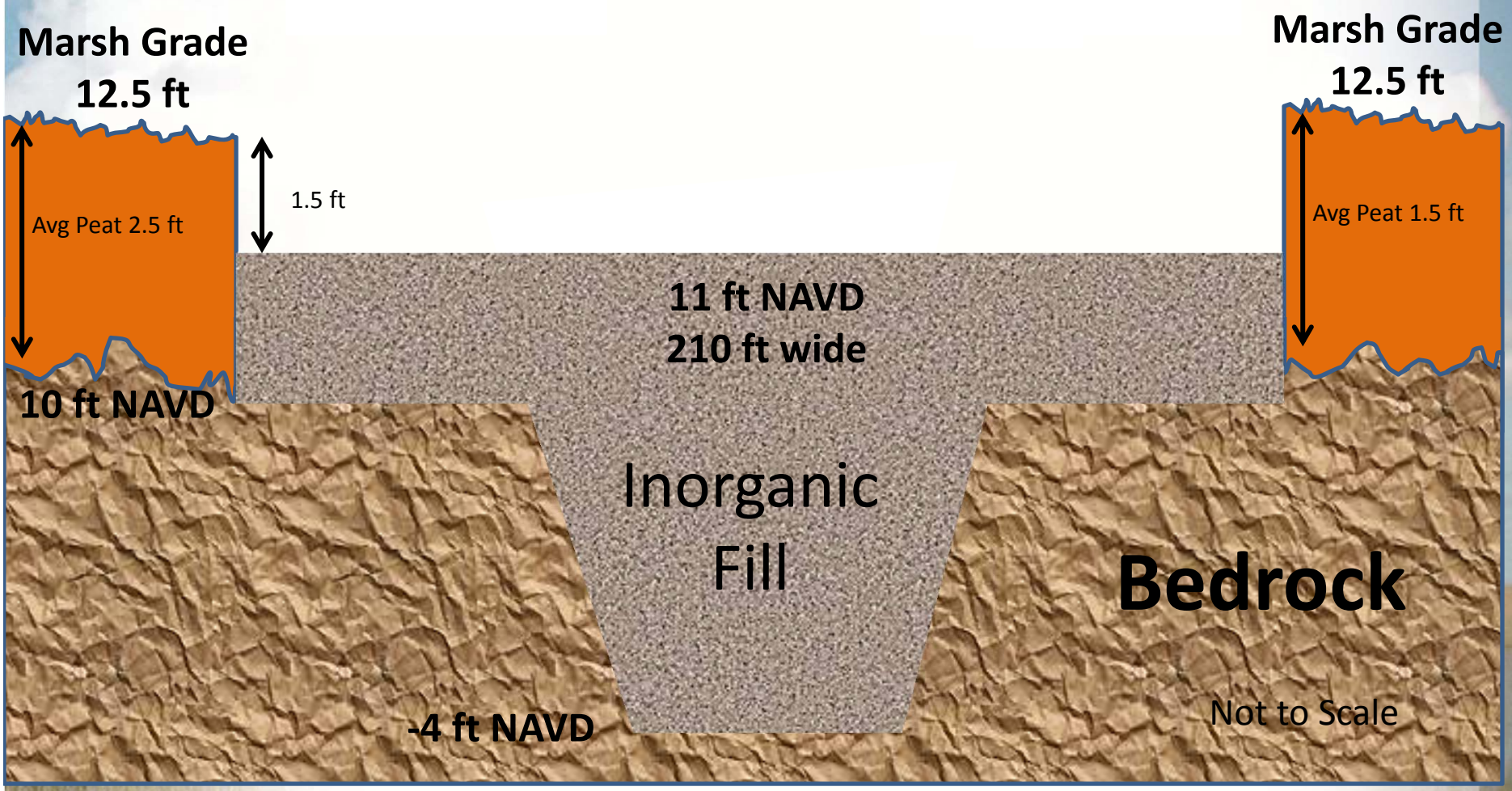
Every 1 mile from S-8 to S-339 at an elevation of 13 ft
~17 acres



Miami Canal Backfill and Mounds
S-8 to S-339



Miami Canal Backfill
S-339 to I-75 to 11 ft (1.5 ft below peat surface)



Spoil Mounds

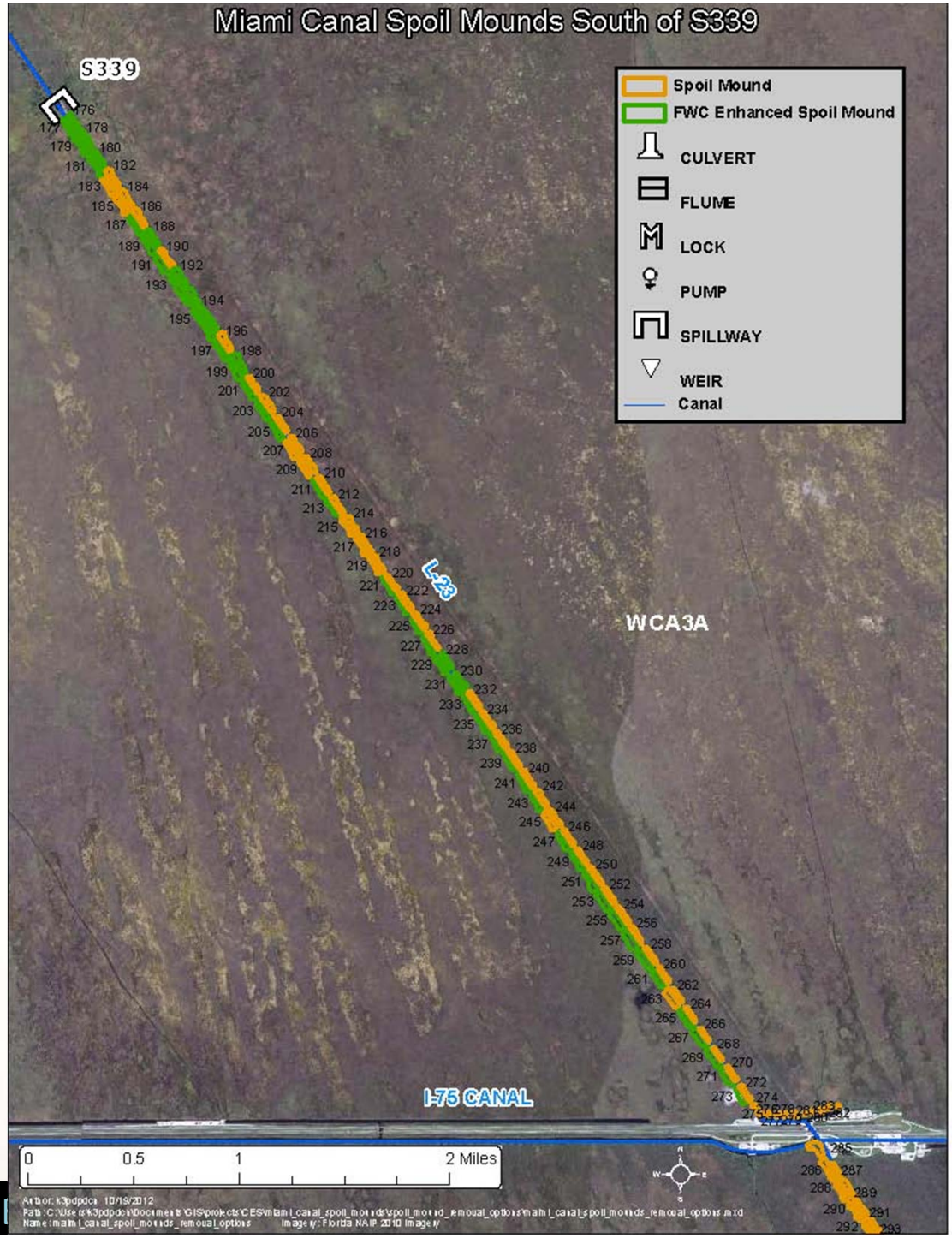
- S-339 to I-75 Spoil mounds
  - Spoil mounds on east and west sides of Miami Canal
  - FWC improved 53 spoil mounds on the east and west side
    - Mitigate impacts on wildlife from tree island loss in 3A North
    - Mucking with peat topsoil
    - Native plantings
    - Exotic vegetation control
    - East Side of Miami Canal
      - 9 FWC Enhanced spoil mounds
    - West Side of Miami Canal
      - 44 FWC Enhanced spoil mounds
    - ~75 acres

Spoil Mound Discussion

Purpose of Miami Canal Backfill: Render the Miami Canal invisible hydrologically and ecologically at a landscape scale

- FWC requested that the enhanced spoil mounds not be degraded
- Maintain wildlife habitat

- Leaving spoil mounds reduces the amount of fill available to backfill the Miami Canal
- Leaving spoil mounds disrupts sheetflow
- Purposes of project to make Miami Canal hydrologically invisible may not be met



GETTING TO THE HI

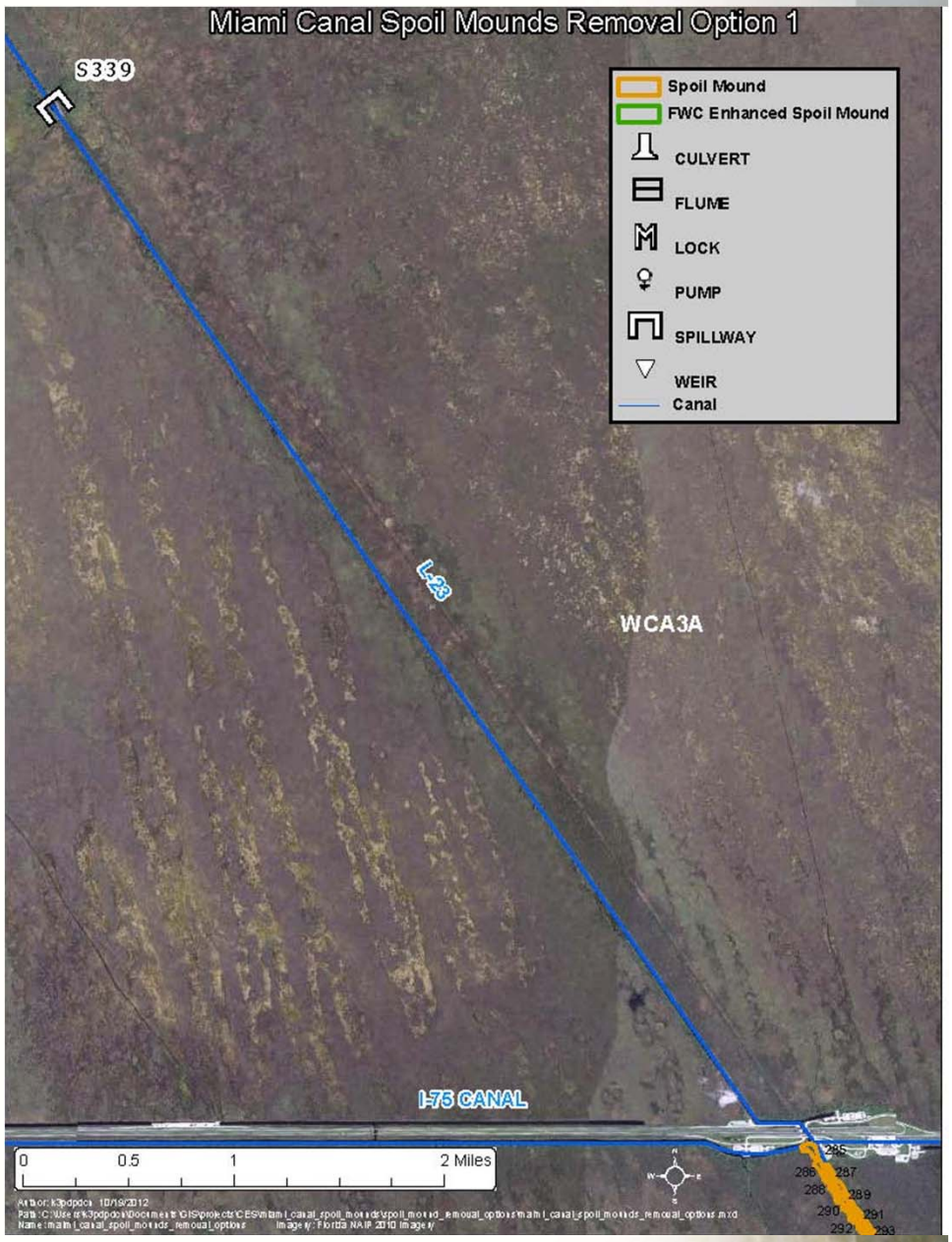
TRAL EVERGLADES

Spoil Mound Options from S-339 to I-75

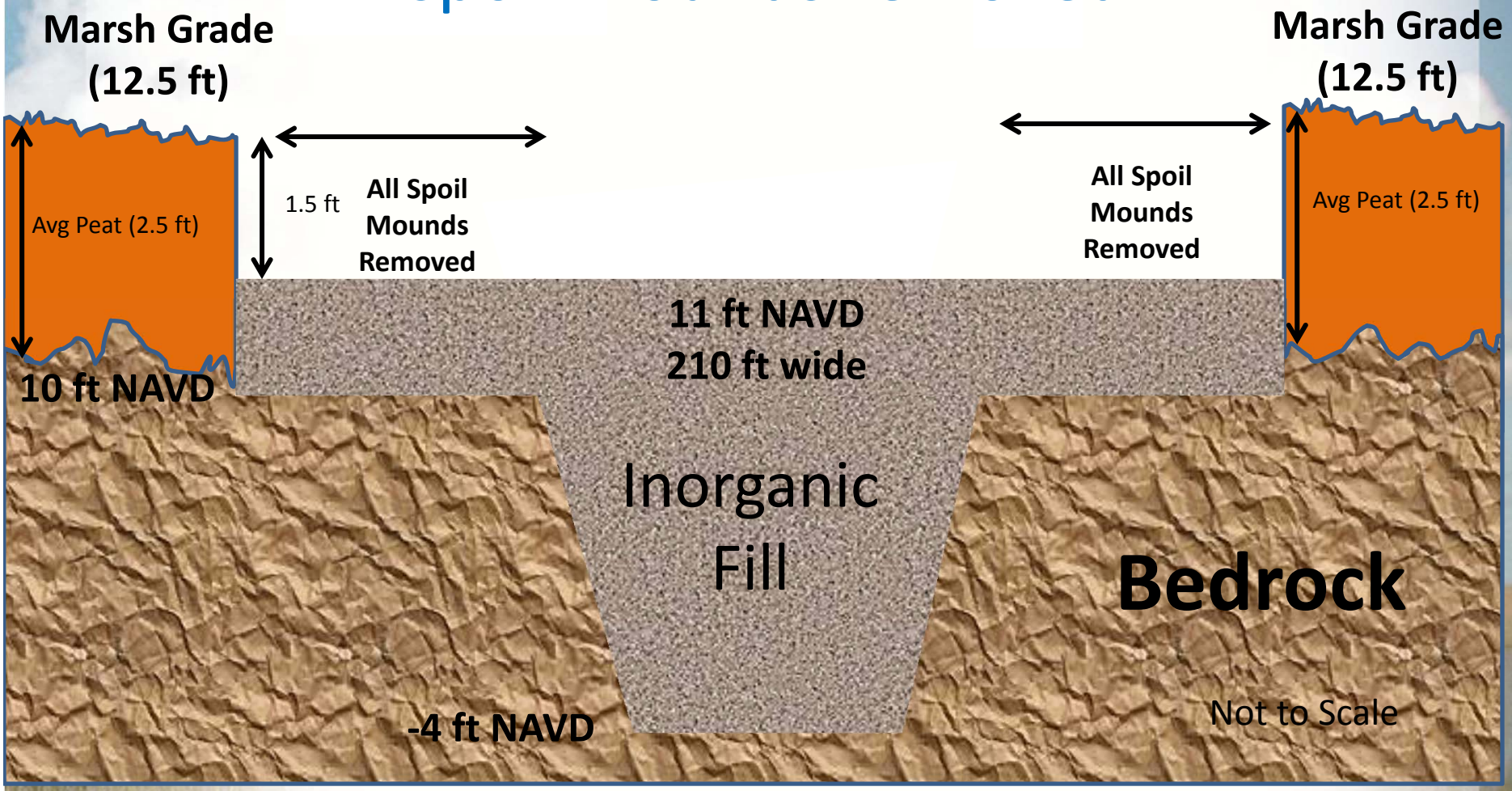
Option 1

- Remove all spoil mounds between S-339 and I-75, including FWC enhanced spoil mounds
  - Backfill to 11 ft (1.5 ft below peat surface)

- Mounds (210 ft wide x 210 ft long) at an elevation of 14 ft (1.5 ft above peat surface) every 1 mile from S-339 to I-75
  - Consistent with mounds north of S-339
  - ~8 acres



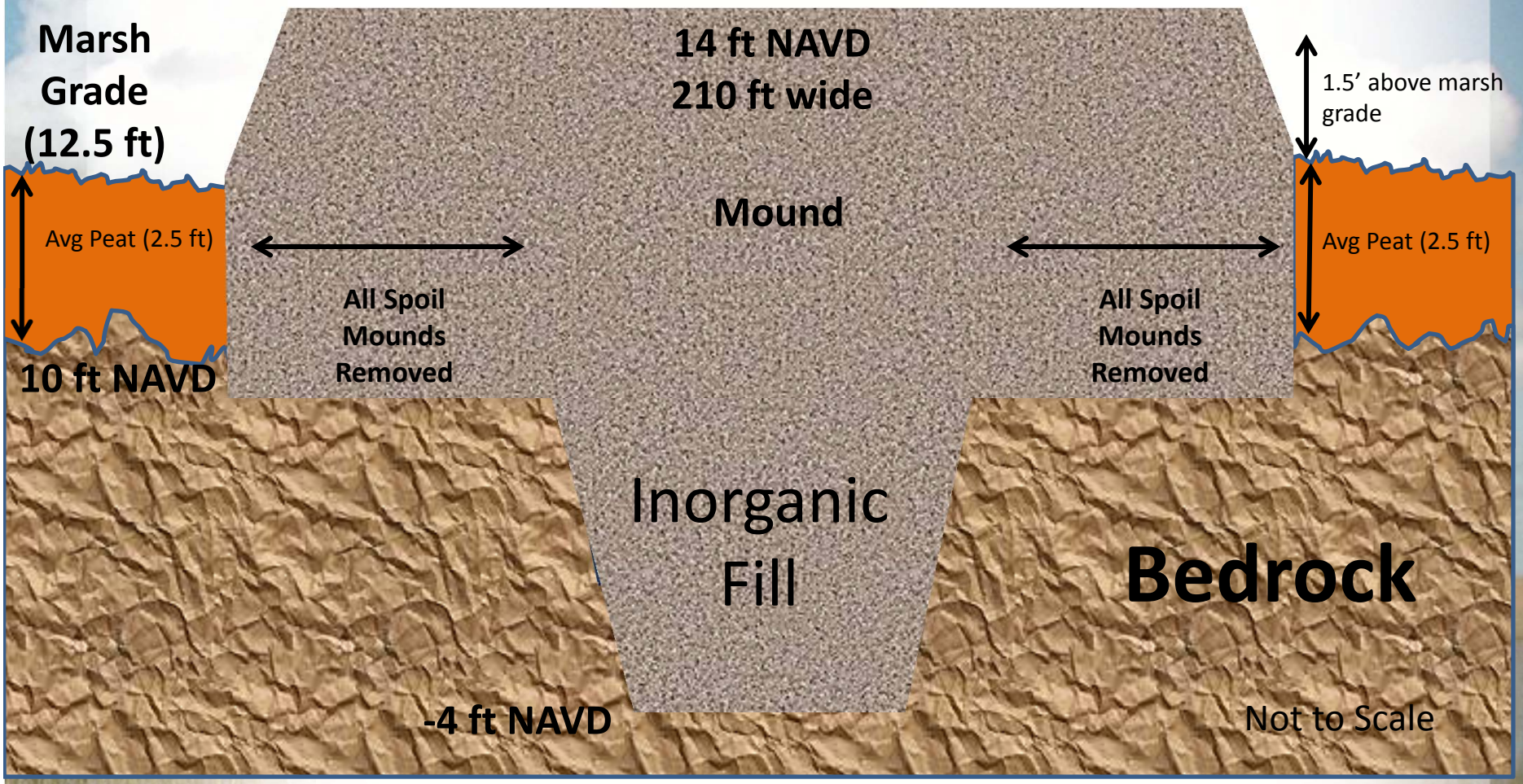
Option 1 – Backfill from S-339 to I-75 all spoil mounds removed



Option 1 – Mounds (all spoil mounds removed)

(every mile from S-339 to I-75) ~210'Wx~210'L

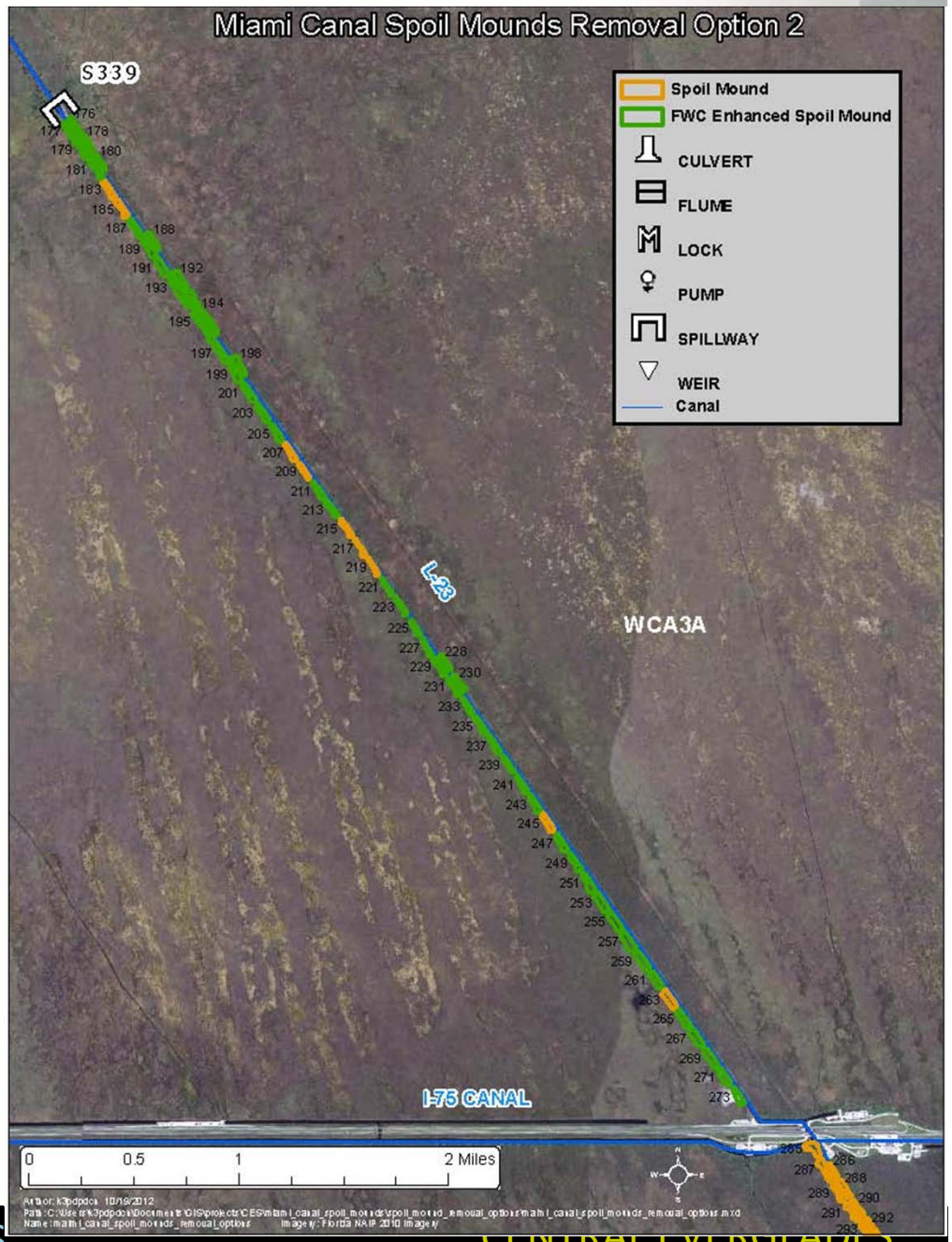
~8 acres



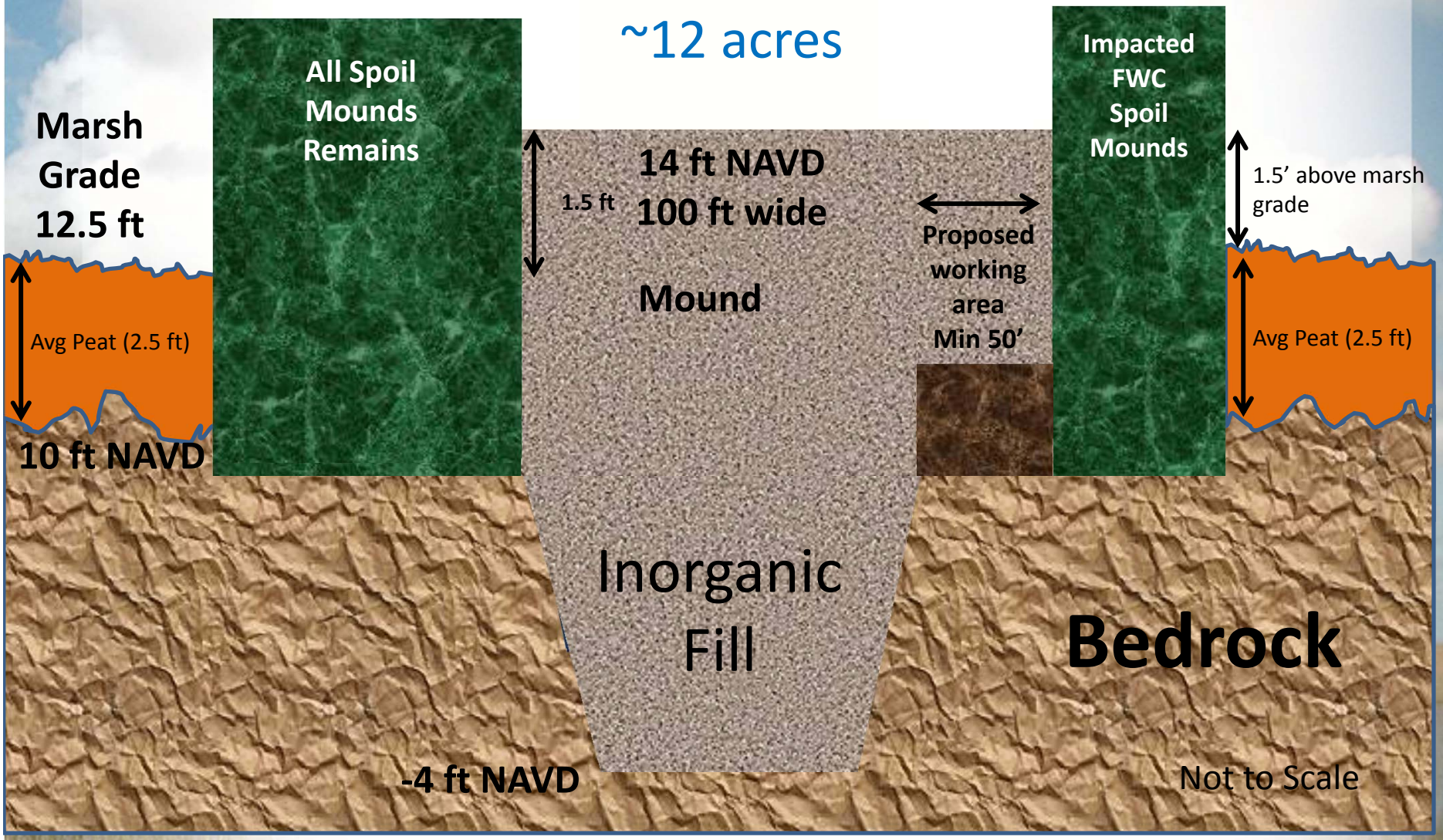
Spoil Mound Options from S-339 to I-75

Option 2

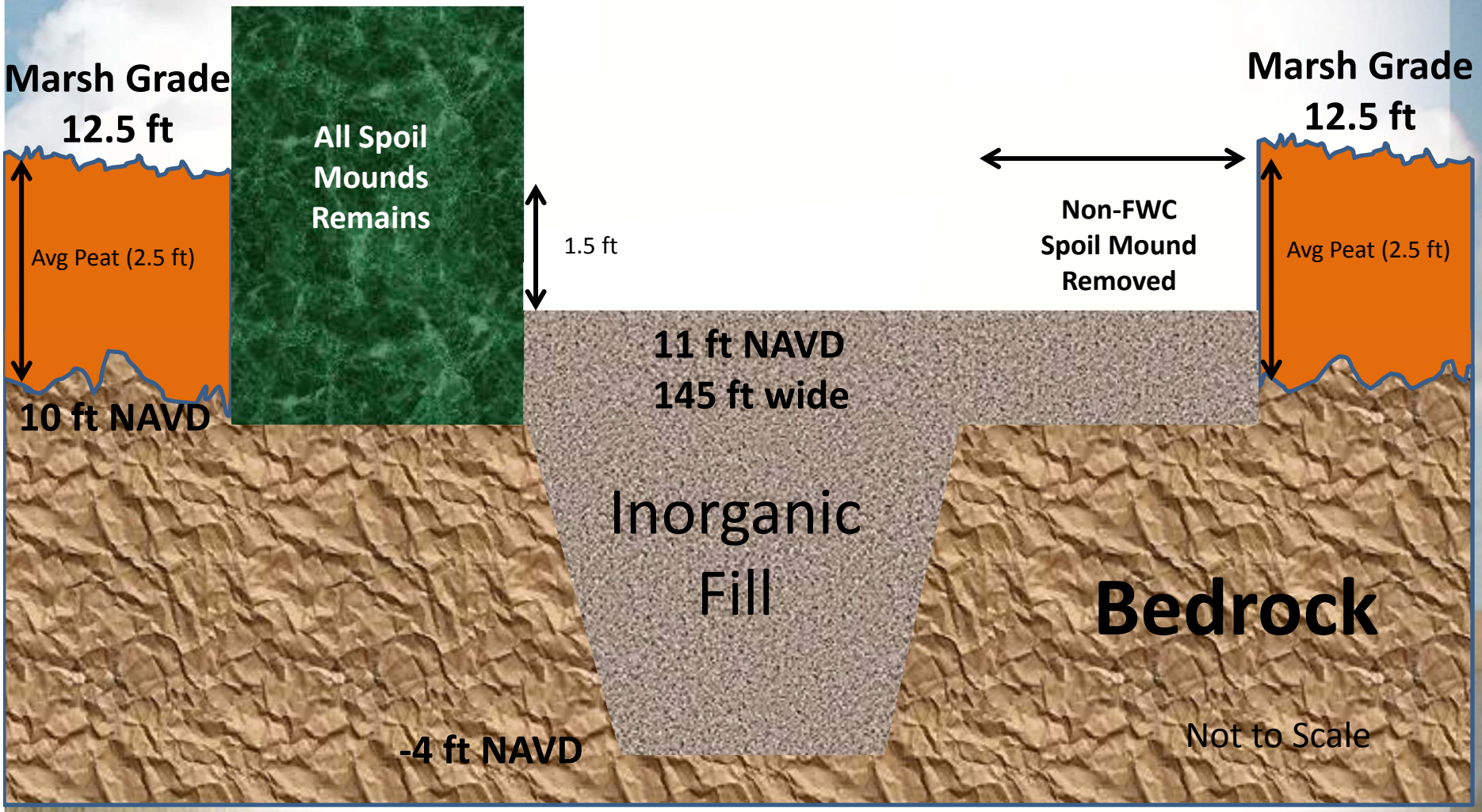
- Keep all spoil mounds on the west side
  - 44 FWC spoil mounds
  - 9 non-FWC spoil mounds
- Impact part of FWC enhanced spoil mounds on the east side
  - 9 impacted FWC spoil mounds
- Backfill to 11 ft (1.5 ft below peat surface)
- 5 Mounds at an elevation of 14 ft (1.5 ft above peat surface) where there are spoil mounds on the east and west sides of the backfilled canal
  - 2 mounds 1500 ft long x 100 ft wide
  - 1 mound 1000 ft long x 100 ft wide
  - 2 mounds 500 ft long x 100 ft wide
  - ~12 acres



Option 2 – Mounds where spoil mounds remain on west and are impacted on the east side (S-339 to I-75) ~12 acres



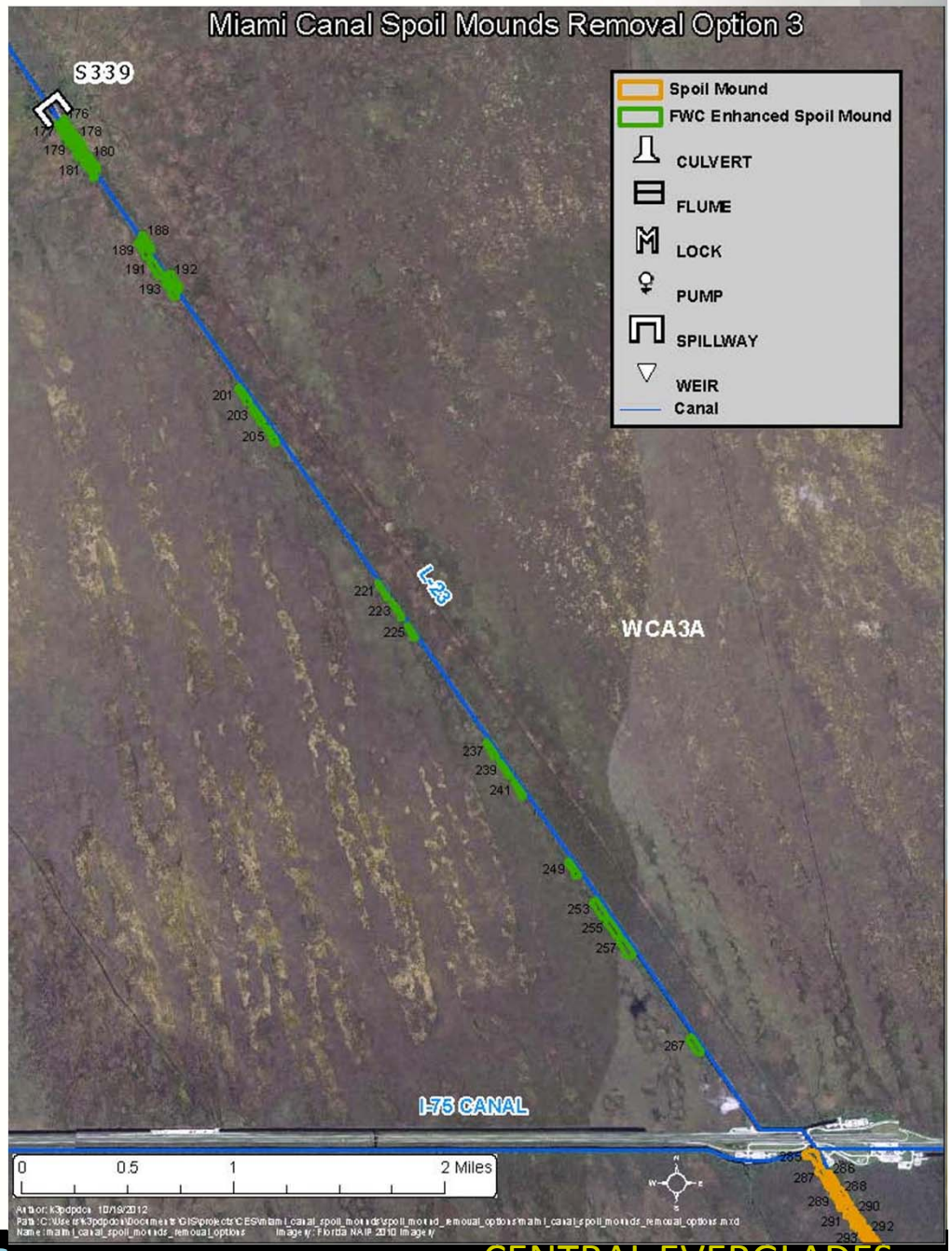
Option 2 – Backfill with Non-FWC Spoil Mounds Removed on East (S-339 to I-75)

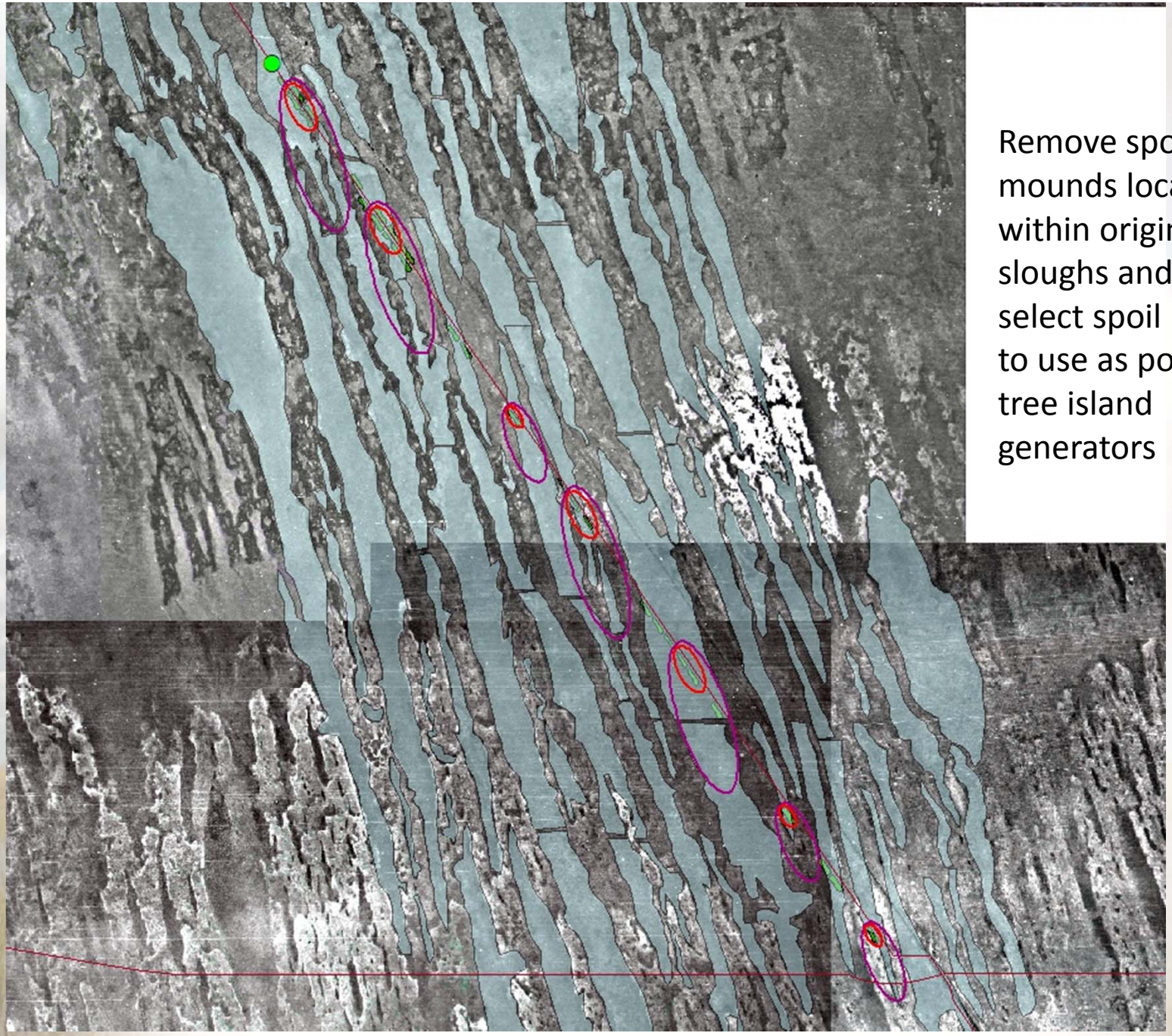


Spoil Mound Options from S-339 to I-75

Option 3 - Hybrid

- Keep 17 FWC enhanced and 5 impacted FWC spoil mounds from S-339 to I-75 (green spoil mounds on map)
  - 5 Impacted FWC spoil mounds on east side
  - 17 FWC spoil mounds on west side
  - Keep all the highest priority/functioning FWC Spoil Mounds (green)
- Remove all other spoil mounds
- Mounds at an elevation of 14 ft (1.5 ft above peat surface) ~32 acres
  - 2 mounds with FWC spoil mounds on east and west sides
    - 1500 ft long x 100 ft wide
  - 6 mounds with FWC spoil mounds just on west side
    - 4 mounds that are 1500 ft long x 145 ft wide
    - 2 mounds that are 500 ft long x 145ft wide



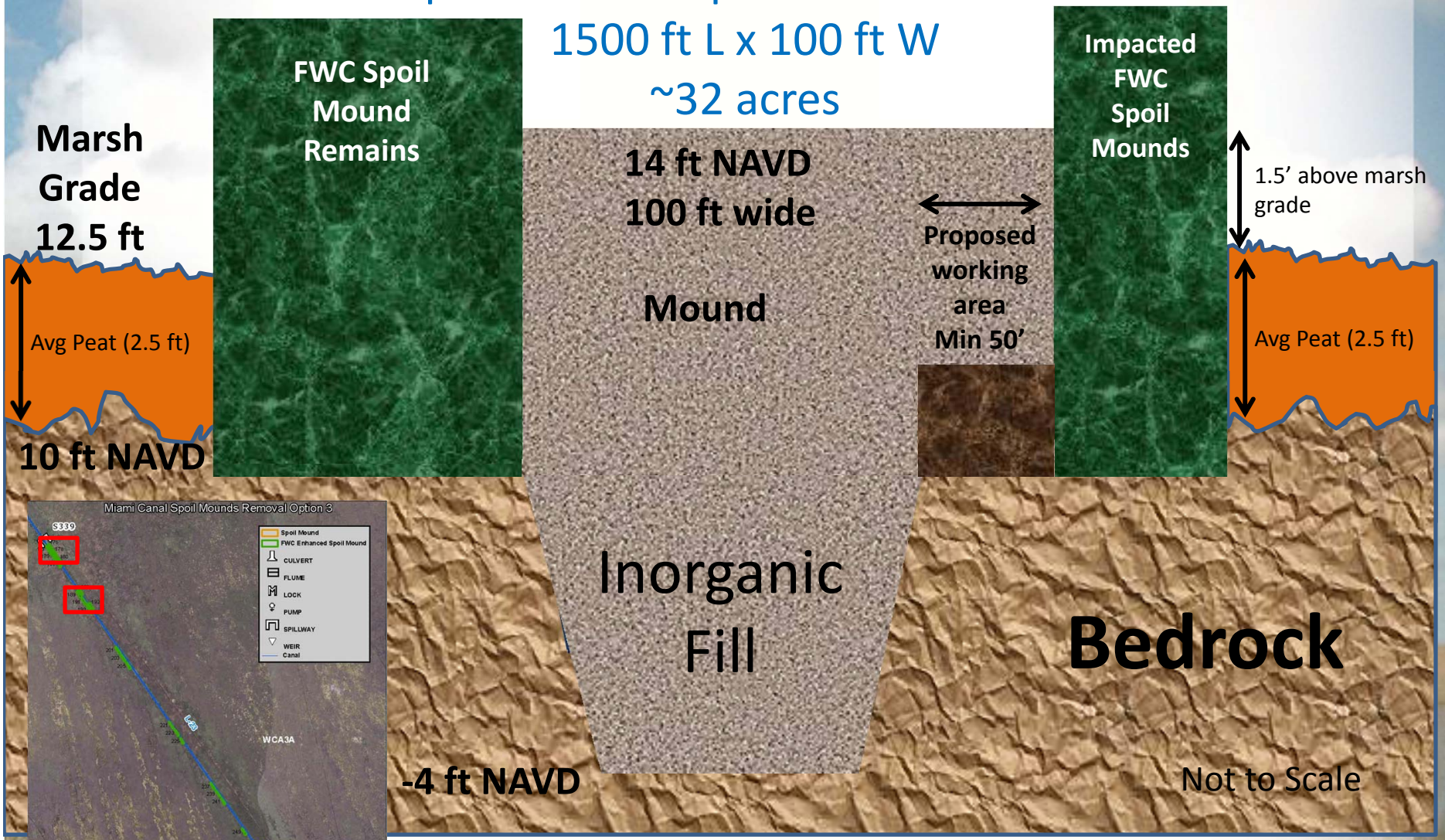


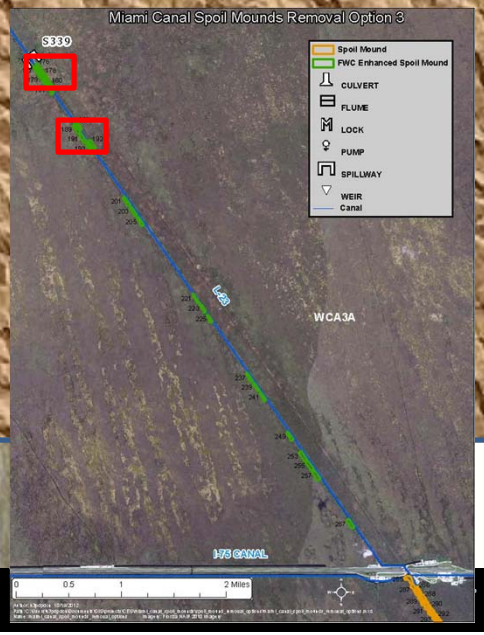
Remove spoil mounds located within original sloughs and preserve select spoil mounds to use as potential tree island generators

Option 3 – 2 Mounds - FWC Retained Spoil Mounds on West and Impacted FWC Spoil Mounds on East

1500 ft L x 100 ft W

~32 acres

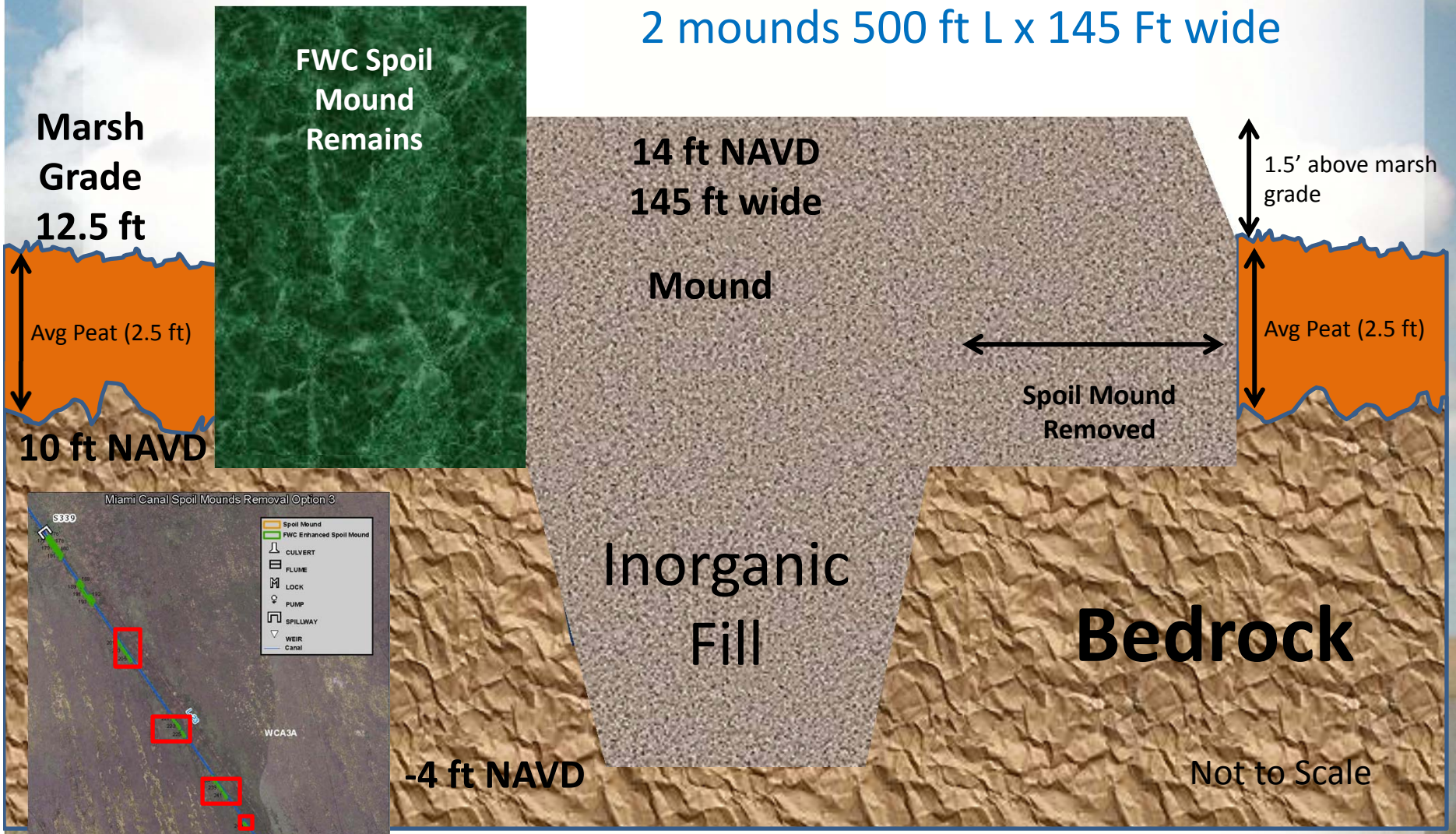


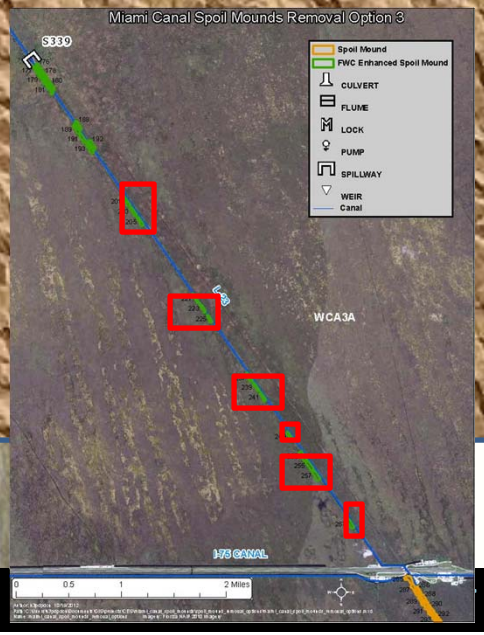


Option 3 – 6 Mounds -FWC Retained Spoil Mounds only on West

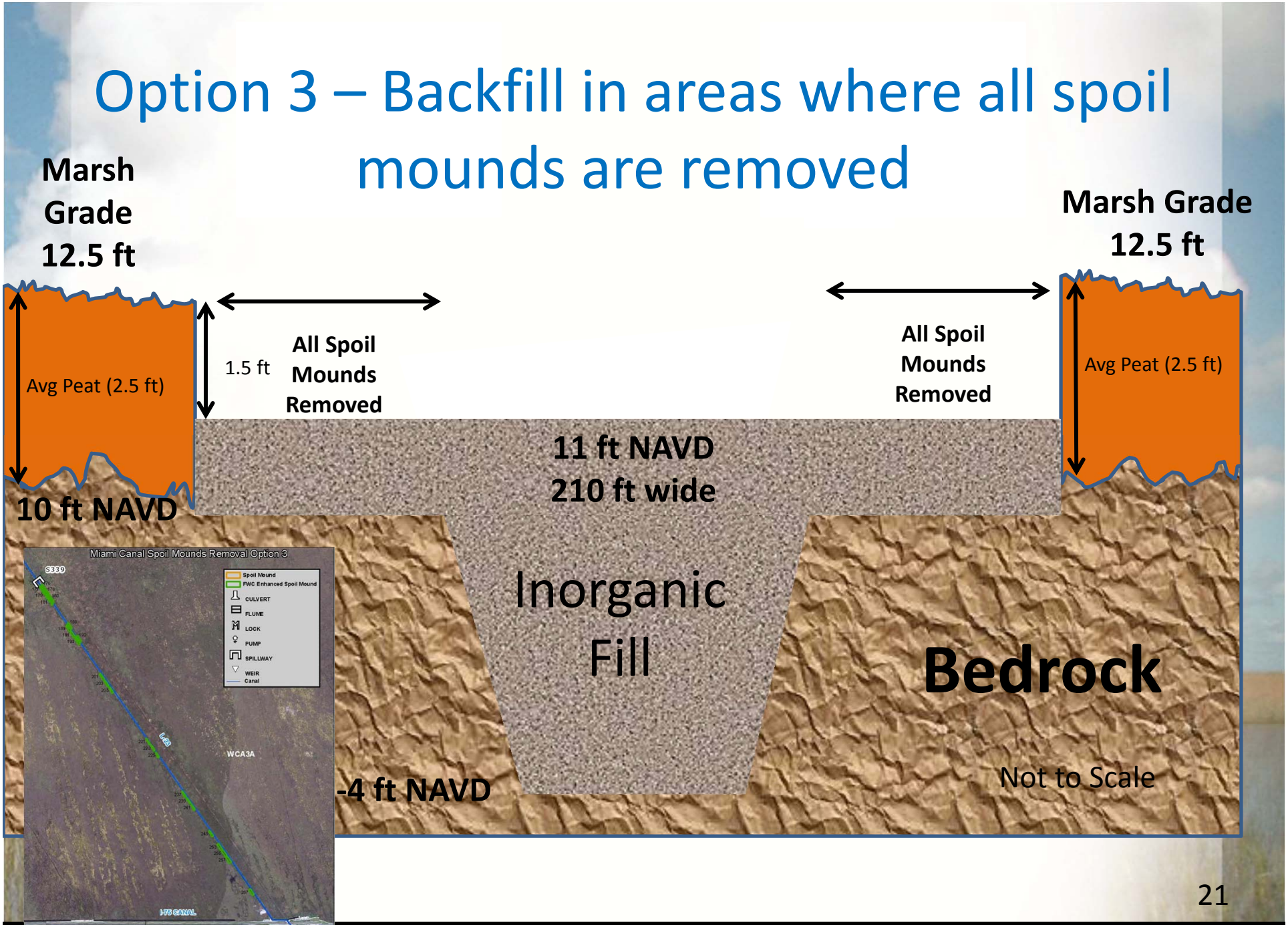
4 mounds 1500 ft L x 145 ft wide

2 mounds 500 ft L x 145 Ft wide





Option 3 – Backfill in areas where all spoil mounds are removed



Quantity Required

Backfill Options	Quantity Required (MCY)
Backfill to 10 ft from S-8 to S-339 (9.75 miles)	1.656
Mounds (210 ft L x 210 ft W) to 13.5 ft every mile from S-8 to S-339	0.086
S-8 to S-339 Total Backfill plus Mounds	**1.74**
Backfill to 11 ft from S-339 to I-75 (6 miles)	1.377
Mound Option 1 – Remove all spoil mounds from S-339 to I-75 (Mounds 210 ft L x 210 ft W to 14 ft every mile from S-339 to I-75)	0.03
Mound Option 2 – Retain all western spoil mounds and impact 9 eastern spoil mounds (5 Mounds to 14 ft) from S-339 to I-75	0.05
Mound Option 3 – Retain 17 western spoil mounds and 5 impacted eastern spoil mounds (8 Mounds to 14 ft) from S-339 to I-75	0.14
S-339 to I-75 Total Backfill plus Options 1, 2, or 3	**1.41, 1.43, or 1.52**
S-8 to I-75 Total Backfill Only (no mounds)	**3.03**
S-8 to I-75 Total Fill plus Mounds and Options 1, 2, or 3	**3.15, 3.18, or 3.27**

Quantity Available

Backfill Options	Quantity Required (MCY)	Quantity Available * (MCY)	Miles with Available
S-8 to I-75 Backfill Only (no mounds)	3.03	2.83	14.9
S-8 to I-75 Backfill plus Mounds (S-8 to S-339) and Option 1 (S-339 to I-75)	3.15	2.83	13.9
S-8 to I-75 Backfill plus Mounds (S-8 to S-339) and Option 2 (S-339 to I-75)	3.18	2.71	13.3
S-8 to I-75 Backfill plus Mounds (S-8 to S-339) and Options 3 (S-339 to I-75)	3.27	2.78	13.7

*1.96 MCY of fill available from L-4 degrade, L-5 improvements (no L-6) and spreader excavation

Questions?