



Thin Layer Placement: Some Tools of the Trade

July 18, 2023





Introduction

- Disclaimer
- The problems
- The tools
- Some projects





Problems

- How do you work in an environment without damaging it?
- Be honest “You can’t make an omelet without breaking a few eggs”
- You are working in an area that is already damaged or needs improvement





Options for access

- Don't do anything
- Spray (Tim just covered)
- Corduroy roads
- The right equipment



Source: Ellicott Dredges LLC



Source: Sterling Lumber Company



The Equipment

- Big difference between Low Ground Pressure and Amphibious
- Low Ground Pressure (LGP)

Object	Ground pressure (psi)
John Deere 380 (85,500 lbs.*)	7.8
CAT D6K2 Dozer (30,000 lbs.*)	4.4
Human on snowshoes	0.5
Wheeled ATV	2
Average human, flat shoes	2.5
M1 Abrams tank (68 tons)	15
1993 Toyota 4Runner	25
Adult horse (1250 <u>lbs.</u>)	25
Passenger car	30
Adult elephant	35
Mountain bicycle	40
Stiletto heel	471

* Operating Weight



Source: Wikipedia



Source: Caterpillar



Source: John Deere



The Equipment

➤ Amphibious

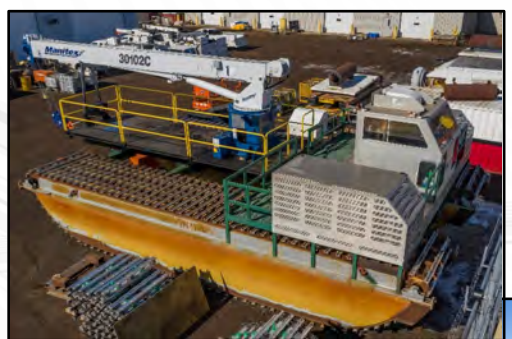
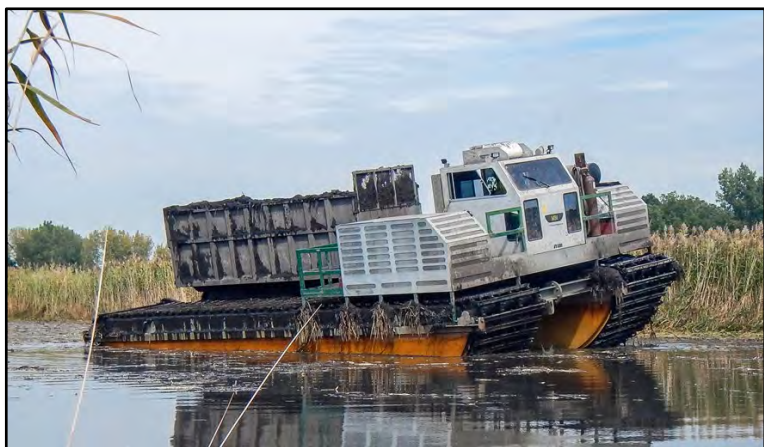
Object	Ground pressure (psi)
MBI Amphibious Mud Buggy (120,000 lbs.*)	1.5 – 2.5
CAT 324E Amphibious Excavator (91,000 lbs.*)	4.4
CAT 325 BL Amphibious Excavator (70,000 lbs. *)	0.5
Wheeled ATV	2
Marsh Master (6,110 – 6,960 lbs. *)	1.0
Sherp Pro (5280 lbs. *)	

* Operating Weight





Equipment





Equipment

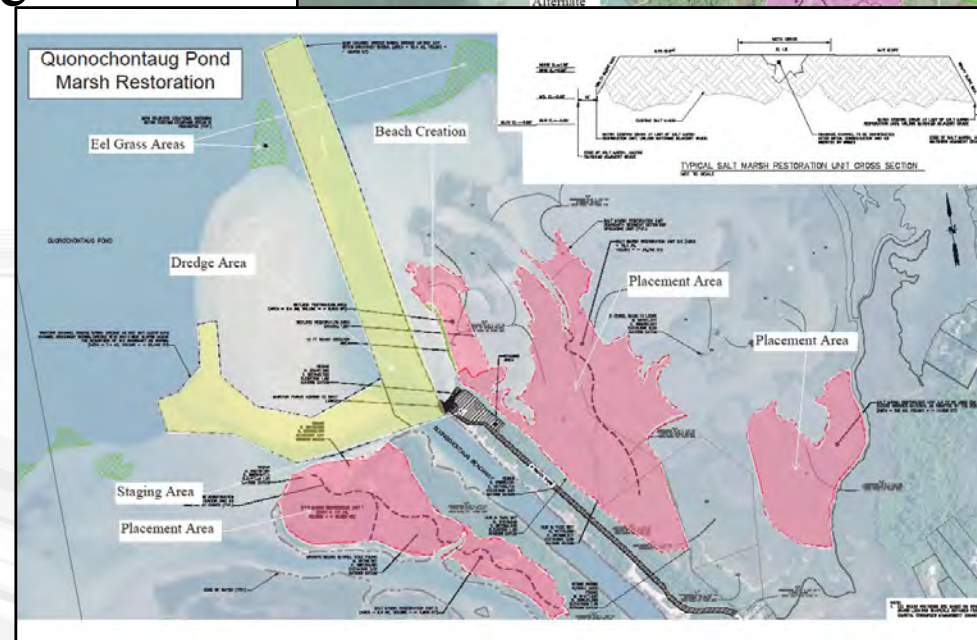
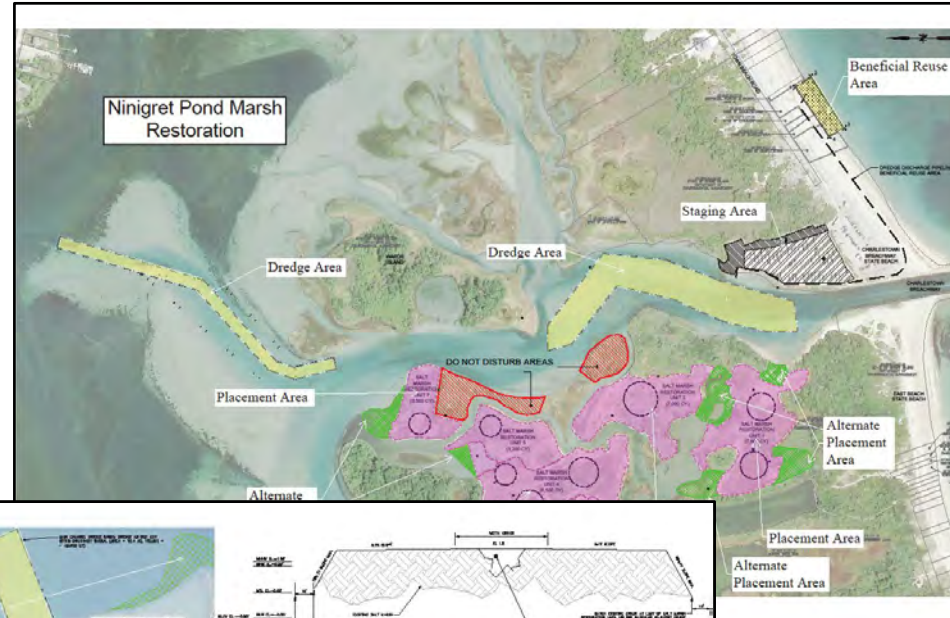
➤ Size can be a problem





Projects How it Started

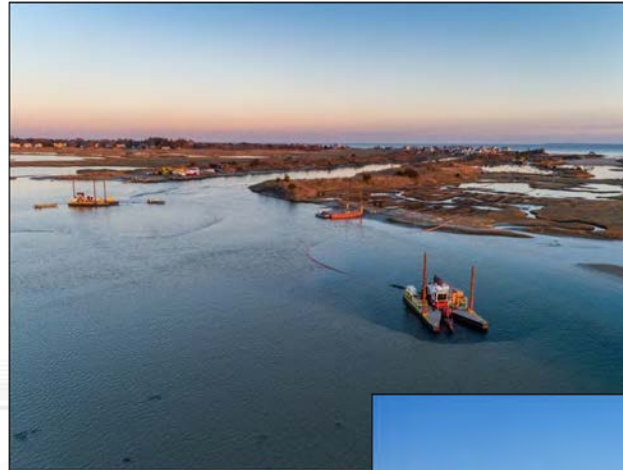
- Selection Process
 - State Wide Evaluation
 - Survey of the sites
 - Visual Evaluation, Plants,
 - Fish and Wildlife
 - Pre-evaluation
 - Survey Work
 - Material Testing
 - Select Site





How It Was Done

- Pre-survey
 - Land and Water
- Mobilization
- Starting the Process
 - Dredging
 - Tides
 - Moving Sand
 - Winter Conditions
 - Placement
 - Special Equipment
 - Moving pipe to meet Elevations
 - Final Grading





How It Was Done

- Post Construction
 - Final Grading
 - Runnel Installation
 - Plantings
 - Monitoring





Projects Finished Product

- Planting and Natural
- Making Things Work





Finished Product

Ninigret 2022





Finished Product

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