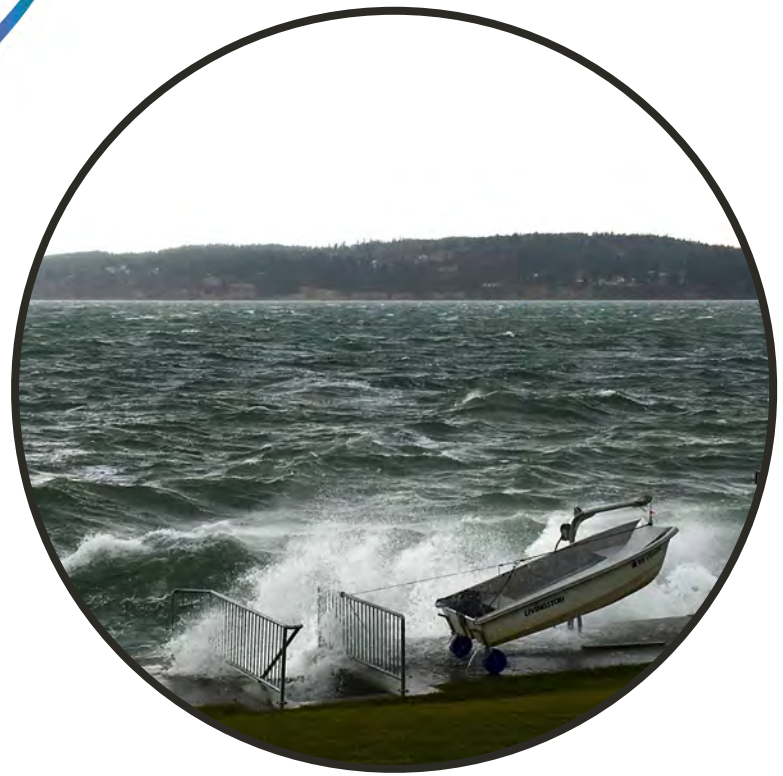
Date of Presentation
ICRI 2023 Fall Convention

Sea Wall Repair & Reinforcement



Rob Stam
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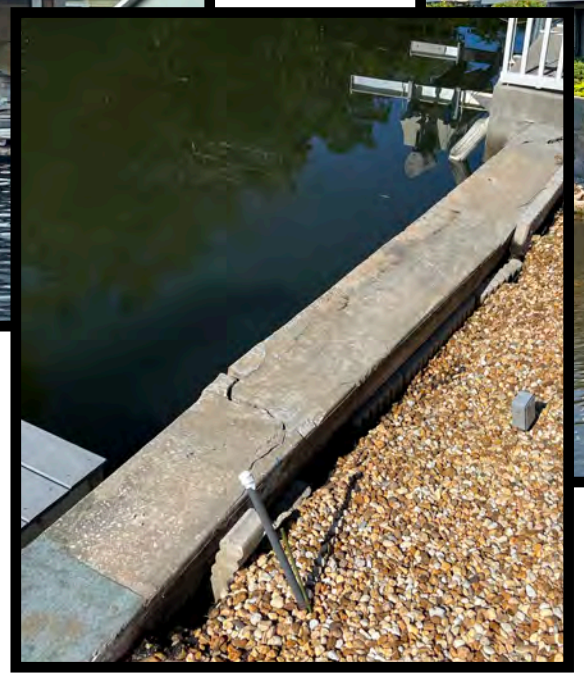
Structural Reinforcement Solutions

ICRI CONCRETE REPAIR
Restore | Repurpose | Renew
35th YEAR ANNIVERSARY

EXAMPLES OF SEAWALL FAILURE:



CAUSES OF SEAWALL FAILURE:

1. Older sea walls often lack weep holes (or they are clogged), which allow hydrostatic pressure to build behind and below the wall.
2. Failed filtrations barriers allow soil to move through openings in the sea wall. This creates soil instability behind the wall allowing it to move and crack.
3. Steel reinforcement corrodes and fails.
4. A significant weather event cause complete failure.

SOLUTIONS:

1. Stabilize the soil: Injected foam fills gaps in the soil
2. New weep holes should be installed with one-way valves.
3. Options Concrete repair and reinforcement:
    1. Tie back Anchors
    2. Stitch/staple and inject cracks
    3. Anchored Carbon Fiber applied to surface
    4. Coating

SOIL STABILIZATION WITH FOAM INJECTION

SEAWALL REPAIR NETWORK

TIE BACK ANCHORING

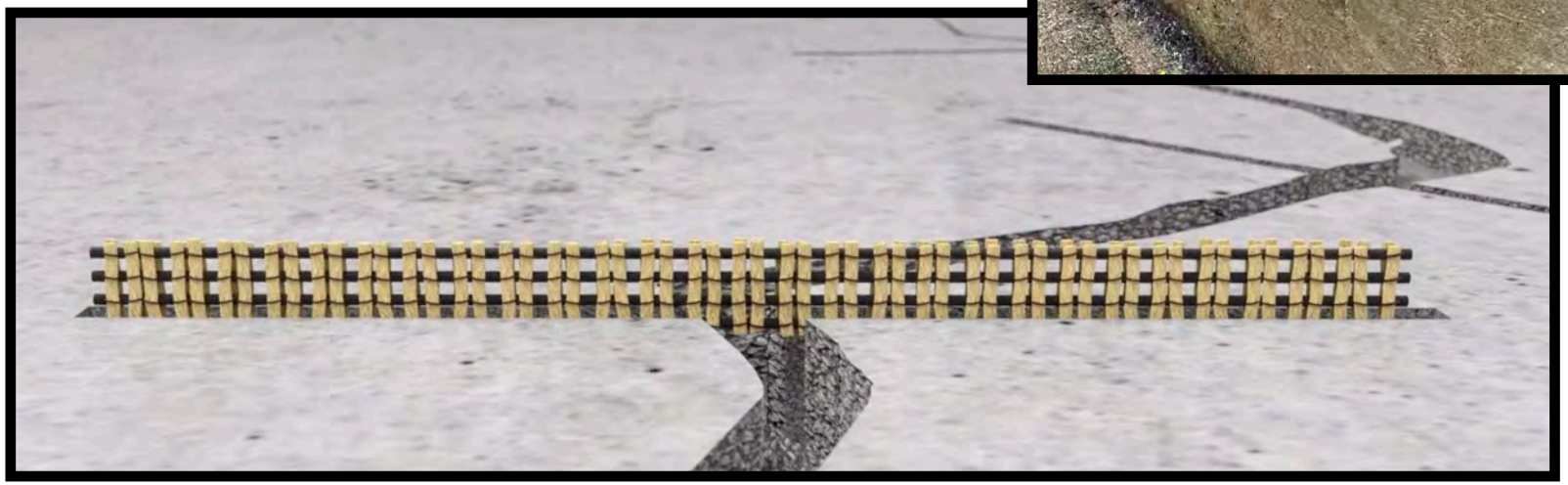
STITCHING AND STAPLING

Staple:

- Stops lateral and shear movement
- 36,000lbs of tensile strength
- 2 drilled holes installation
- Single saw cut for flush mount installation

Stitch:

- Stops lateral expansion
- 6,000lbs of tensile strength.
- Single saw cut installation
- Works with epoxy or mortar



CARBON FIBER

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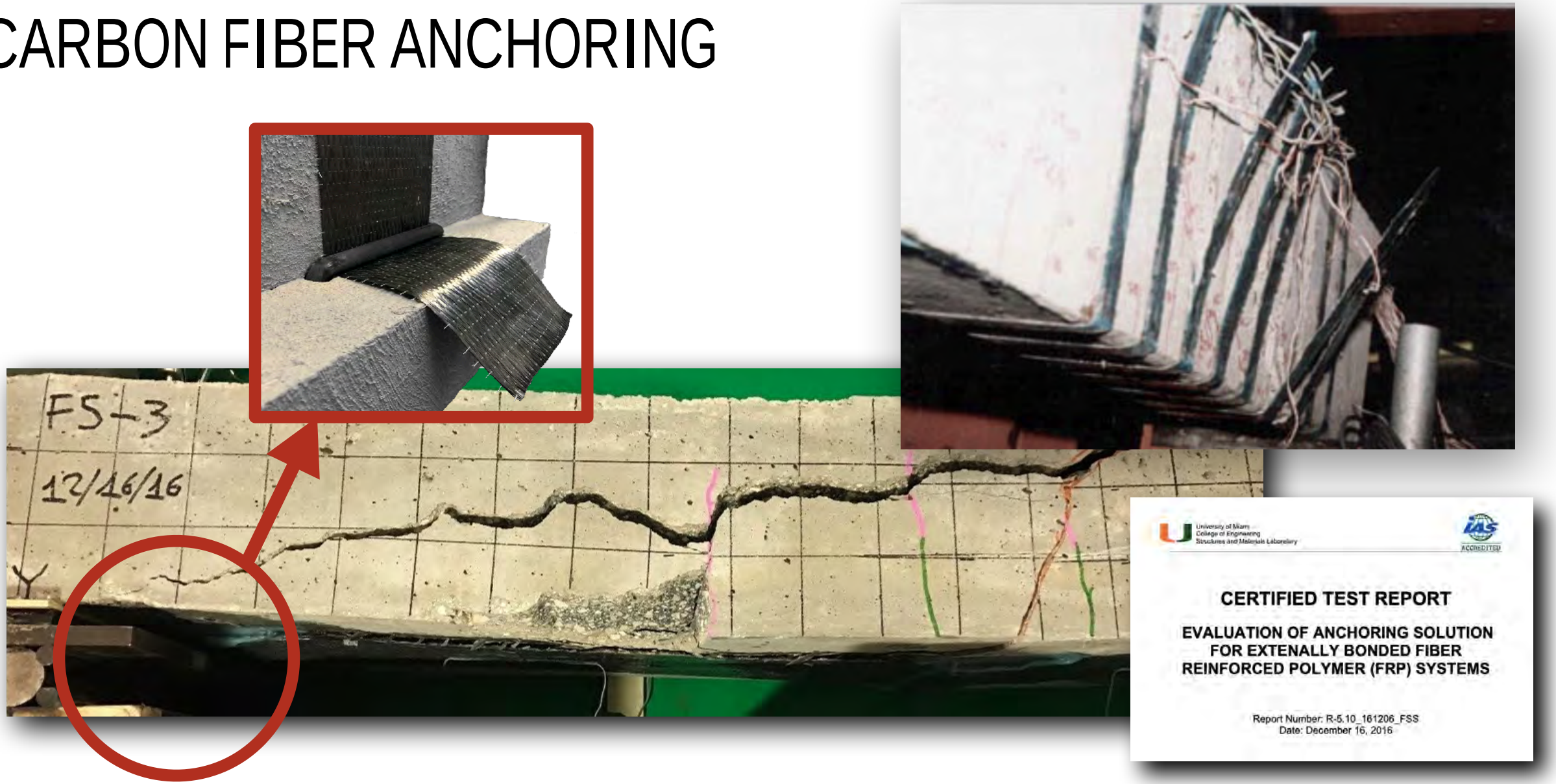
Crack Reinforcement and Structural Strengthening

Floating Concrete Dock at the Royal Vancouver Yacht Club, Vancouver, British Columbia

CARBON FIBER ANCHORING



CASE STUDIES

FORTRESS STABILIZATION SYSTEMS

STRUCTURAL REINFORCEMENT SOLUTIONS

HOW WE CAN HELP

1. Site specific design engineering
2. Product pricing & provision
3. Continuing education
4. On-site Installation training and support

Questions?

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FORTRESS STABILIZATION SYSTEMS

STRUCTURAL REINFORCEMENT SOLUTIONS