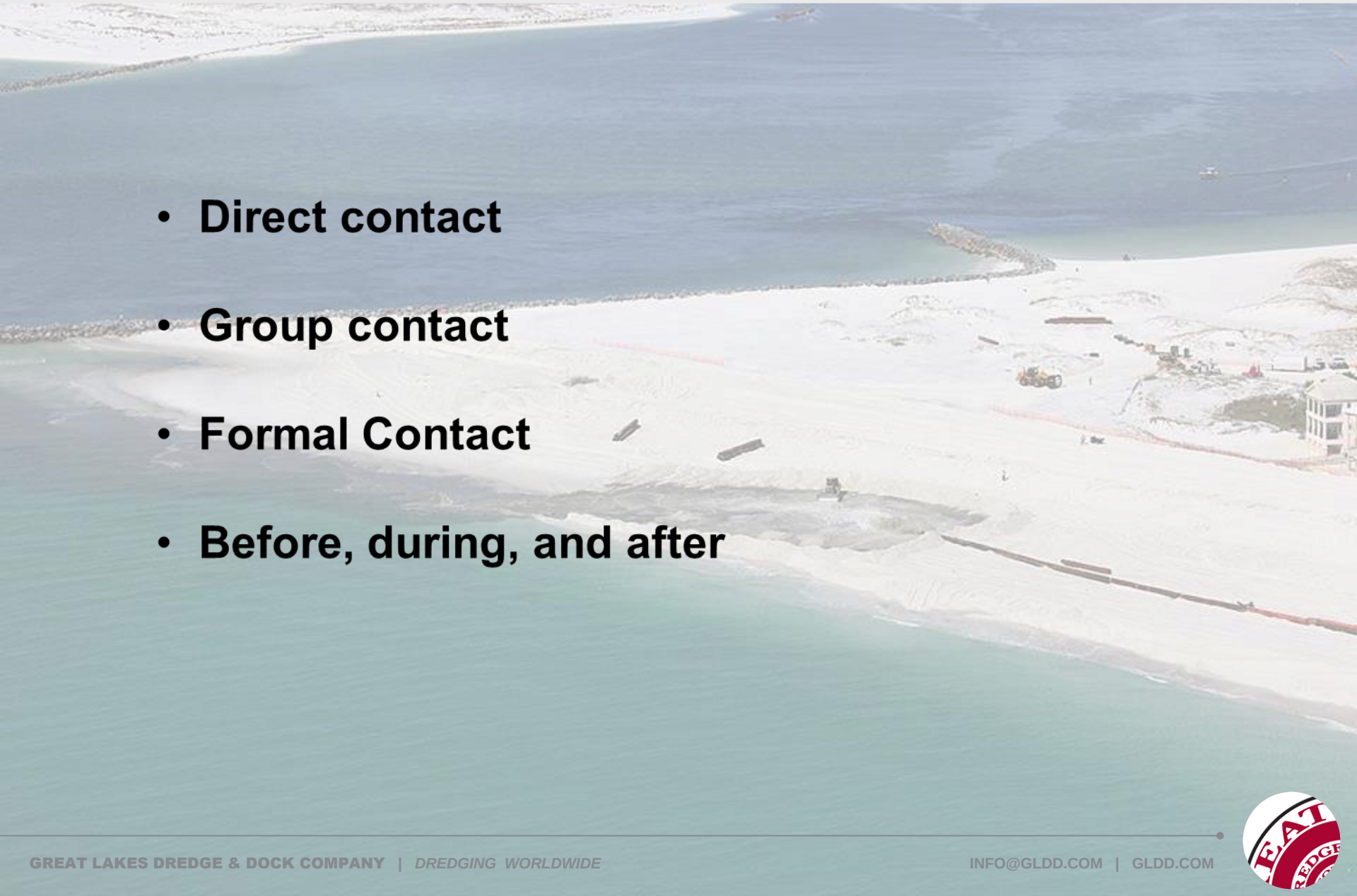
# HOW you bid your job IS important!

Bill Hanson

# HOW?

- ENGAGE
- TALK
- LISTEN
- ACT

# ENGAGE



- Direct contact
- Group contact
- Formal Contact
- Before, during, and after

# TALK

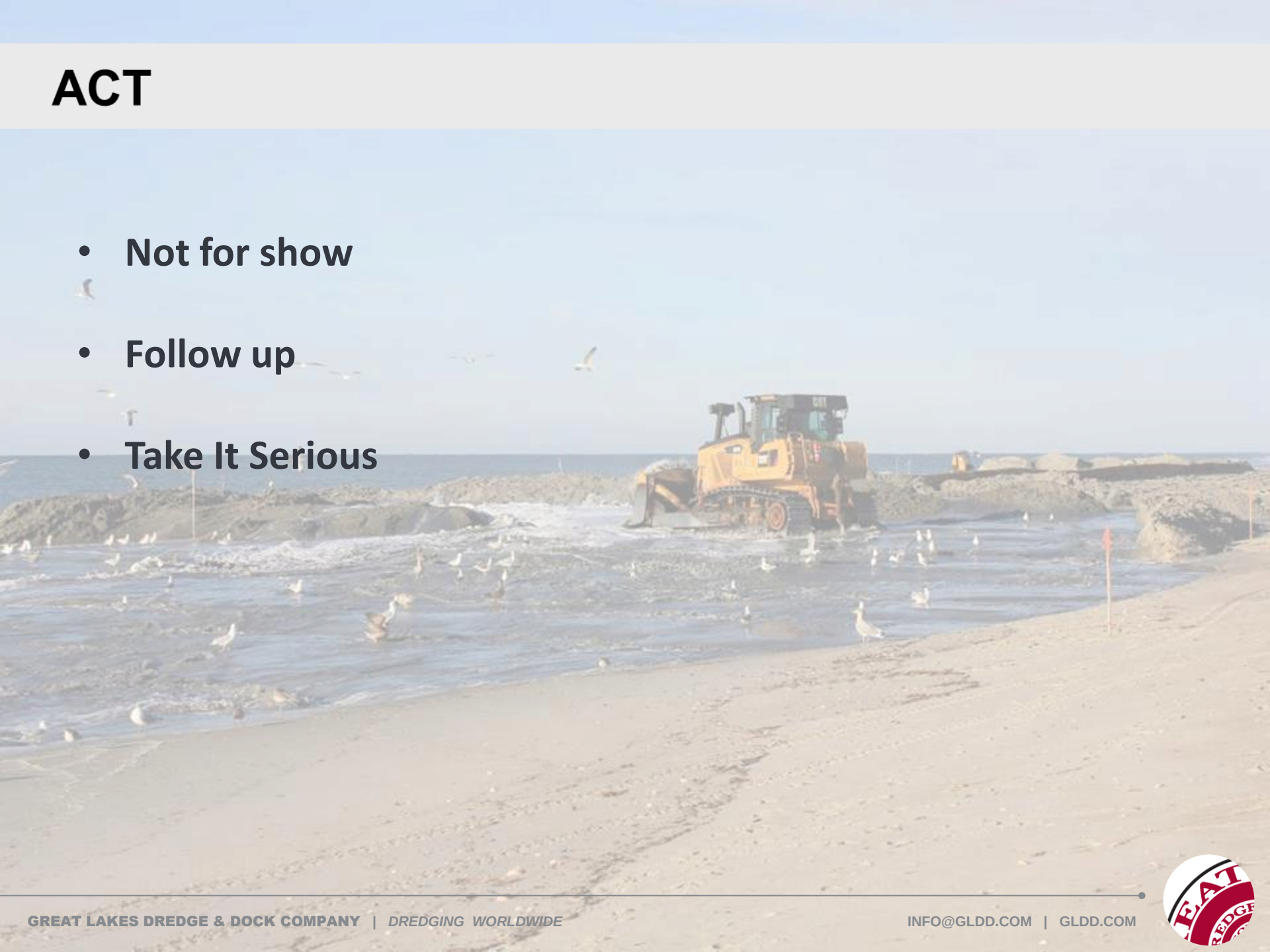
- What you know
- What you don't know
- Qtys / Schedules
- Technical challenges

# LISTEN

- Overall market
- Experience
- Availability
- Capability
- Confidence

# ACT

- Not for show
- Follow up
- Take It Serious



# Impacts

- Risk Reduction/identification
- Better understanding
- Better pricing??
- Innovation
- Investment

# Geotechnical

- **Borrow Management**
- **Geotech data**
- **Tolerances**

## Geotechnical Investigations for Dredging Projects

geo

The following is a list of recommendations regarding geotechnical investigations undertaken to provide data relevant to dredging projects.

**1) Investigate the areas to be dredged and reclaimed.** Place borings within the dredge areas! Borings outside the dredging area or from previous projects are of little to no value when estimating dredging works.

**2) Space borings evenly throughout the dredge areas.** A reasonable equation for determining the required number of borings is:

$$N = 5 \times A^{0.5}/40$$

where N = Number of boreholes and
A = Dredge area in square meters

**3) Penetrate to, and collect information from, well below the required depth.** We suggest 5 ft (1.5 m) below dredging level for non-rock dredging projects and 8 ft (2.5 m) for locations where rock will be dredged.

**4) Pay particular attention to vertical control and tide correction.** A dredging estimate is much more sensitive to vertical errors than horizontal errors. Take advantage of digital global positioning system (DGPS) and real-time kinetic (RTK) technologies for cost effective and practical vertical control (eliminating the need for tide correction).

**5) Use the standard hammer and drop for standard penetration tests (SPT).** The SPT is described in ASTM D1586-99. The test requires a 140-lb (63.5-kg) hammer to drop 30 in (76 cm) in air for each blow. Do not use non-standard hammers.

**6) Do not continue SPT beyond refusal.** Refusal = 50 blows/6 in. Stronger materials (i.e., rock) must be cored.

**7) Augment borings with jet probes** to establish the top of rock or hard material surface over the entire dredging area. Jet probes are fast, effective, and relatively inexpensive.

**8) Required Tests.** Obtain samples for every 5 ft. (1 m) of boring and perform the tests cited in Table I. Perform all tests in accordance with ASTM standards.

**9) Document shell content within used samples.** Note shell size and percentage. Provide photo logs.

**10) Document rock quality.** Total core recovery (TCR), rock quality designation (RQD), and rock fracture index (RFI) are of interest.

**11) Be careful with RQD.** The field geotechnical engineer should identify drilling-induced fractures and discount them accordingly. Include an explanation of the method and measurements used to compute RQD.

**12) Provide detailed and comprehensive boring logs.** Include descriptions, classifications, and test results.

**13) Provide prospective bidders with complete geotechnical reports.** Borings, profiles, methods and lab tests often require complementary narratives and figures. Send these to prospective bidders as well.

*(continued on next page)*

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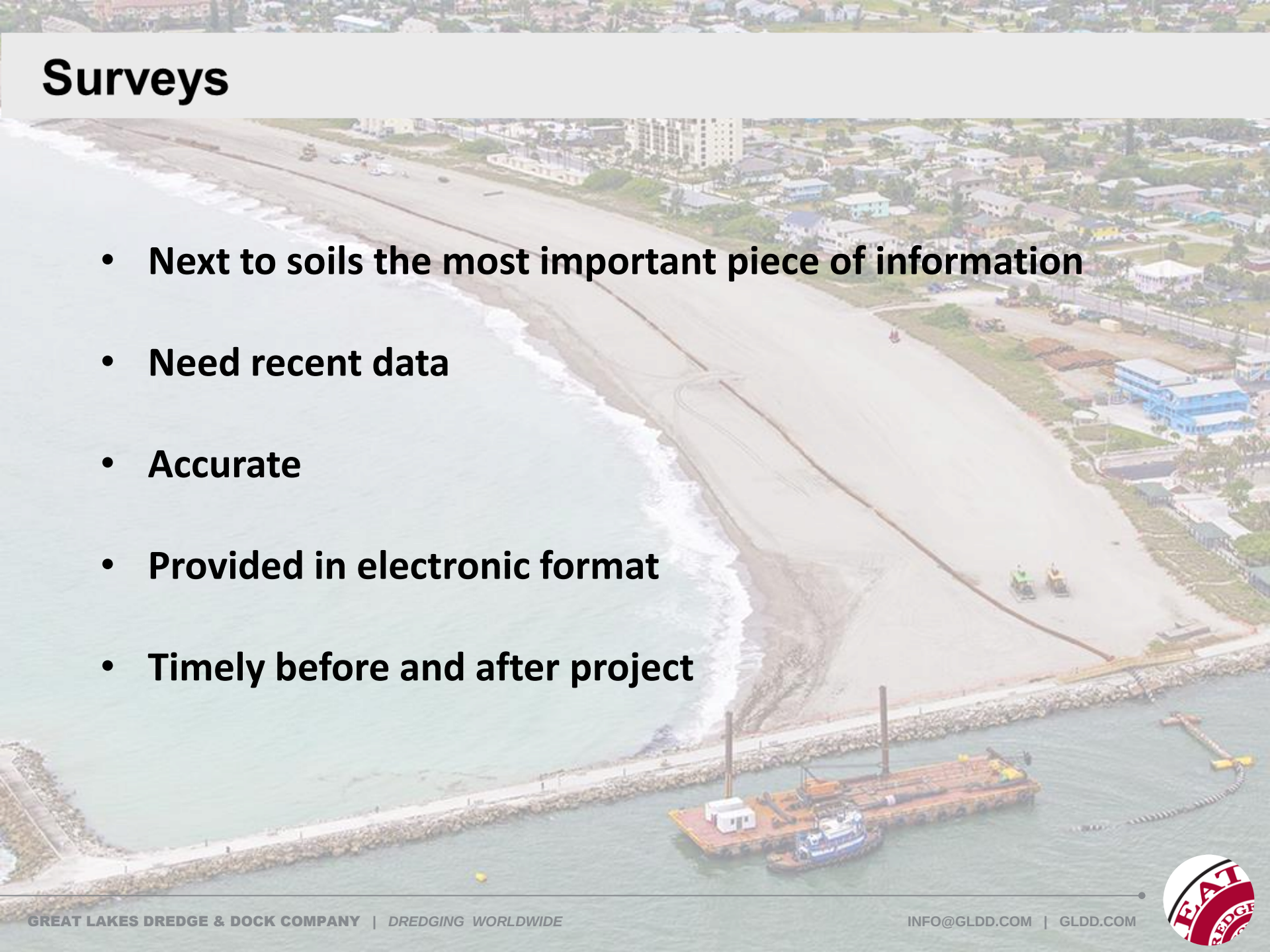
# Surveys



- Next to soils the most important piece of information
- Need recent data
- Accurate
- Provided in electronic format
- Timely before and after project

# Contract Type

- Invitation to Bid (Low bid wins)
- MATOC (RFP)
- Base plus options
- Open by Amendment

*Transparency key to longevity of program*

# Regulatory

- Sand rules
- Turbidity
- Hard Bottom
- Staging Areas
- Endangered Species

- Lot of success behind us

- Lot of work to do in front

- Efficiency is the key term for the future

THANKS!