Western Dredging Association

Lessons Learned – Design and Implementation of Sediment Remediation Projects

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Agenda

- Defining Lessons Learned
- Defining Success in RD/RA
- Lessons
  - Define the Terms
  - Data Collection
  - Cost Estimating and Schedule
  - Specifications
  - Procurement
  - Construction
  - Young Professionals
- Questions

Defining Lessons Learned

Definition of a Lesson Learned:

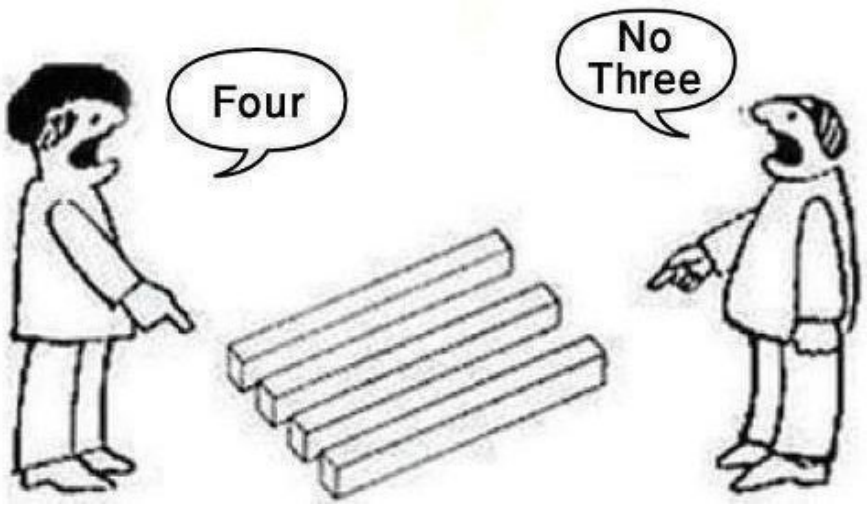
- The documented information that reflects both the positive and negative experiences of a project.

Defining Success in RD/RA

- What defines a successful remediation design and/or construction project?
  - Implemented as designed?
  - Completed on or below budget?
  - Completed on or ahead of schedule?
  - Positive relationships with agencies, contractors, the community?

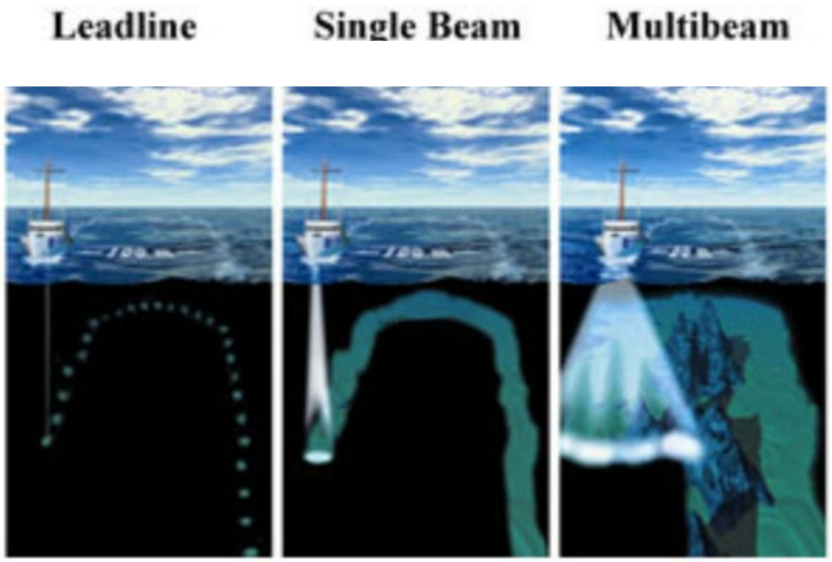
Lesson: Define the Terms

- Sediment work is foreign to most.
  - Terms often get misused and/or used interchangeably.
- Helpful to generate a document with terms
  - Residuals
    - Disturbed/generated, undisturbed/missed inventory
  - Overdredge/underdredge
  - Overplacement/underplacement
  - Material Loss Factors
  - Owner's Rep, CM, Engineer, Respondent's Rep
  - In-situ Density (Mass or Volume)



Lesson: Data Collection

- Do we have enough and is it representative of the actual conditions?
  - Survey
    - Are we using the correct surveyors, equipment, and/or density?
    - Need to account for:
      - Water depth
      - Vegetation
      - Sediment Type
  - Analytical
    - Did we collect enough?
      - Horizontal and vertical density
      - Correction Factors
  - Geotechnical/Physical
    - Inexpensive to run yet often an afterthought
    - Can be an easy change of conditions claim for contractor.



Lesson: Cost Estimating and Schedule

- COST = Labor + Materials + Equipment + Subcontractors
- Planning sunny day vs average vs rainy day
  - Production rates
  - Overdredge/overplacement
  - Confirmation sampling and implications
- Equipment availability and reality of use
  - Just because the piece of equipment is made doesn't mean it will be used

TB200 Telebelt

Lesson: Specifications

- Are we over specifying and/or making unrealistic requirements?
  - Every word and requirement has a cost
    - Removal methods (mechanical, hydraulic, hybrid)
    - Overdredge/overplacement
    - Survey requirements (Grid density)
    - Acceptance requirements (% of removal; cap acceptance)
    - Submittals
  - “At no additional cost to Owner” almost always has a cost…

Lesson: Procurement

- Encourage prequalifying / best value submittals
- Structure the bid form carefully
  - Understand the implications of sharing the risk vs pushing the risk
- Be careful what documents are provided with contract documents
- Consistent project team with good communication
- Person reviewing the submittals needs to know the design and be construction minded
  - Strategic language can result in future change orders costing

Lesson: Construction

- Emphasize that we are a team with a common end goal
  - Work together to achieve desired results
- Manage challenges with the Specifications/Contract Documents
- Community outreach is almost always a great win for clients (field trips, positive media, etc.)

Lesson: Young Professionals

- Get the field experience!
  - See equipment in action and review contract documents
    - Essential for development
  - Helps understand the big picture
  - Builds relationships

Questions?

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