Louis Berger

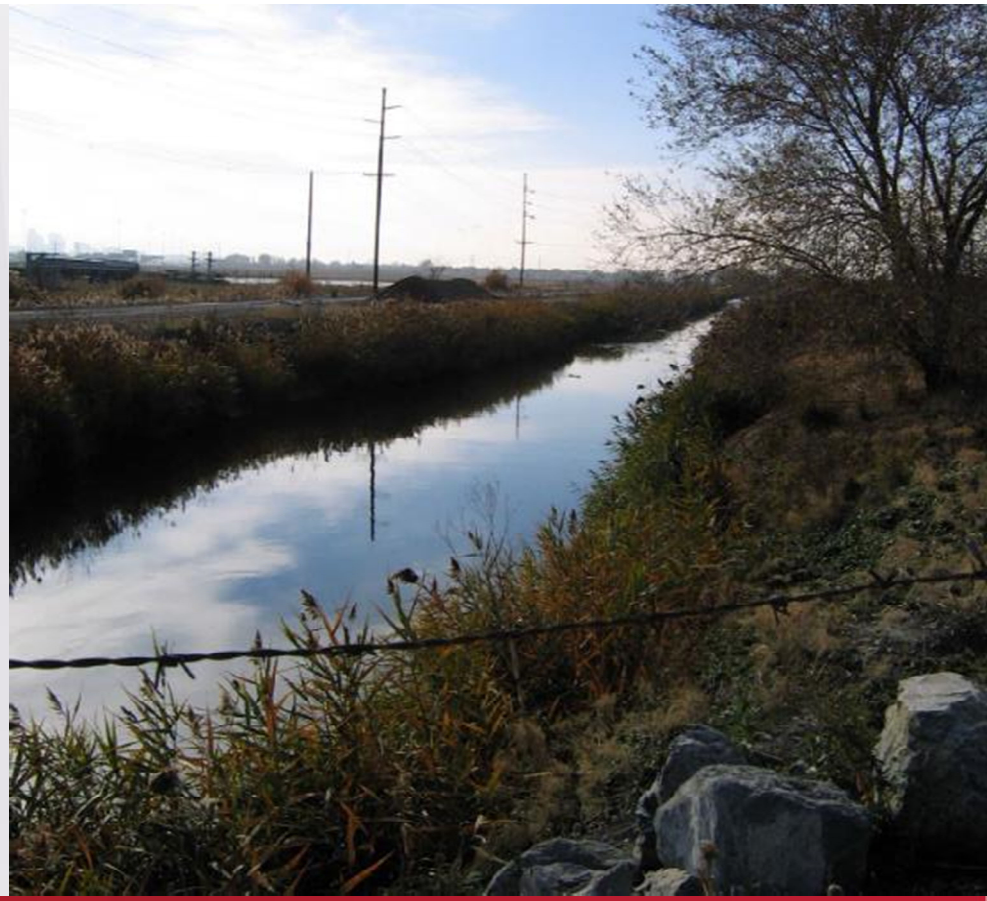
I SHOULD HAVE SEEN THAT COMING

A Case Study

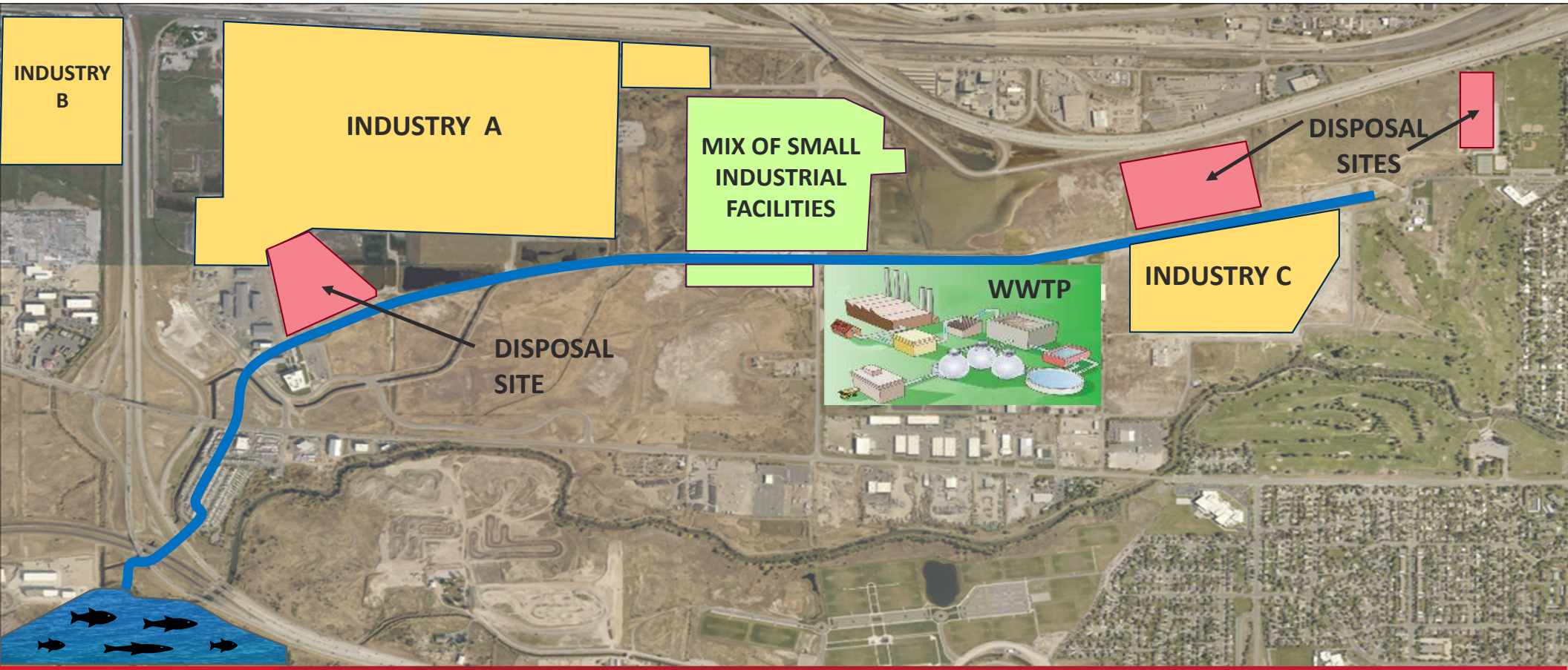
louisberger.com

Retained to provide litigation support services resulting from a small dredging project

During our analysis of the project, Louis Berger staff identified a number of red flags in the contract document that should have alerted the contractor to potential problems



INTRODUCTION

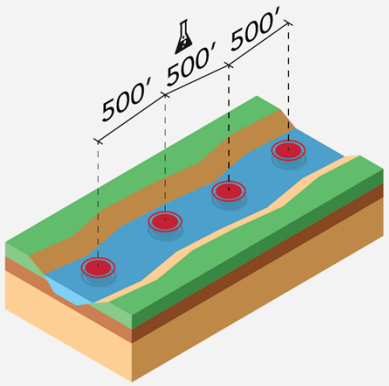

INDUSTRY B
INDUSTRY A
MIX OF SMALL INDUSTRIAL FACILITIES
DISPOSAL SITES
INDUSTRY C
WWTP
DISPOSAL SITE

SITE MAP

PRE-PROJECT INVESTIGATION ACTIVITIES

During the early stages of the Project, studies were performed to determine concentrations of contaminants in accumulated sediments and to evaluate appropriate strategies for potential removal and disposal.

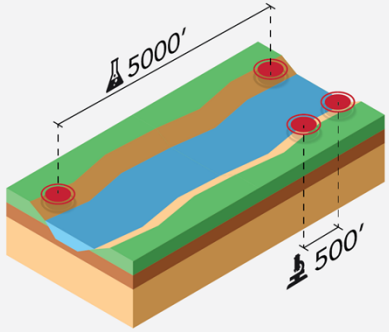
SEDIMENT SAMPLING



One sample every 500 feet, at the midpoint of drain, for chemical analysis

SOIL SAMPLING

One sample on each side slope every 500 feet for physical properties (native vs nonnative soils) and accumulated sediment



One sample collected every 5,000 feet for chemical analysis (3 Samples)

ALTERNATIVE ANALYSIS

Review of Technologies

- HYDRAULIC
- MECHANICAL
- DRY DREDGING

Review of Disposal Options

EECA

Combined above studies in an EECA

Preferred alternative:

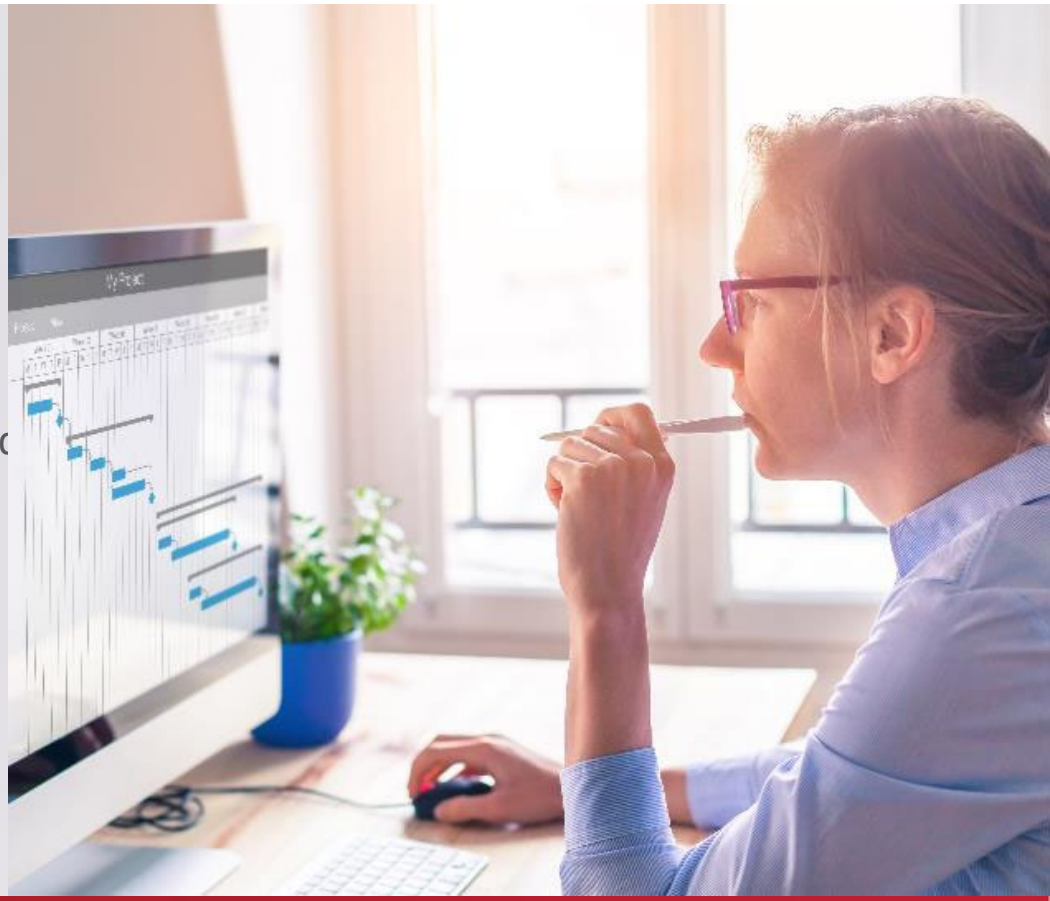
☑ SEDIMENT REMOVAL & OFF-SITE DISPOSAL

Non-specific on dredging approach

SCOPE OF SERVICES:

"…oversee of design and construction services phased of the…project"

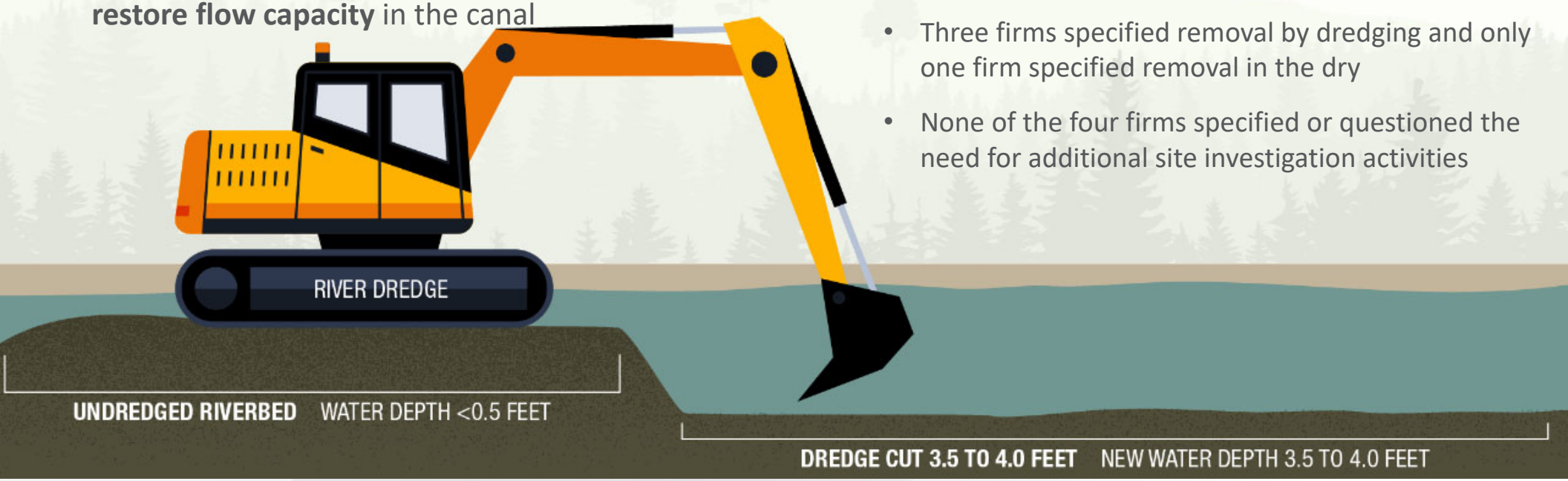
- Manage the preparation of technical specifications and bid documents
- Assist in bidding process and provide detailed bid analysis and comparison
- Development of work plan
- Construction management
- Communications and public relations
- Project closeout



OWNER'S ENGINEERING OVERSIGHT

BIDDING, CONTRACTOR SELECTION

- RFP issued on 2 month bidding period, running from approximately December to February
- Bid documents stated objective of the work was to **restore flow capacity** in the canal
- Bidders were requested to provide information on proposed technical approach and costs
- Bids were received from four firms
  - Three firms specified removal by dredging and only one firm specified removal in the dry
  - None of the four firms specified or questioned the need for additional site investigation activities



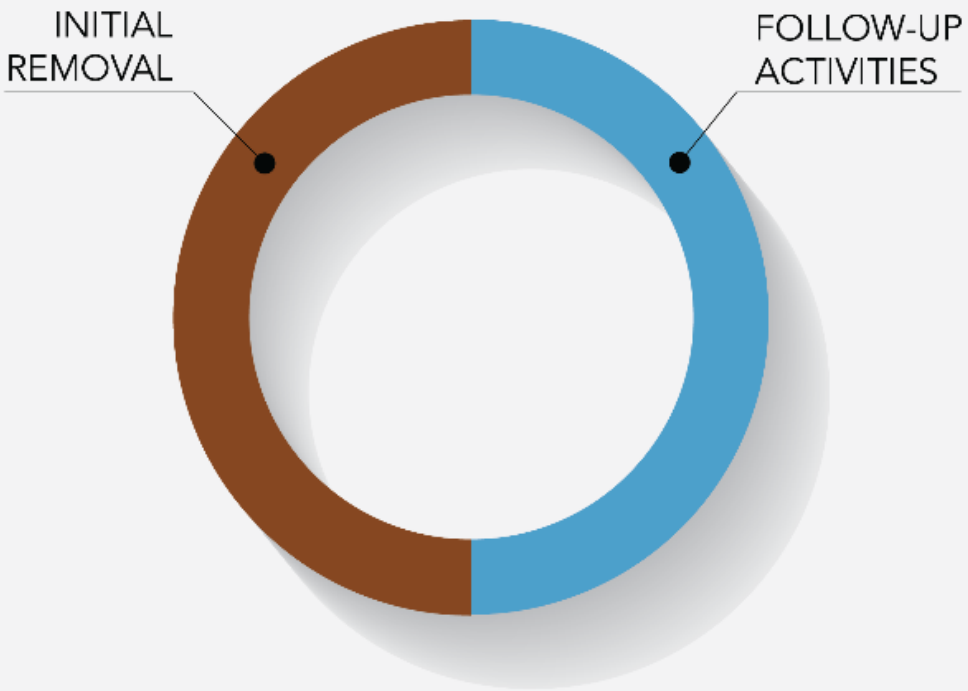
PROJECT EXECUTION

- Construction was completed in two phases:
  - Phase 1 – Pilot study, proof of concept
  - Phase 2 – Remainder of drain
- Visual confirmation samples collected every 100 feet for visual inspection; resampling every 25 feet of same interval; chemical confirmation sampling every 2000 feet
- At the completion of work, contractor demobilized from the site, and retainage and the bulk of contract paid
- A few month before the warranty period expired, contractor was sued for non- performance under the contract

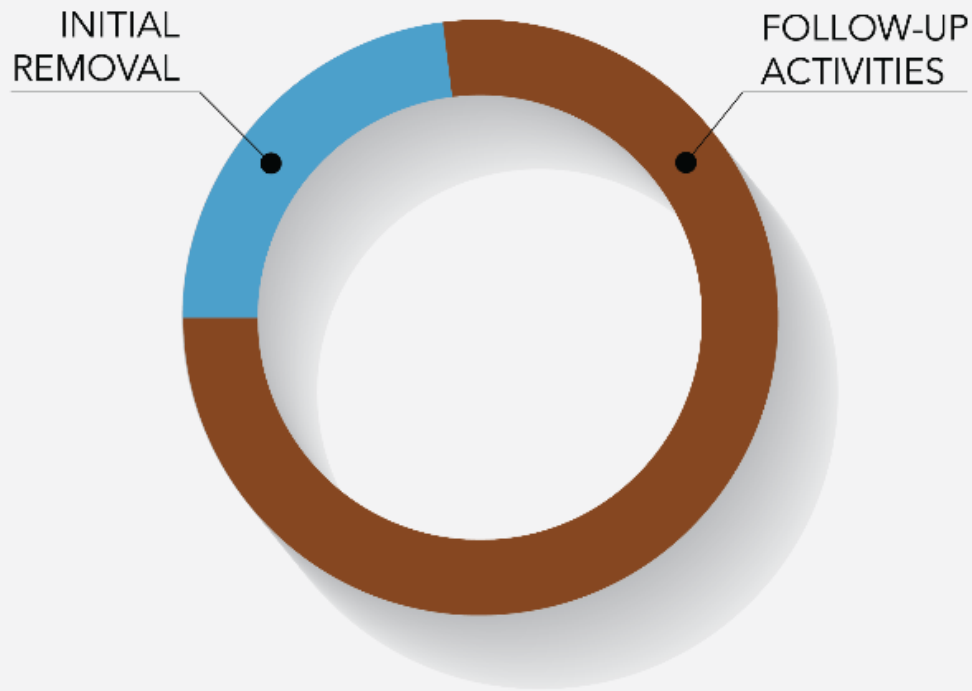
PROJECT AFTERMATH

- Site closure report rejected by regulatory agencies due to failing tests
- Conducted additional sampling and found more impacted sediment in drain
  - Probing studies - approximately 8300 cy of sediment remaining at varying depths up to 3 feet
- Hired third party engineer to evaluate results
  - Decision was made to redredge the drain
  - Engineer recommended removal in the dry

PERCENTAGE OF TOTAL CUBIC YARDS OF MATERIAL REMOVED AT THE PROJECT



PERCENTAGE OF TOTAL COST OF THE PROJECT



ROUND 2

- Contract language and inconsistencies in documents
- Red flag words
- Regulatory issues

RED FLAG ISSUE

INCONSISTENCIES WITHIN DOCUMENTS

Numerous inconsistencies in the document that were not addressed or qualified during the bid/project

- Project titled a design-build project
  - Contract language was for a design-bid-build project
  - No design work required of Contractor / No design submittals
  - Contractor did not seal drawing
  - Bid/project schedule not consistent with DB
- Technical inconsistencies
  - Remove **“all”** sediment/ do not remove sediment on side slopes/remove only 1 inch of soils in bottom of drain

RED FLAG WORDS

REGULATORY ISSUES

- Project structured as a flow restoration project
  - Project was structured as a flow restoration project
  - Bidders were told it was a flow restoration project
  - AOC are not generally associated with flow restoration projects
  - EPA's involvement with the project
- Availability of AOC or other regulatory documents for review
  - Mentioned in specifications but missing from bid package
  - Review opportunity
- Scope changes after contract signed
  - Chemical acceptance limits

CONTROLLING RISK

Three steps in controlling risk:

- Perception
- Analysis
- Management

POTENTIAL RISK FACTOR	POTENTIAL MITIGATION ACTIONS
• Change to staff	• Continuity in staffing/transition plans/document.
• Changing/unclear stakeholder objectives	• Communicate and document
• Changing regulators and expectations	• Communicate and document
• Unforeseen conditions	• Notify client when encountered and document
• One party withholding critical information	• Identify and document data gaps
• Unrealistic performance, specifications and contract requirements	• Identify issues early, communicate and document discussions
• Measurability of project requirements/ acceptance criteria	• Establish clear metrics if not in specifications; communicate and document with client
• Significant changes to the project	• Communicate and document

RISK PERCEPTION AND ANALYSIS

		A	B	C	D	E
		Negligible	Minor	Moderate	Significant	Severe
E	Very Likely	Low Med	Medium	Med Hi	High	High
D	Likely	Low	Low Med	Medium	Med Hi	High
C	Possible	Low	Low Med	Medium	Med Hi	Med Hi
B	Unlikely	Low	Low Med	Low Med	Medium	Med Hi
A	Very Unlikely	Low	Low	Low Med	Medium	Medium

Source: https://herdingcats.typepad.com/my_weblog/2010/07/risk-matrix.html

RISK MANAGEMENT

LESSONS LEARNED

1. Watch for Red Flag words or other absolutes
2. Read and understand regulatory documents related to the project
3. Contract format should complement the specifications
4. Project schedule should conform to expectations established during bidding
5. Information in contract documents should be adequate for bidding the type of work planned
6. Selected technology should be appropriate to meet specification requirements
7. Ask the right questions and be willing to walk away

ACTUAL CAUSE – SUBJECT TO DEBATE