

Mel Price/Wood River Problem Seepage Area Industry Day December 3, 2013



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Vicinity/Segment Map

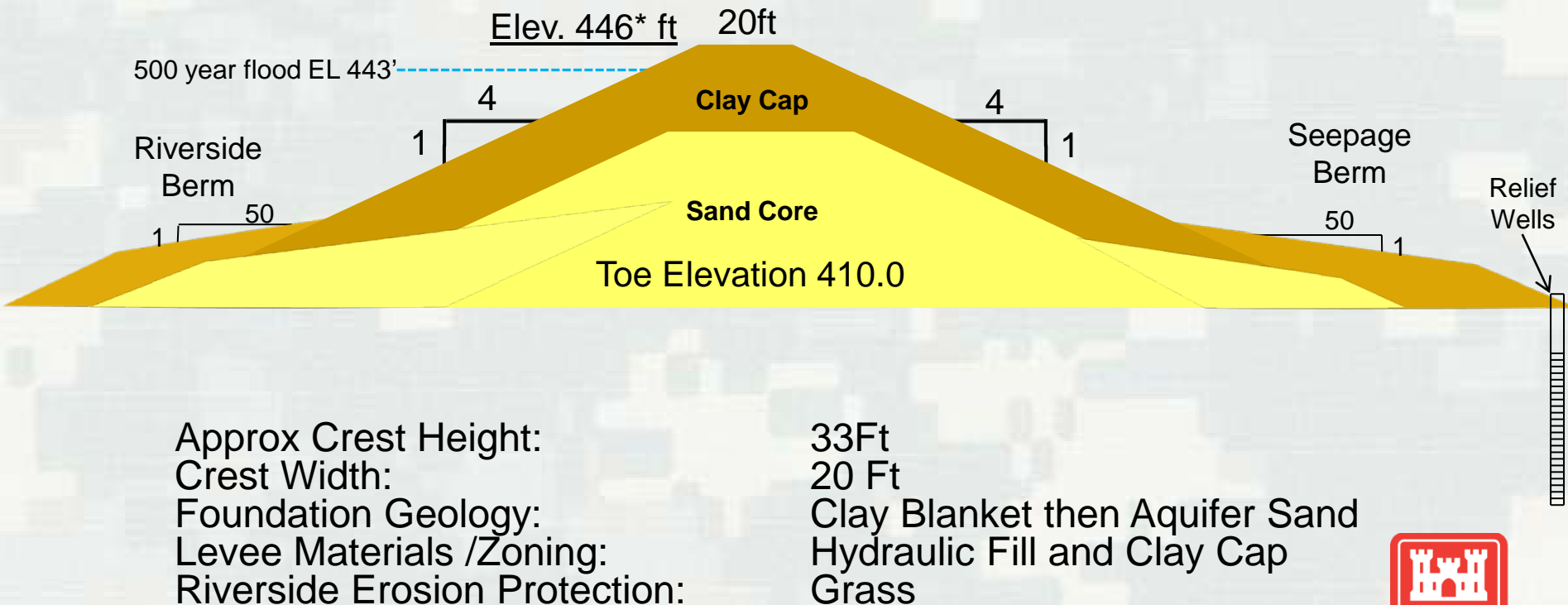


Typical Sections

Mainline Levee Embankment

Riverside

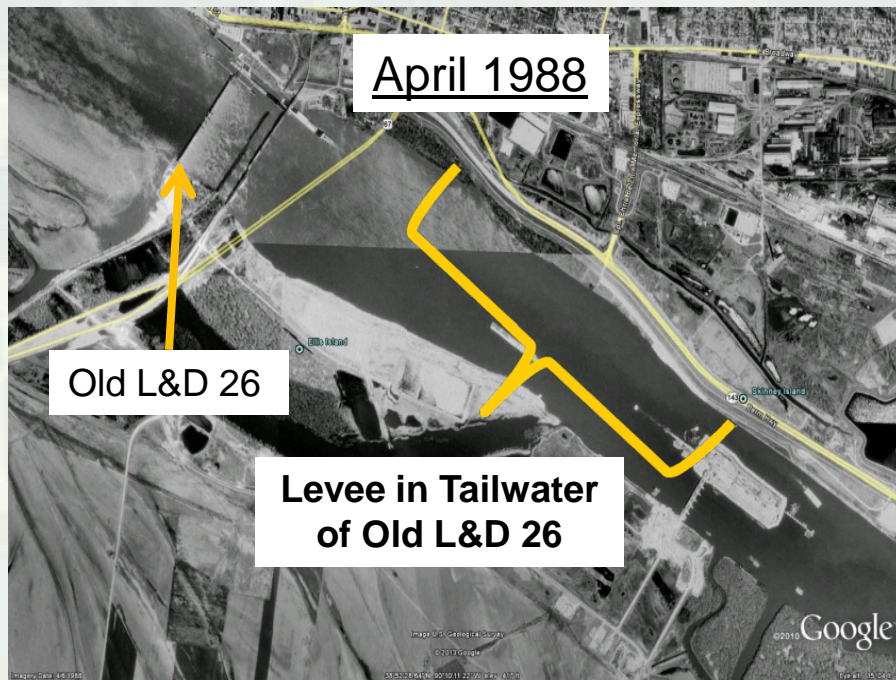
Landside



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Mel Price Seepage Area

- Relocation of old Lock & Dam 26 two miles downstream to Mel Price Locks & Dam caused a permanent pool to be placed on the Upper Wood River Levee from Sta 0+00 to Sta 115+24.



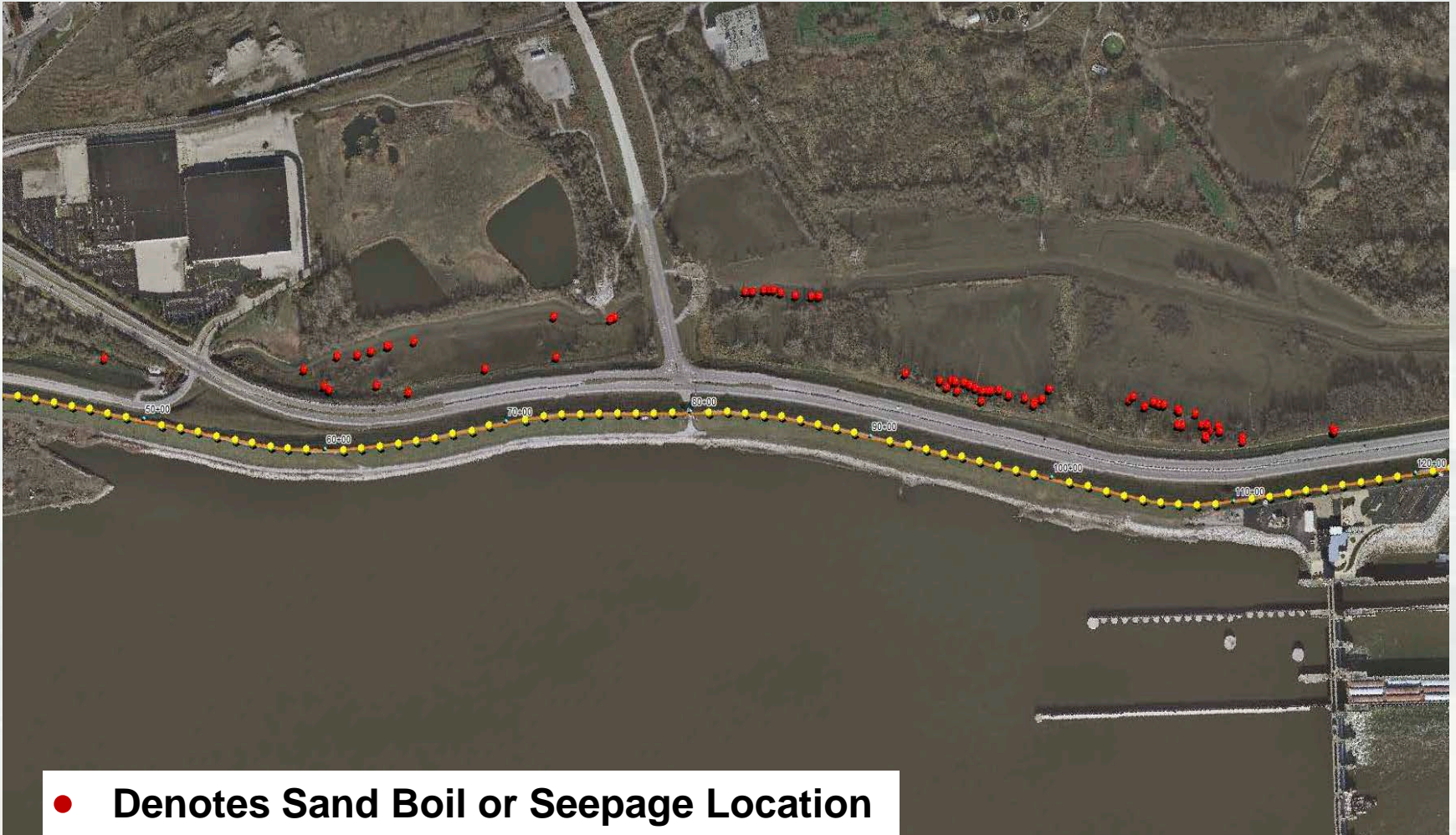
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Mel Price Seepage Area



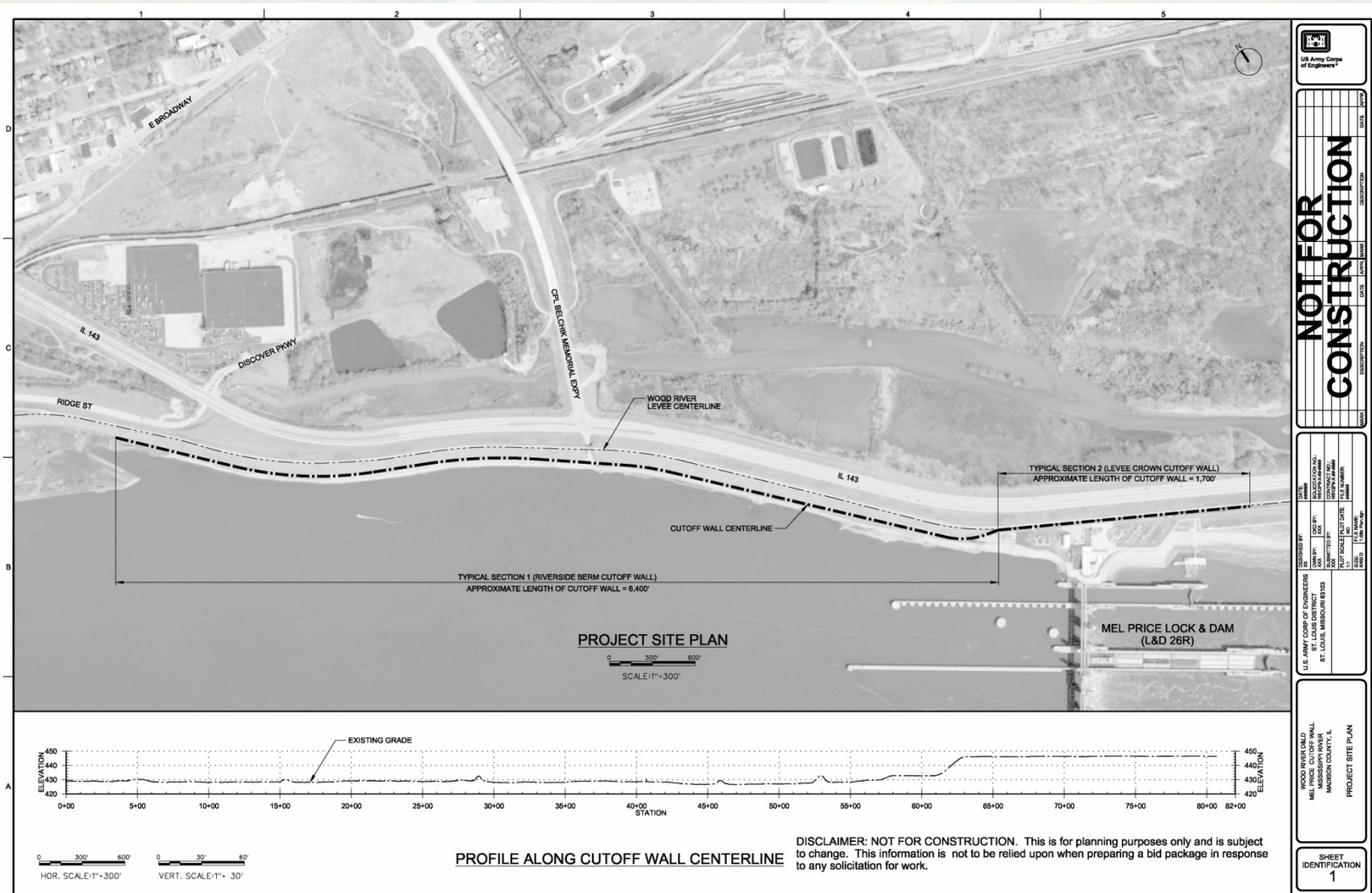
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Mel Price Seepage Area



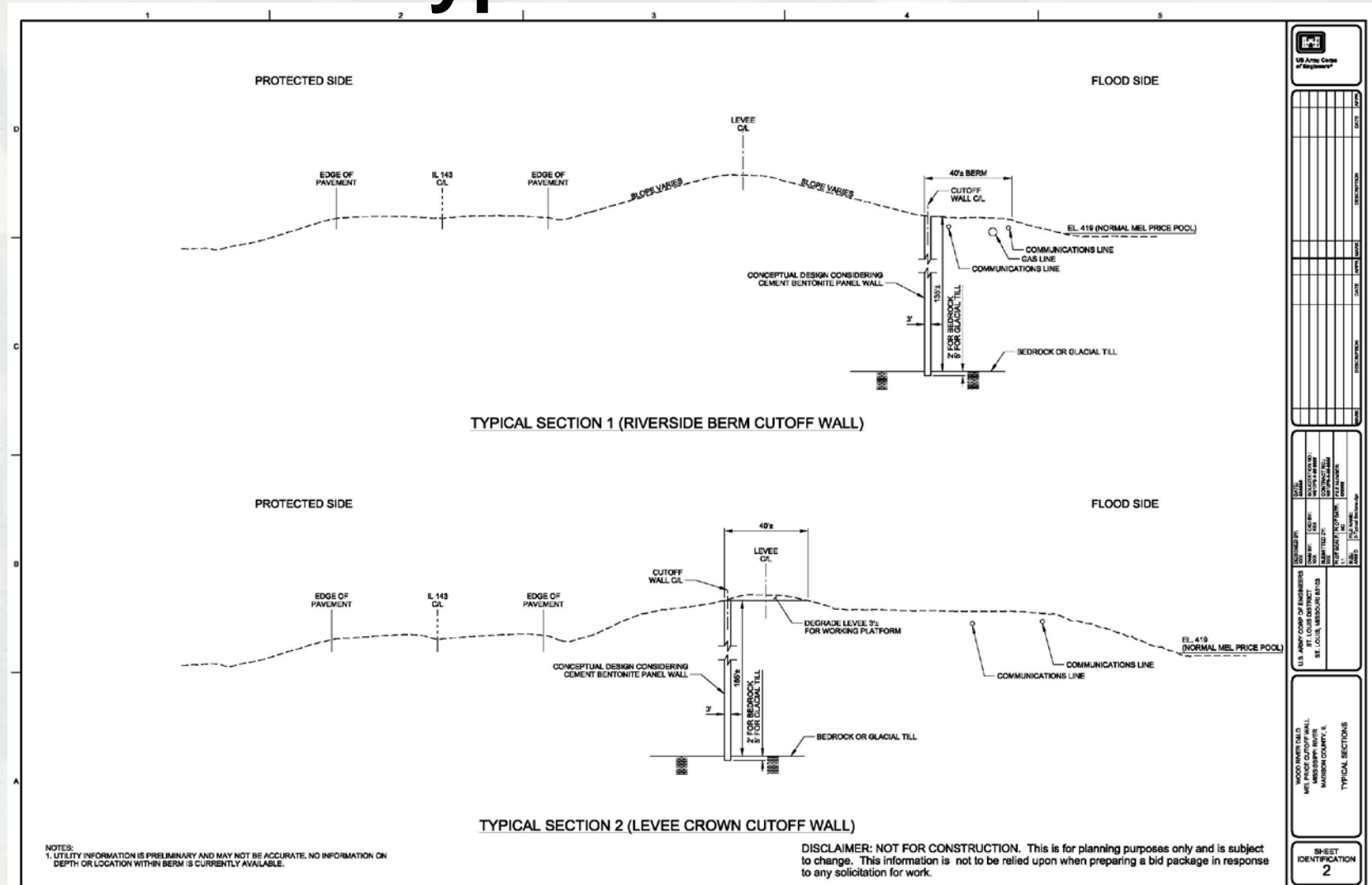
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Proposed Cut-Off Wall Alignment



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Proposed Cut-Off Wall Typical Sections



Proposed Cut-Off Wall Location

■ Conditions

- ▶ Site
- ▶ Utilities
- ▶ Subsurface

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Station 95+47
Looking Downstream



Station 95+47
Looking Upstream



High Water Event Examples

Station 95+47

2May13

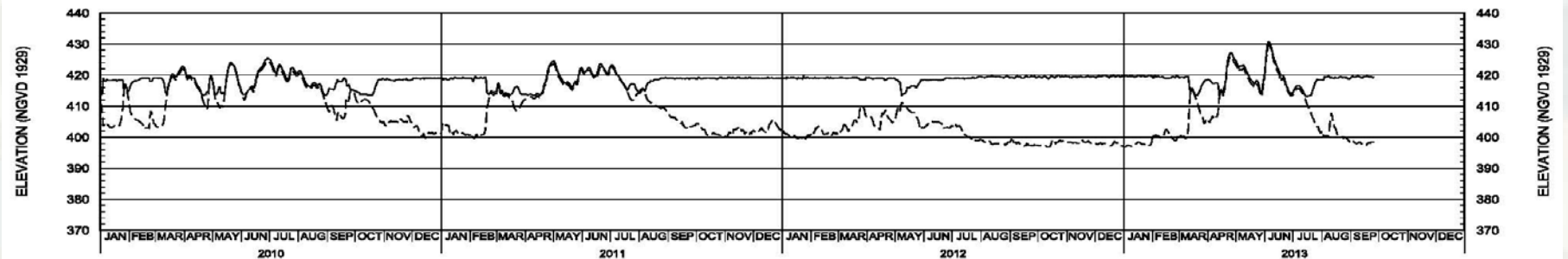


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Station 79+63

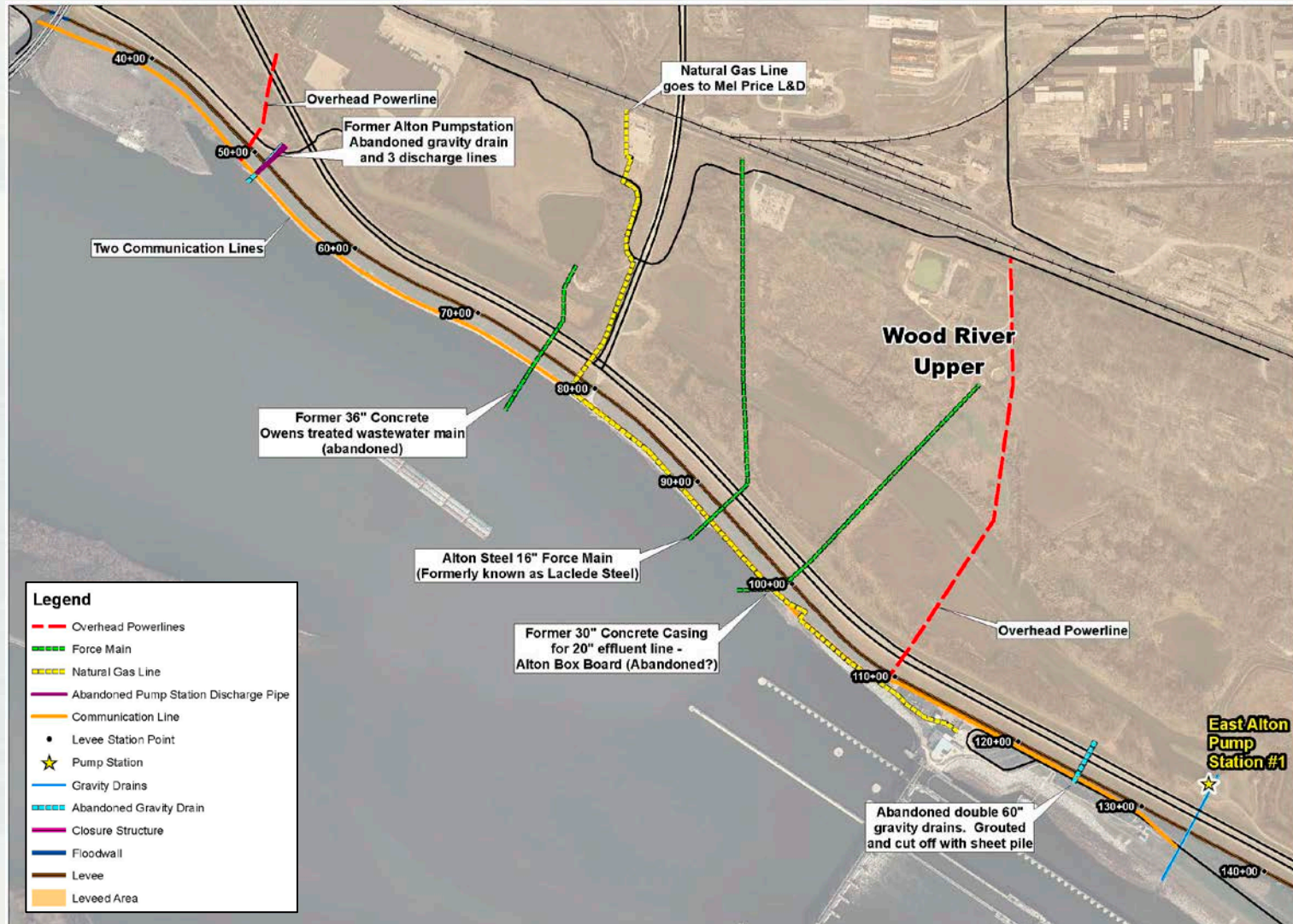
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SHEET LEGEND:	
MEL PRICE POOL ELEVATION	—————
MEL PRICE TAIL ELEVATION	- - - - -

Utilities



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Mel Price/Wood River Problem Seepage Area – Typical Conditions

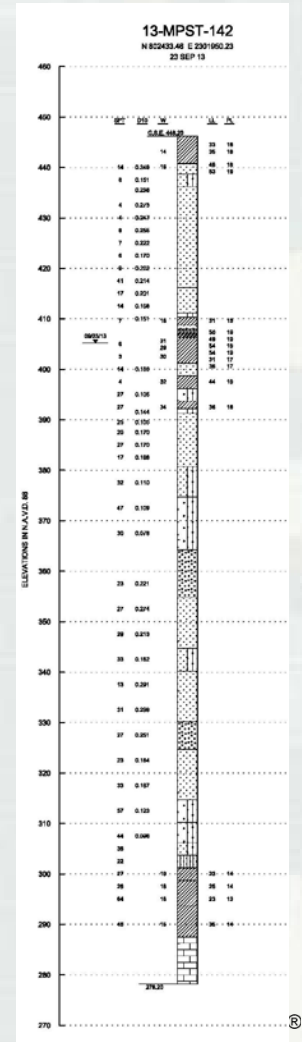
■ Subsurface Conditions

- ▶ Pumping Test
- ▶ Exploration
- ▶ Mel Price L&D construction



■ Subsurface Strata

- ▶ Levee Section
- ▶ Alluvium
- ▶ Groundwater
- ▶ Glacial Deposits
- ▶ Bedrock



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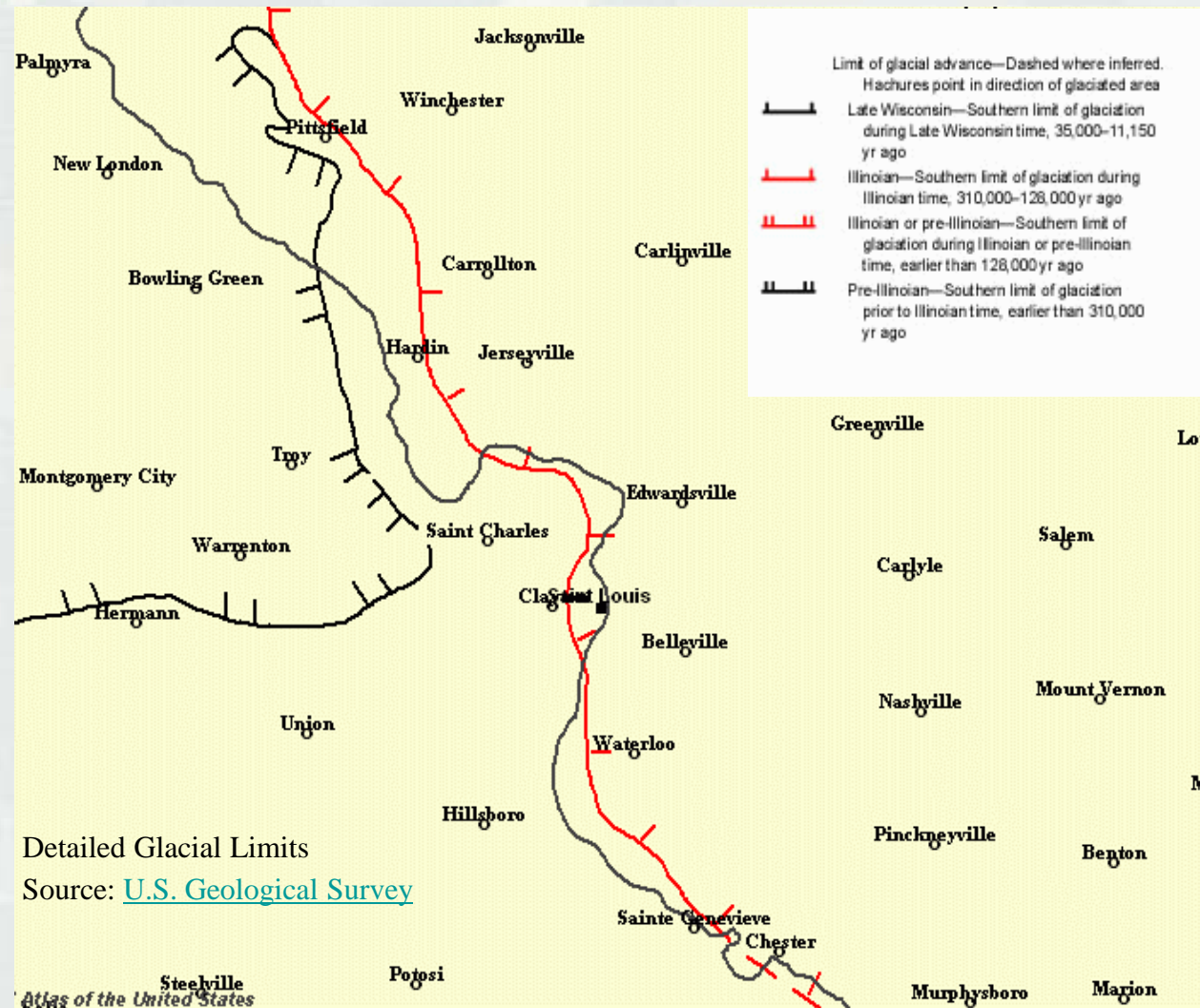
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BUILDING STRONG®

Glacial Deposits & Limits

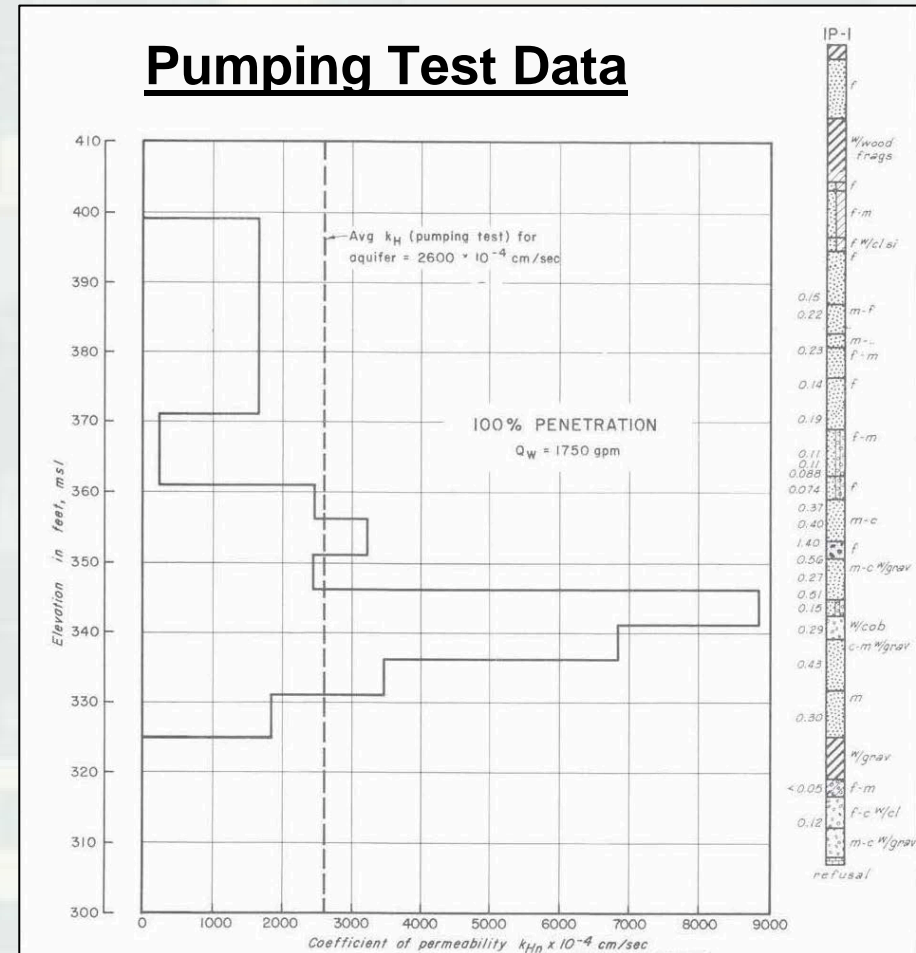
■ Glacial Deposits

- ▶ Clay
- ▶ Silt
- ▶ Sand
- ▶ Gravel
- ▶ Cobbles
- ▶ Boulders



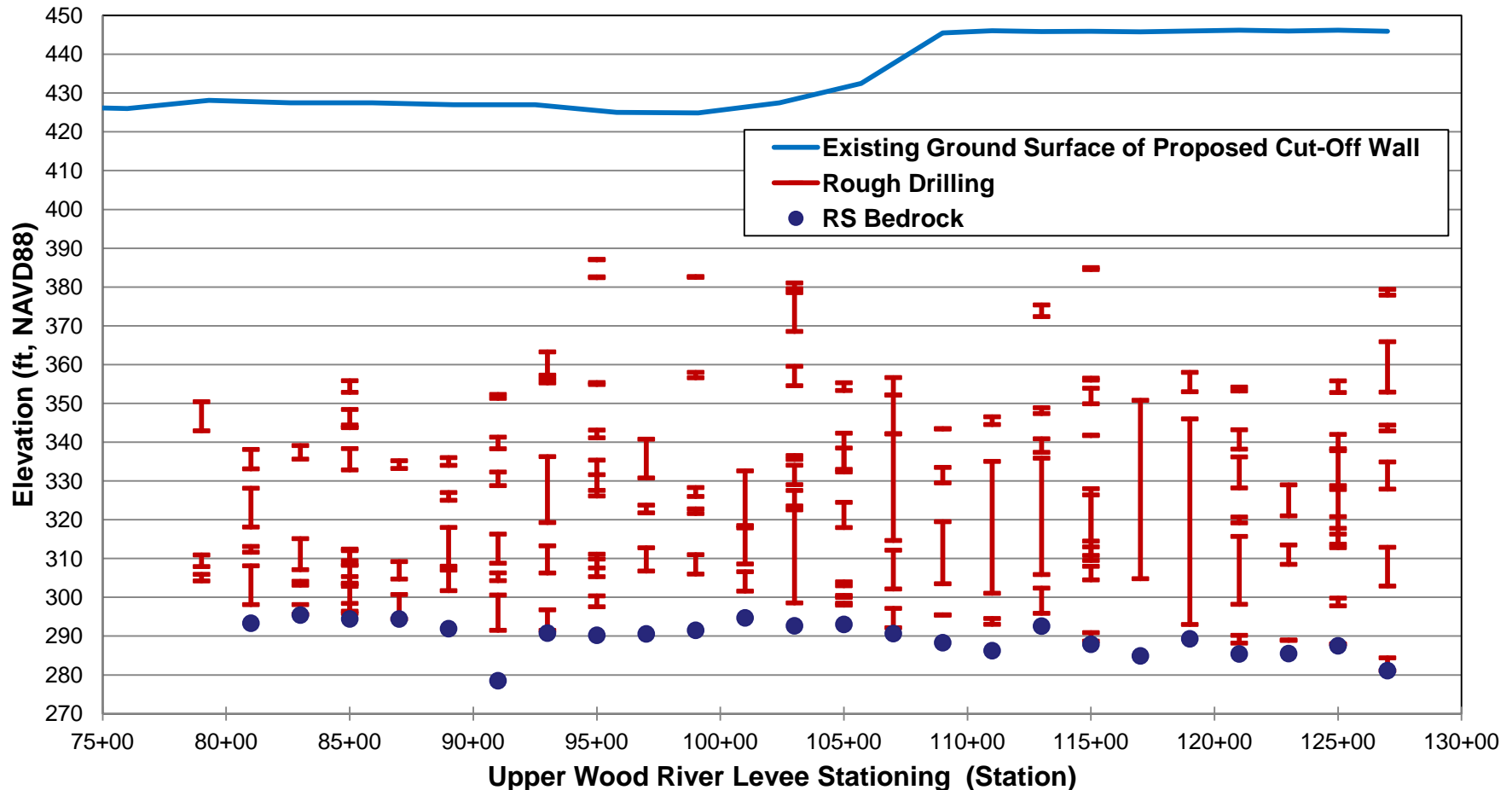
Rotary Drilling Circulation Losses

- **Poor circulation & fluid loss**
 - ▶ Typical 100s gallons
 - ▶ Alluvium & glacial deposits
 - ▶ Permeable cobbles & boulders
- **Total circulation loss**
 - ▶ Boring ...13-MPST-136
- **Cobbles & boulder zones**
 - ▶ Most permeable
 - ▶ Greatest fluid losses



Rough Drilling Examples

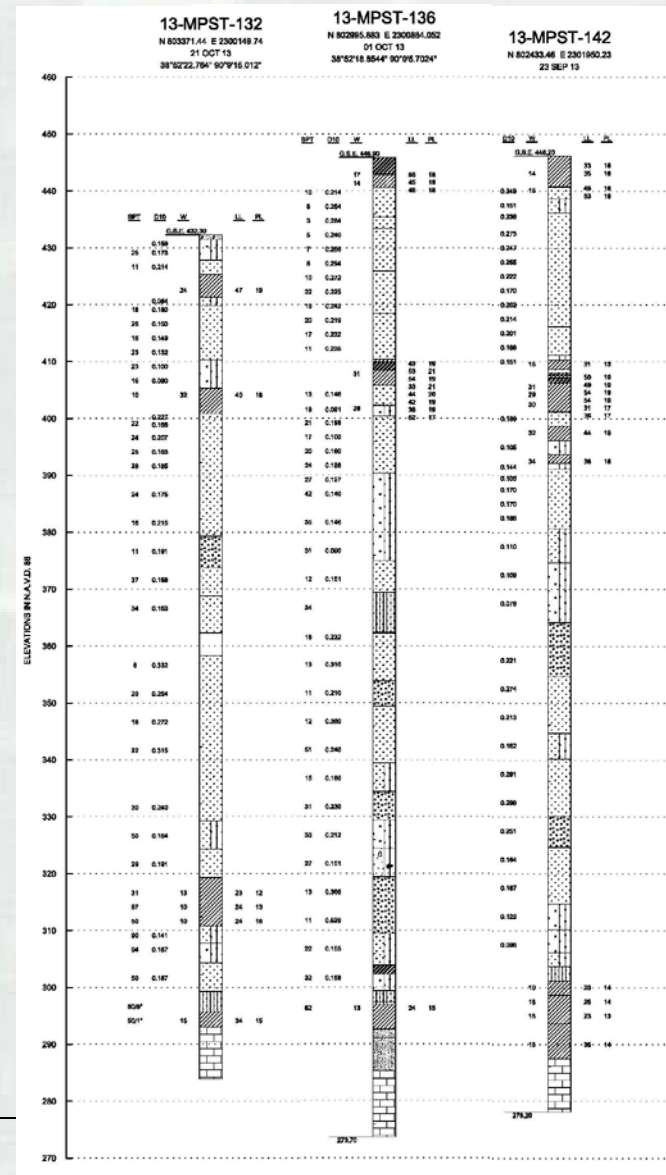
Rough Drilling Encountered During the Mel Price/Wood River Subsurface Exploration



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Glacial Till & Bedrock

- **Glacial Till Zones (typical)**
 - ▶ Typical thickness: 1 to 10 feet
 - ▶ Typical Depth: 115 to 155 feet
- **Bedrock Depths (typical)**
 - ▶ Riverside: 130 to 140 feet
 - ▶ Levee section: 150 to 160 feet



Construction Impact Examples

Mel Price L&D – Pile Driving Test



EXTRACTED PILE B-60 #4
WITH ENTRAPPED BOULDER



Construction Impact Examples

Mel Price L&D – Pile Driving



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Construction Impact Examples

Mel Price L&D – Pile Driving



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Construction Impact Examples

Mel Price L&D Pile Driving



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The Government is Investigating Using these Assumptions

- Panel Construction
- Panel Width
 - ▶ 20' to 50'
- Panel Thickness
 - ▶ 2' Min Required
- Cut-Off Wall Material
 - ▶ Cement-Bentonite
- 40' Wide Riverside Berm is Sufficient Working Area
- Weight of Slurry
 - ▶ 72 pcf
- Working Platform at Existing Grade
- No Guidewall
- Tying the Cut-Off Wall:
 - ▶ 5' into Fine-Grained Glacier Till or
 - ▶ 2' into Competent Bedrock
- 28 Day Panel Strength
 - ▶ 50 to 100 psi
- Strength of Primary Panel before an Adjacent Secondary Panel is Excavated
 - ▶ 15 psi



Contracting Information

- Proposed Acquisition Strategy: Unrestricted / IDIQ
- Source Selection: Lowest Price Technically Acceptable (LPTA)
- Magnitude: > \$10 Million
- Joint Venture vs. Prime/Sub Relationship
- Limitation on Subcontracting: Specialty Construction 25%
- Sub-Contracting Plan Requirements
- Bonding Requirements: Bid Bond, Payment & Performance

