Eisenhower/Johnson Memorial Tunnels Consolidation Grouting & Structural Repair Project

Mandatory Pre-Bid Meeting
2022.06.06
Agenda

1. Introductions
2. Project Details
   • Bid Schedule
   • Details & Key Dates
3. Project Location
4. Project scope review
   • Consolidation grouting
   • Structural repair
5. Design and CDOT considerations
6. Questions
Introductions:

CDOT
- John Wooldridge
- Garett Urban
- Neal Retzer
- Shannon Mero
- RB Simmons

Stantec
- Nick Cioffredi
- Bernie Guevara
- Dennis Eden
- Adam Bedell
- Jim Bader
- Christy Williams
Project Details
Project
Bid Schedule

• 2022.05.26 – Advertisement
• 2022.06.06 – Mandatory Pre-Bid
• 2022.06.10 – Prequalification RFI Deadline
• 2022.06.16 – Prequalification Proposal Due
• 2022.06.24 – Prequalification Results
• 2022.07.11 – Bid RFI Deadline
• 2022.07.14 – Bid Letting
Project Details & Key Dates

• SB 260 Funds
• Liner Repairs
  • Consolidation Grouting
• “Structural” Repairs
  • Concrete Barrier
  • Lighting anchorages

Key Dates
• 2022.08.12 – Anticipated NTP
• Winter shutdown as defined in PSE
• 2023 Completion
  • As defined in PSE
Project Origin & Goals

Groundwater infiltration into the tunnel excavation via the liner has occurred for decades, resulting in significant labor effort required and deterioration, largely due to freeze thaw cycles.

- Capture & diversion methods used to date
- Maintenance of drainage systems
- Rehabilitation of facility components

National Tunnel Inspection Standards (23 CFR 650) became rule on 8/13/2015. Through these biennial inspections, various asset recommendations including repairs that are structural in nature due to:

- Infiltration
- Chloride contamination
- Age
- Construction
**Project Location**

**TYPICAL NORTH TUNNEL CROSS SECTION**
F-13-Y EISENHOWER WESTBOUND

**TYPICAL SOUTH TUNNEL CROSS SECTION**
F-13-X JOHNSON EASTBOUND

*Vertical Clearance Varies, Tunnel Post for 13'-0" Maximum Vehicle Height*
Project Scope Review
Consolidation Grouting
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Consolidation Grouting
Consolidation Grouting

- Advance Stage Grouting
  - Primary Holes
  - Secondary Holes
  - Tertiary Holes

- Segments 1 thru 13
- Segments 139 thru 141
- Segments 155 thru 162

- Protect liner reinforcement
- Protect existing infrastructure
  - Utilities
  - Drainage systems
Consolidation Grouting Details
Consolidation Grouting (considerations)
Structural Repairs
Steel Ceiling Panel Anchorages
Concrete Egress Sidewalk
Concrete traffic barrier – Eisenhower & Johnson
Concrete traffic barrier – Eisenhower & Johnson
Concrete portal beams
Ventilation building façade panel joint sealant
Plenum floor slabs & Escape hatch openings
Design and CDOT Considerations
Environmental & Water Quality Considerations

- Water supply constraints
- Roadway drainage to WWTP
  - No direct access to Clear Creek
- Groundwater and plenum drains
  - Direct access to seep system and Clear Creek
- No impairments (CDPHE Reg93)
- Consolidation grouting should not impact flows to/of Clear Creek
- Clear Creek contamination mitigation and stakeholders (i.e. CDPHE)
- Naturally occurring metals
- Specifications for water quality monitoring and compliance at combined tunnel effluent
Environmental & Water Quality Considerations

- Staging areas
- Drainage system access
- Sanitary facilities
Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.

William Pollard