



Colorado River Aqueduct Erosion Control Improvements

Engineering and Operations Committee

Item 7-4

March 7, 2022

Current Action

- Authorize a professional services agreement with HDR Engineering, Inc. in an amount not to exceed \$2,800,000 for preliminary design services in support of erosion control improvements along the Colorado River Aqueduct

Background

- Cut-and-cover conduits are susceptible to erosion at ravine crossings
- High intensity, sediment-laden storm runoff erodes soil & exposes conduit
- Exposed conduits are vulnerable to structural damage from large debris and/or vehicles



Exposure downstream of berm relief site
October 2018



Exposure near Pierson Road, February 2019

Background



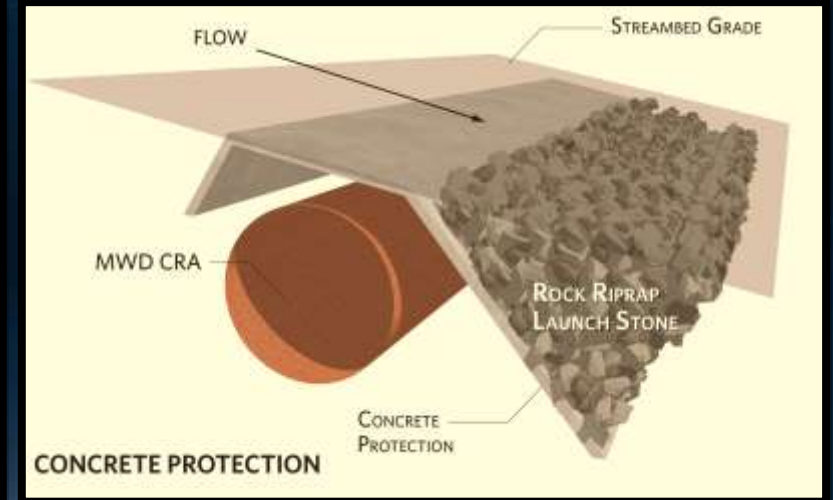
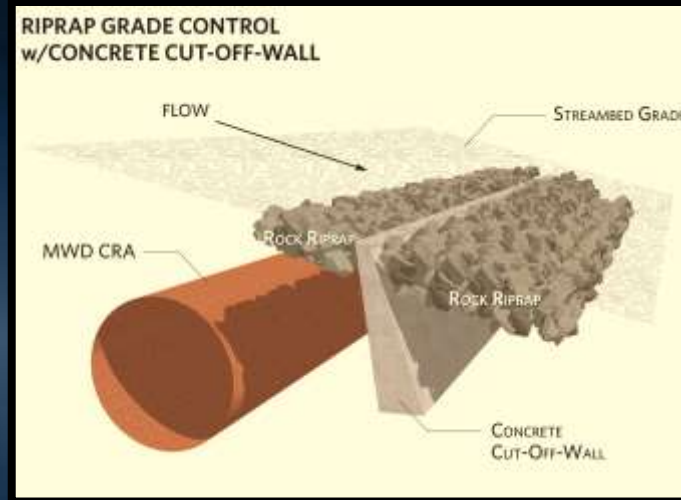
Several exposures in alluvial fan downstream of Munsen Canyon (near Chiriaco Summit)

October 2018

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Planned work

- Develop protection alternatives
- Design recommended features
- Install drainage & protection facilities



Gully & exposure near Super Creek February 2019



Exposed conduit at Pinkham Wash October 2018

HDR Engineering, Inc.

New Agreement

- Competitively selected under RFP 1286
- Scope of work for 19 sites
 - Conduct site & utility investigations
 - Perform hydrology, hydraulics, scour & geomorphology analyses
 - Perform sediment transport modeling
 - Evaluate proposed erosion control improvement options
 - Prepare preliminary design drawings & report
 - Develop a Class 3 construction cost estimate
- SBE participation level: 25%
- NTE amount: \$2,800,000

Metropolitan Scope

- Conduct topographic surveys for 19 sites
- Conduct geotechnical investigations & soil testing
- Prepare environmental documentation
- Conduct constructability workshop
- Coordinate permitting process with local jurisdictions
- Provide technical oversight
- Perform project controls & project management

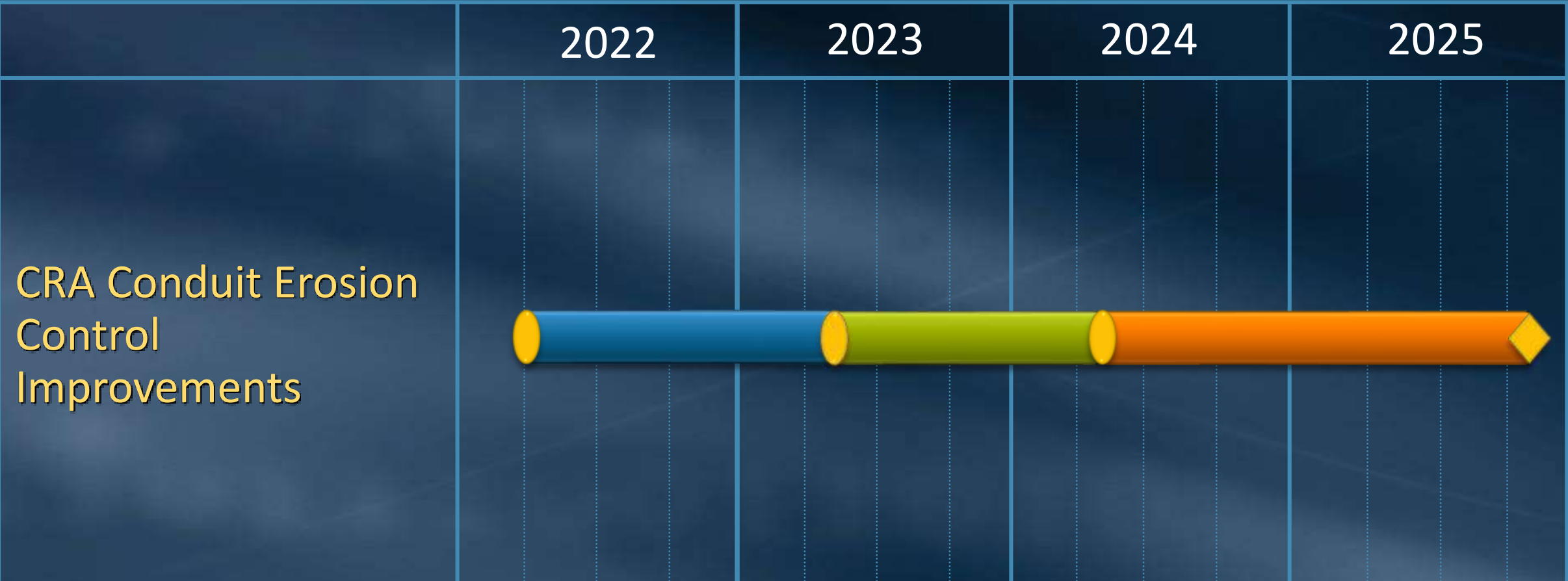
Alternatives Considered

- Utilize Metropolitan staff
 - Staff workloads exceed immediate available resources
 - Specialized technical expertise required
 - Team of national experts in hydrology, hydraulics & scour analyses, sediment transport modeling, and river stability
- Selected option
 - Professional services agreement for the subject project
 - Consultant and staff work as a hybrid team


Allocated Funds

Metropolitan Labor	
Preliminary Investigations	\$ 584,000
Owner Costs	828,000
Professional/Technical Services	
HDR Engineering, Inc.	2,800,000
Specialized Geotechnical Services	180,000
Specialized Environmental Services	260,000
VE Consultant	75,000
Incidental Expenses	25,000
Remaining Budget	248,000
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Total	\$5,000,000

Project Schedule



 Preliminary Design

 Final Design

 Construction

 Board Action

 Completion

Board Options

- Option #1
 - Authorize an agreement with HDR Engineering, Inc. for a not-to-exceed amount of \$2,800,000 for preliminary design to improve erosion protection structures along the aqueduct.
- Option #2
 - Do not proceed with the agreement at this time.

Staff Recommendation

- Option #1

