



Engineering, Operations, & Technology Committee

Freda Siphon Barrel No. 1 Internal Seals Installation

Item 7-1

September 11, 2023

Freda Siphon Barrel No.1 Internal Seal Installation

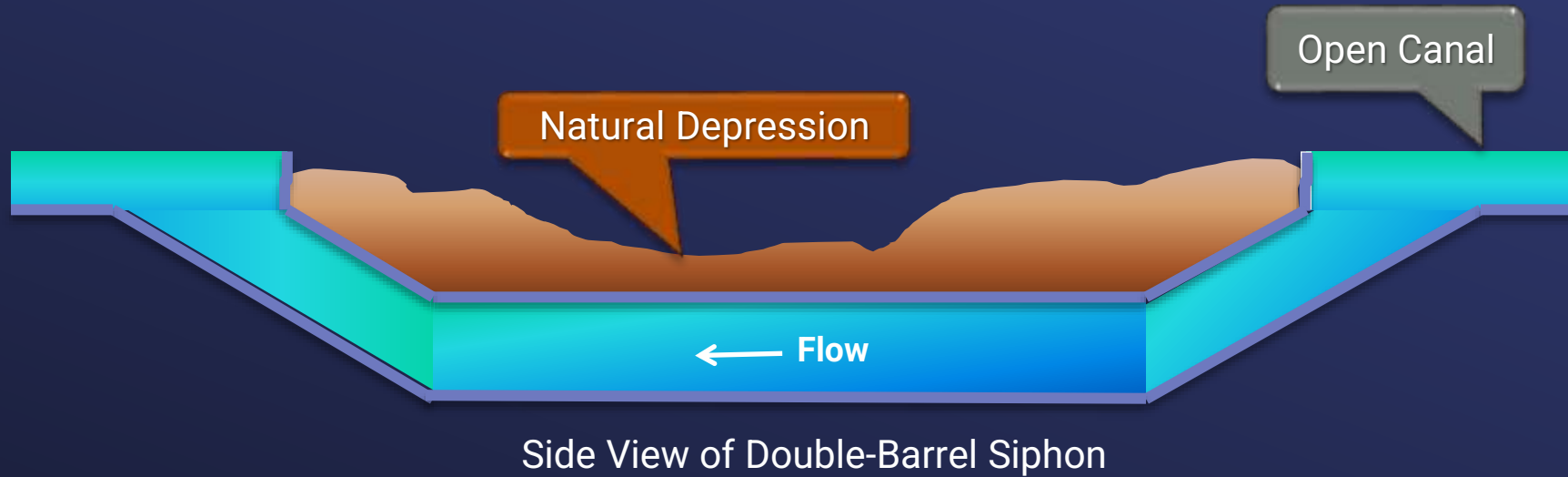
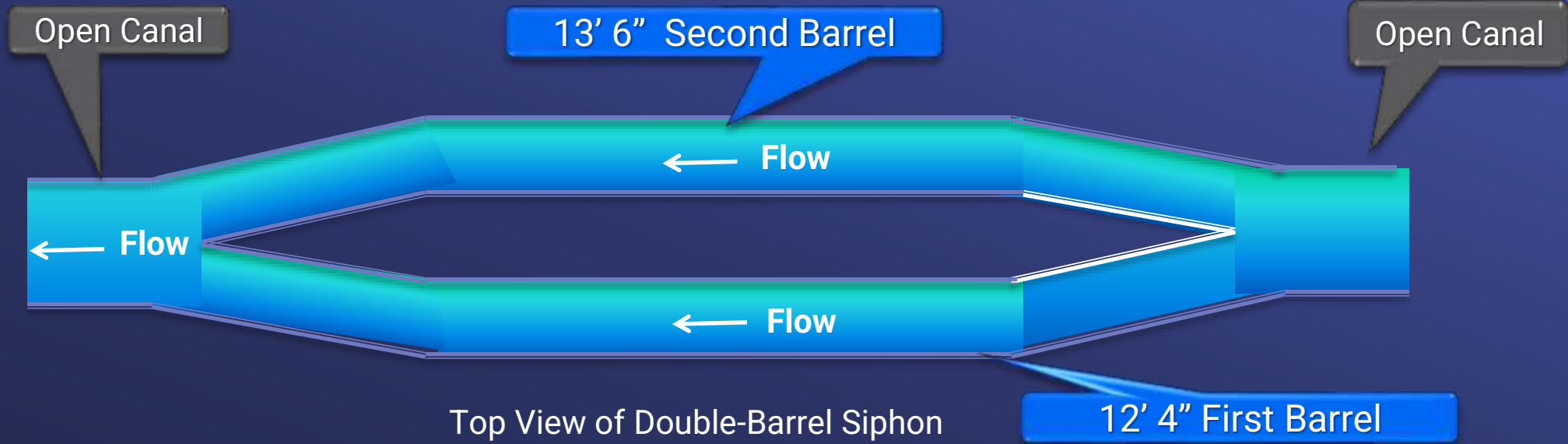
Current Action

- Award a \$3,895,000 contract to Miller Pipeline to install internal seals along the Freda Siphon Barrel No. 1 on the Colorado River Aqueduct

Project Location



Layout of Siphons



Freda Siphon Barrel No.1 Internal Seal Installation



Discovered Crack

Background

- Constructed in the 1930's
- 3-mile long, 148-inch diameter monolithic concrete siphon
 - No expansion joints
 - Siphon prone to cracks caused by thermal expansion
- Jan. 2021 - Six new subsurface leaks discovered
- Feb. 2022 - Internal inspection performed
 - New cracks discovered
 - Previous repairs have deteriorated
- Final design complete

Contractor – Scope of Work

- Furnish & install internal seals at 82 locations
- Planned for 2024 CRA Shutdown



Seal Installation



Previously Installed Seals

Freda Siphon Barrel No.1 Internal Seal Installation

Alternatives Considered

- Considered Alternative – Reline entire siphon using steel or concrete
 - Extended CRA shutdown required
 - Reduces interior diameter & flow capacity
- Selected Alternative – Install permanent seals at critical locations
 - Successfully installed previously at other locations
 - Work to be completed during planned 2024 CRA Shutdown

Bid Results

Specifications No. 2057

Bids Received	August 8, 2023
No. of Bidders	3
Lowest Responsible Bidder	Miller Pipeline
Low Bid	\$3,895,000
Other Bids	\$6.1 M - \$6.9 M
Engineer's Estimate	\$3,940,000

* No SBE (Small Business Enterprise) participation level set due to the specialized nature of the work

Freda Siphon
Barrel No.1
Internal Seal
Installation

Metropolitan - Scope of Work

- Dewatering activities, establish safety clearances & return aqueduct to service
- Construction management & inspection
- Submittals review & preparation of record drawings
- Environmental monitoring
- Project management & project controls

Allocation of Funds

Freda Siphon Barrel No.1 Internal Seal Installation

Metropolitan Labor	
Owners Costs (Proj. Mgmt., Contract Admin., Envir. Support)	\$ 258,000
Construction Inspection & Support	468,000
Force Construction	142,000
Submittals Review, Tech. Support, Record Dwgs.	269,000
Materials & Incidentals	18,000
Contracts	
Miller Pipeline	3,895,000
Remaining Budget	250,000
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Total	\$ 5,300,000

Project Schedule



Board Options

- Option #1

Award a \$3,895,000 contract to Miller Pipeline to furnish and install internal seals in Freda Siphon Barrel No. 1 along the CRA conveyance system.

- Option #2

Do not proceed with the project at this time.

Staff Recommendation

- Option #1

