Engineering, Operations, & Technology Committee

Santa Monica Feeder Cathodic Protection

Item 7-3

June 10, 2024

Item 7-3
Santa Monica Feeder Cathodic Protection

Subject

Award a contract of $897,469 to Exaro Technologies Corporation for the construction of cathodic protection on the Santa Monica Feeder

Purpose

This project protects the Santa Monica Feeder from deterioration related to corrosion

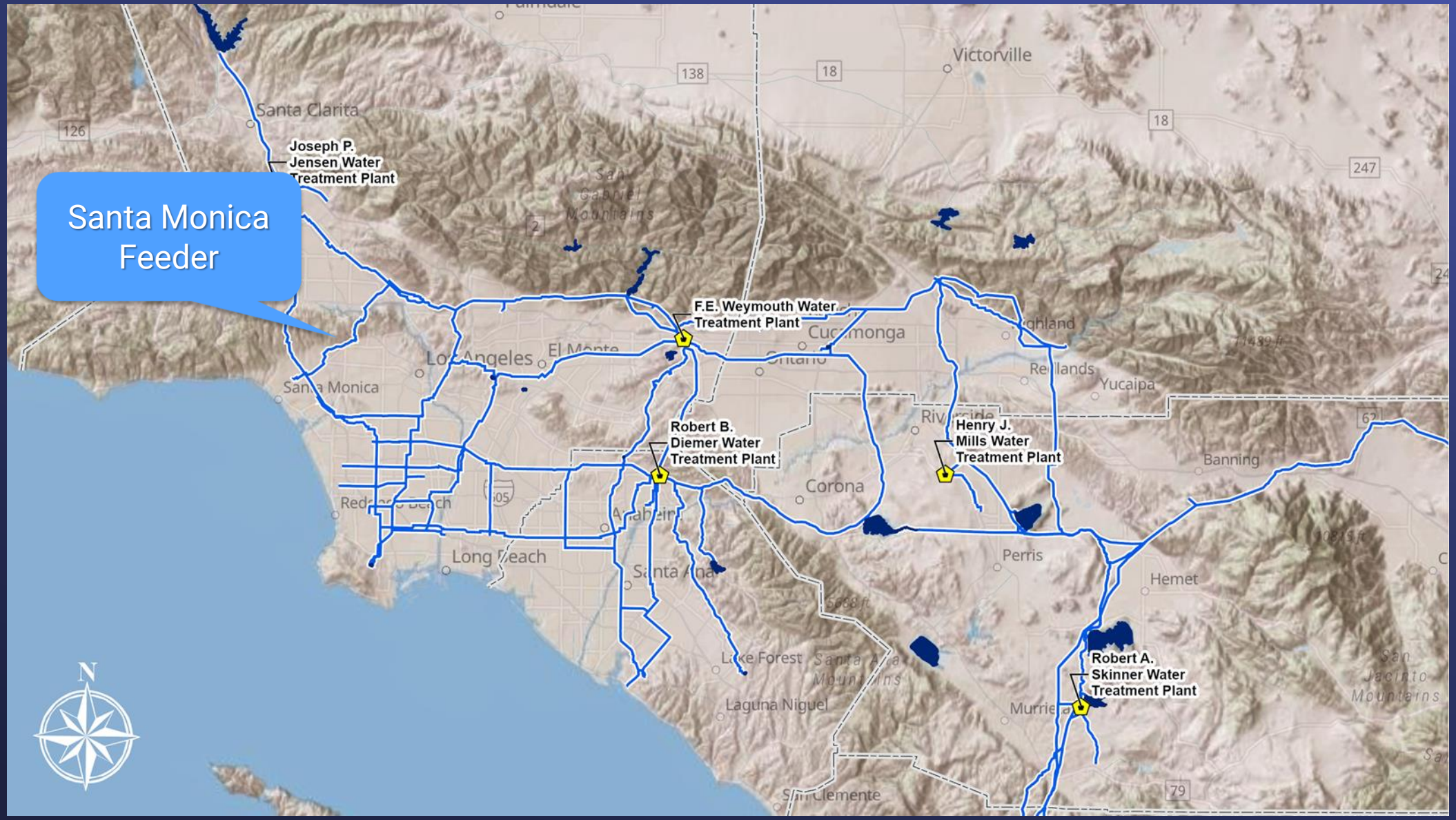
Recommendation and Fiscal Impact

Awards a construction contract for cathodic protection on the Santa Monica Feeder

Fiscal Impact of $1.25 M

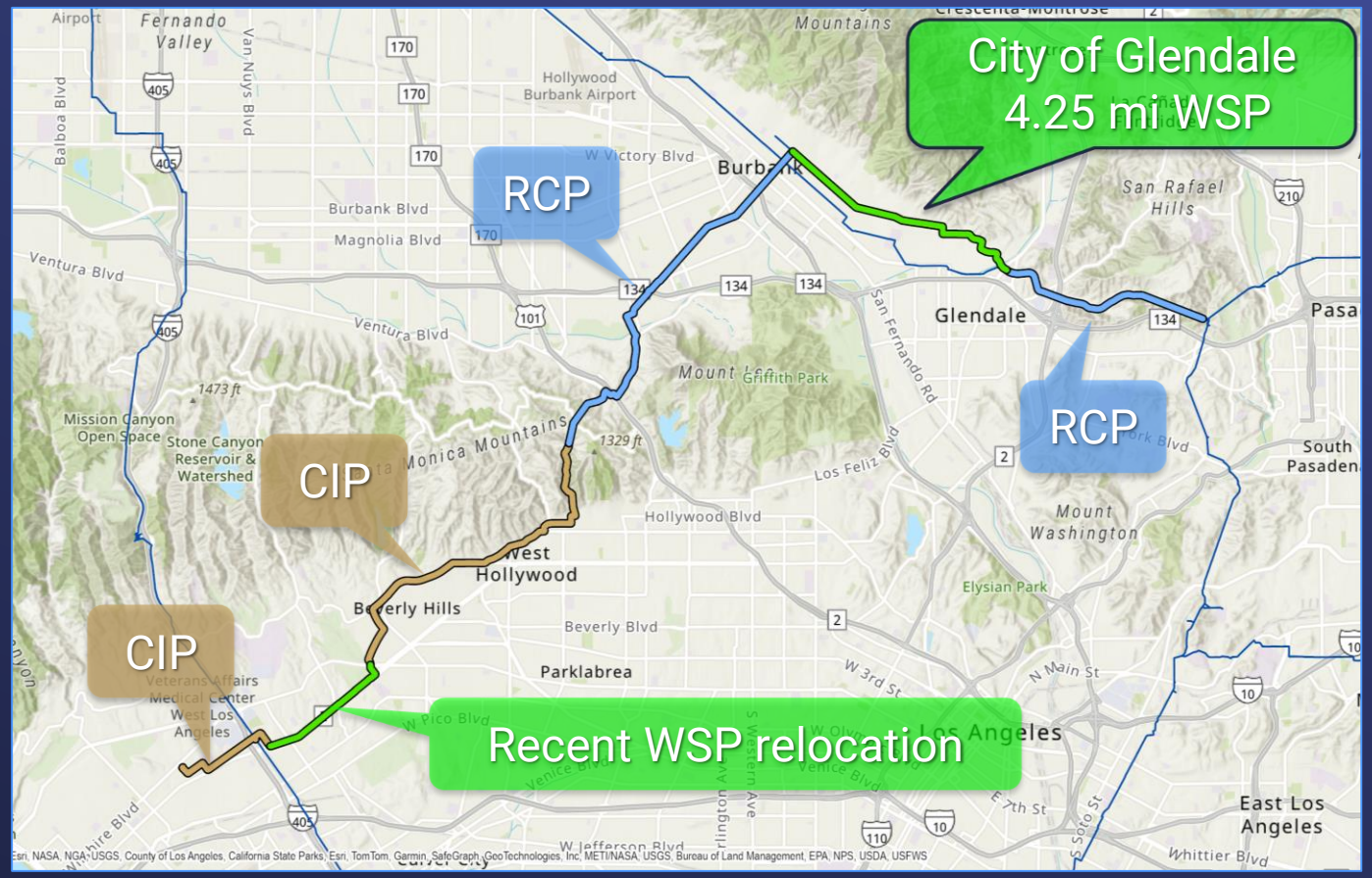
Budgeted

Location Map



Background

- Santa Monica Feeder installed in 1941
  - Mortar-coated welded steel pipe (WSP), reinforced concrete pipe (RCP), & cast-iron pipe (CIP)
  - Testing indicates mortar deteriorating on WSP in Glendale, increased corrosion risk
  - Cathodic protection required on 4.25 mile WSP alignment in Glendale to mitigate corrosion risk

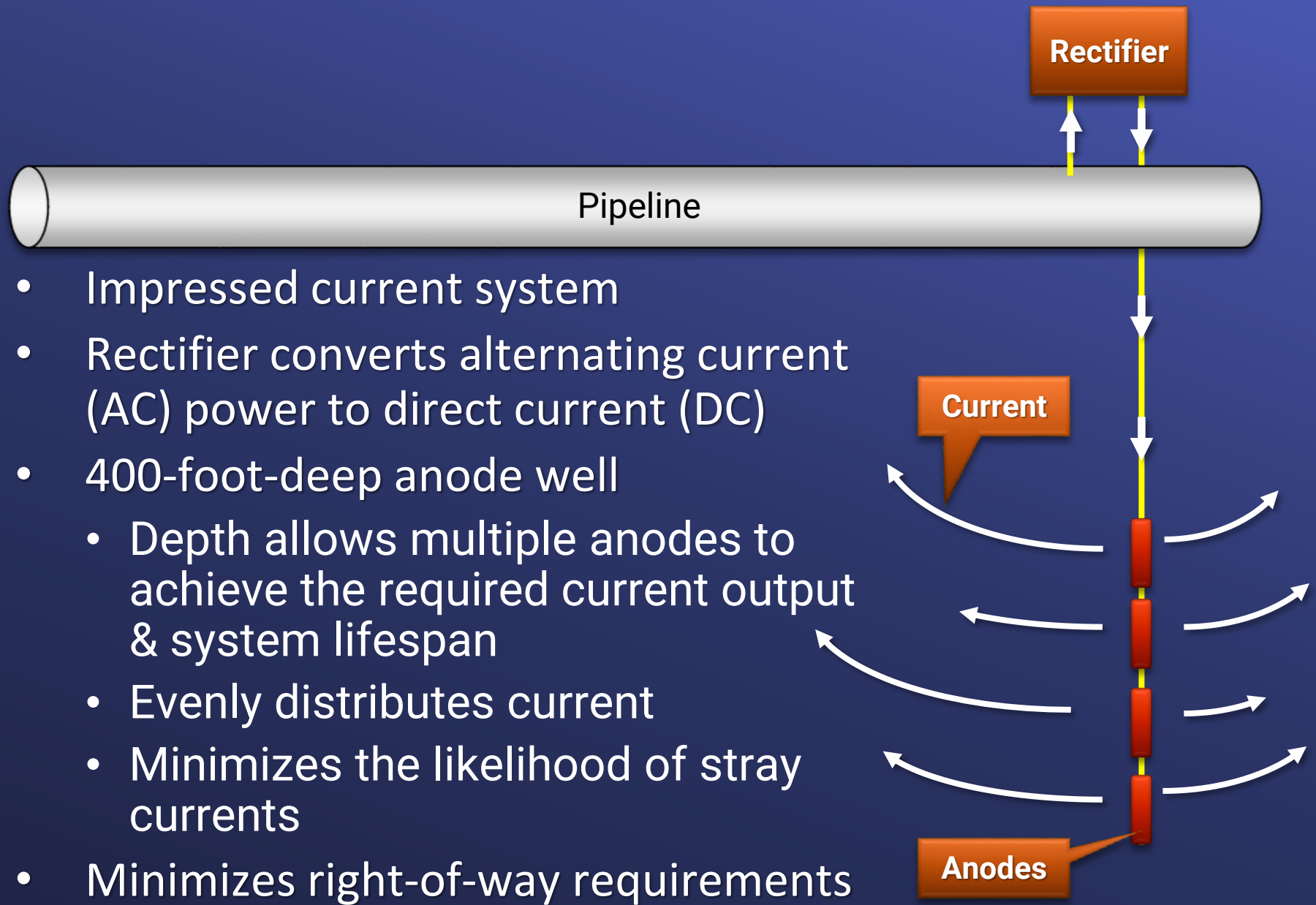


Background

- Pipelines subject to external corrosion from corrosive soils & stray electric currents
- Water utilities historically rely on cement mortar coatings to prevent external corrosion
  - Corrosive soils degrade mortar over time
- Cathodic Protection prevents corrosion using electric current
  - Highly effective – Required by Federal regulation on oil/gas pipes
  - Metropolitan installing pipeline CP since 1987 on steel pipes as needed to compensate for degrading mortar coating
  - Typically not effective on cast iron/reinforced concrete pipe

Cathodic Protection Typical System

- Impressed current system
- Rectifier converts alternating current (AC) power to direct current (DC)
- 400-foot-deep anode well
  - Depth allows multiple anodes to achieve the required current output & system lifespan
  - Evenly distributes current
  - Minimizes the likelihood of stray currents
- Minimizes right-of-way requirements



Santa Monica Feeder Cathodic Protection

Alternatives Considered

- Shallow anode wells less than 50 feet deep
  - More anode wells needed – higher construction cost & duration
  - Larger construction footprint – additional traffic closures
  - Risk of utility interference
- Selected Alternative – Two 400-foot-deep anode wells
  - Reduces construction footprint
  - Cost-effective – 30+ year life
  - Will protect entire 4.25-mile WSP pipe alignment

Santa Monica Feeder Cathodic Protection

Scope of Work - Contractor

- Setup traffic control
- Drill & install anode wells
- Install rectifiers, electrical service cabinets & conduits
- Restore street surface
- Start-up testing

Anode Well Drilling

Wire Conduit Trenching

Rectifier Cabinets

Bid Results
Specifications No. 1963A

Bids Received	April 9, 2024
No. of Bidders	3
Lowest Responsible Bidder	Exaro Technologies Corporation
Low Bid	$897,469
Other Bids	$900,000 and $1,433,970
Engineer's Estimate	$950,000
SBE Participation*	32%

*SBE (Small Business Enterprise) participation level set at 25%

Santa Monica Feeder Cathodic Protection

Scope of Work - Metropolitan

- Construction management
- Submittal review
- Technical support
- Prepare record drawings
- Environmental monitoring
- Survey, contract administration & project management

Allocation of Funds

Santa Monica Feeder Cathodic Protection

Metropolitan Labor	
Owner Costs (Proj. Mgmt., Contract Admin., Envir. Support)	$ 122,000
Construction Inspection & Support	105,000
Submittals Review, Tech. Support, Record Dwgs.	32,000
Contracts	
Exaro Technologies Corporation	897,469
Remaining Budget	93,531
Total	$ 1,250,000

Project Schedule

Board Options

- Option #1
  - Award an $897,469 contract to Exaro Technologies Corporation for the construction of a cathodic protection system on the Santa Monica Feeder.
- Option #2
  - Do not proceed with the project at this time.

Staff Recommendation

- Option #1


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928