



Albuquerque Post
El Paso Field Chapter

Jon Pena, PE
Albuquerque Post President



Aubrey D. Semien II
El Paso Field Chapter President



Dedicated to National Security Since 1920

JULY POST MEETING – JULY 12, 2023

ALBUQUERQUE, NEW MEXICO / EL PASO, TEXAS POSTS



Albuquerque Post
El Paso Field Chapter

- Albuquerque Post Board of Directors



- El Paso FC President: **Aubrey D. Semien II**, PE, CFM
- Vice President: **Nancy Camarena**, Aztec Contractors, Inc.
- Appointed Directors



2023-2024 Board of Directors

Albuquerque Post & El Paso Field Chapter

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- El Paso FC Vice President: **Nancy Camarena, Aztec Contractors, Inc.**
- SB Committee Chair **Thomas Knutson (TK), SAMES**

That was Fast! Expedited Delivery of New Transmission Pipeline

Presented at Society of American Military Engineers
July 12, 2023

Victoria Dery, PE Albuquerque Bernalillo County Water Utility Authority
Jill Peterson, PE; Allena Fernandez, PE; Jacobs

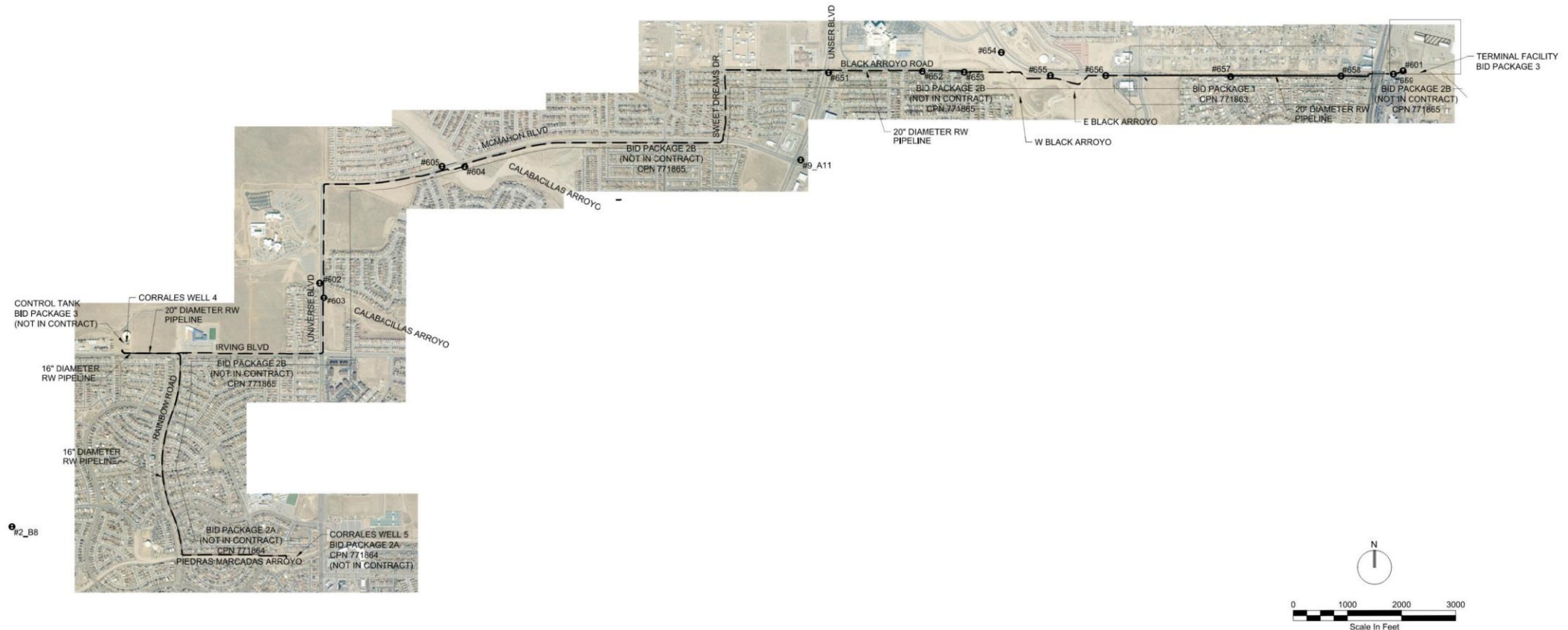
Agenda

- Project Goals and Schedule
- Approaches to Meet Schedule
- Construction Phase Challenges
- Considerations for Future Fast-Track Projects

Project Goals and Schedule

Project Goals

- Complete field investigations, design, permitting, and construction in approximately 20 months
- 16-inch and 20-inch diameter ductile iron water pipelines
- Approximately 35,550 feet or 6.7 miles



- Three horizontal auger borings
 - 100 ft long, 20 ft deep high-pressure gas pipelines
 - 200 ft long, 20 ft deep under major arterial roadway
 - 275 ft long, 25 ft deep under state highway



Project Elements

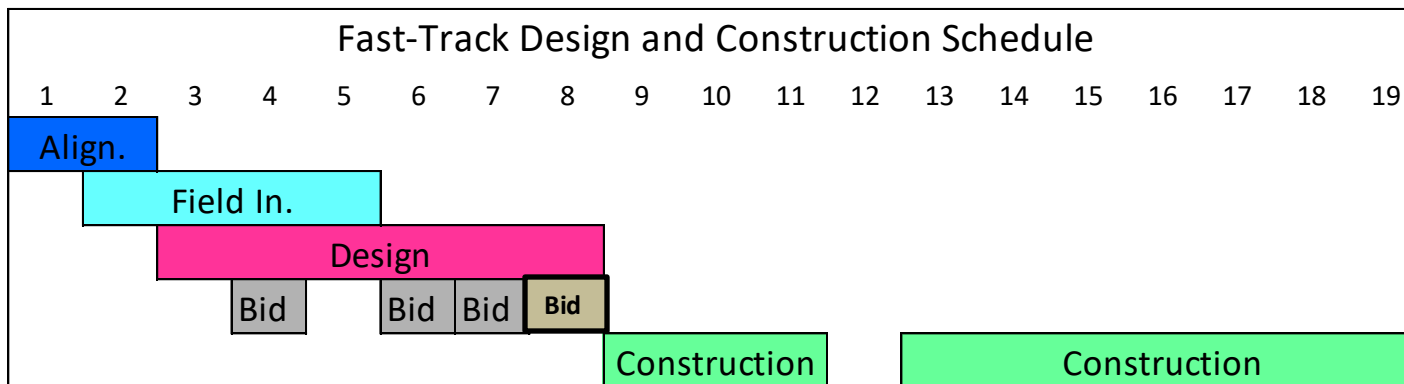
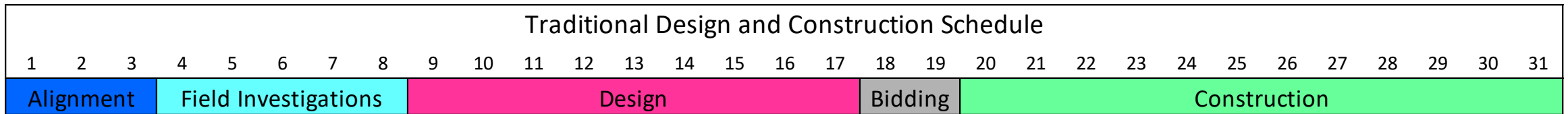
- 200 ft of pipeline attached to bridge



Approaches to Meet Schedule

Approaches to Meet the Schedule

- From the start, the Water Authority and design team identified approaches to meet the fast-track schedule
- All ideas were considered



Location Criteria Drove Pipe

- Avoid private property
- Water Authority property
- City ROW
 - Water Authority franchise agreement with COA
- AMAFCA ROW

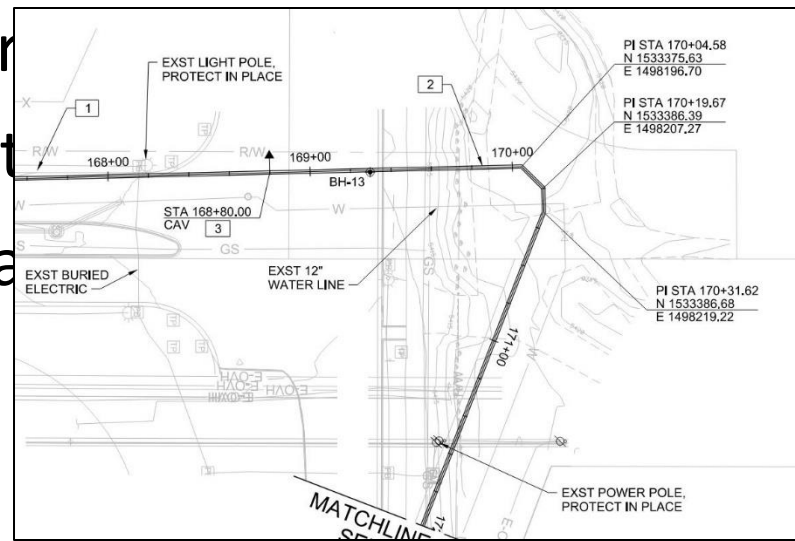


Segments of Pipeline Alignment Frozen for

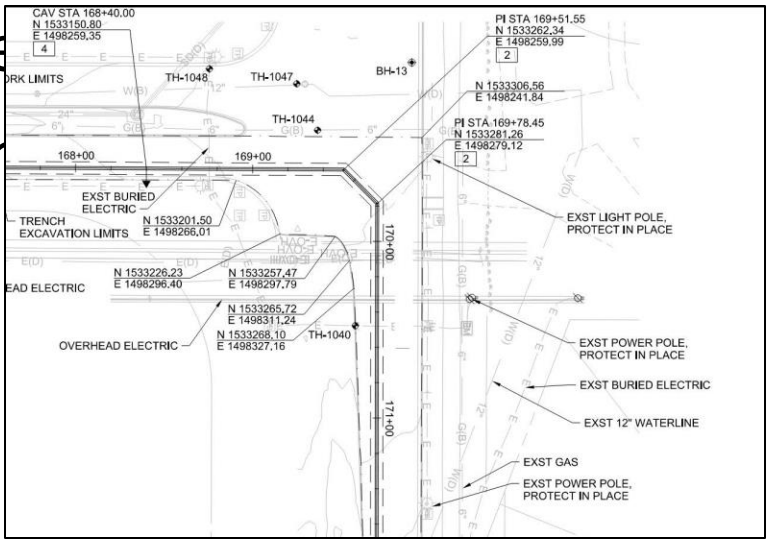
Accelerated Field Investigations and Design

- Reviewed pipeline alignment alternatives quickly; “froze” alignment segments
- Started Field Investigations in August 2021 for the “frozen” segments while other segments continued to be refined
 - Surveying field team collected data for all alignment options

- Sur
- Pot
- Tea



- s segme
- r frozer
- bounda



Contractors

- Collaboration with Water Authority On-Call Contractors
 - During design phase, team split up pipelines into multiple construction packages to allow for competitive pricing from the pool of on-call contractors
 - 5 bid packages; 4 bid package for pipeline, 1 bid package for facilities
 - 2 general contractors
 - Required at least two pipeline crews for each bid package to assure pipeline completion on schedule
 - Required pipe, fittings to be ordered within 5 days of notice of award



Valves

- Transmission pipeline, so fewer valves than in a distribution system pipeline
- Pre-purchased 14 manually-operated, buried, butterfly valves (12-, 16-, and 20-inch)
- 20-inch valves arrived in 11 months – No delays to 20-inch pipeline schedule
- 12- and 16-inch valves were delayed, so Team found creative work-arounds
 - Changed all buried 12-inch butterfly to gate valves
 - Borrowed valves from Water Authority warehouse and restocked warehouse once prepurchased valves arrived
 - Changed one buried 16-inch valve to be a 20-inch



Expedited Design for AMAFCA Channel

- About 270 ft of pipeline to be installed across two existing AMAFCA channels
- AMAFCA moratorium from May through October, Water Authority wanted to complete construction before May 2022
- Expedited design
 - Consulted with AMAFCA for design input and reviews
 - Package issued to Water Authority's emergency contractor in early December 2021
 - Contractor required to order pipe, fittings, within 5 days of NTP



Expedited Design for Section through City's Widening Project

- About 4,400 ft of pipeline to be installed along City street with a widening construction project
- Water Authority negotiated an MOU with the City to allow a 90-day break in the roadway construction for the pipeline
- Expedited design
 - Segment had no isolation valves, minimal fittings, one CAV vault
 - Package was issued for construction pricing at 50% design level
 - Selected contractor was required to order pipe, fittings, within 5 days of notice of award



Expedited Design for Section through City's Widening

- Construction approach
 - Roadway contractor completed new lanes and shifted traffic to the new lanes,
 - Roadway contractor demolished the old asphalt
 - Utilized roadway contractor's traffic control for pipeline construction
 - Pipeline contractor required to have two full-time crews to install pipe
 - Pipeline contractor did not have to restore roadway, which accelerated construction
 - Pipeline contractor finished in 90 days



Construction Phase Challenges



Issued Public Notices ahead of Construction

- Pipeline installed in existing City streets caused road closures for weeks
- Water Authority's public involvement consultant developed public notices for road closures and sent to local HOAs, businesses, and stakeholders
- Public involvement consultant contacted businesses in person for road closures at or near their business
- Tracked public notices
- Tracked complaints and responded quickly
 - 92 complaints
 - 39 from City of ABQ 311
 - 33 emails
 - 15 direct calls
 - 5 from other sources
 - Average response time 1.0 days, 59 responded in 0 days



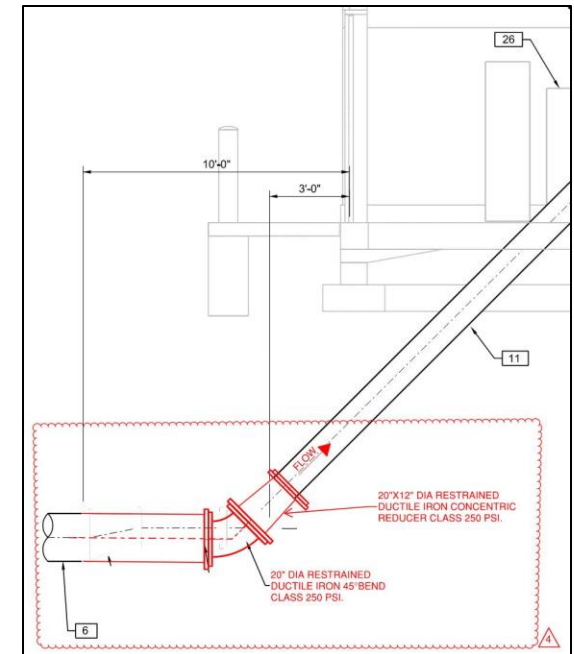
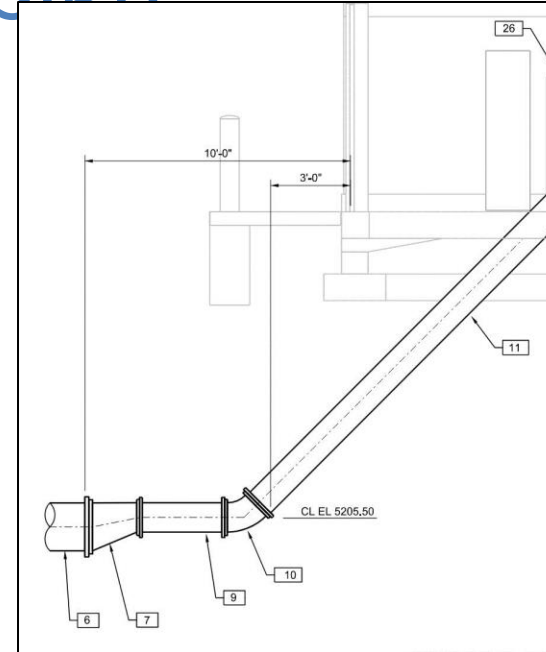
Worked with Agencies for Temporary Staging Areas

- AMAFCA
 - Accommodated pipe storage in their ROW
- Central New Mexico Community College, CNM
 - Water Authority negotiated a temporary construction easement (TCE) for materials storage at CNM
- Water Authority
 - Pre-purchased valves stored at Mission Warehouse
 - Pipe stored at well sites



To Accommodate Supply Chain Delays, Modified Design

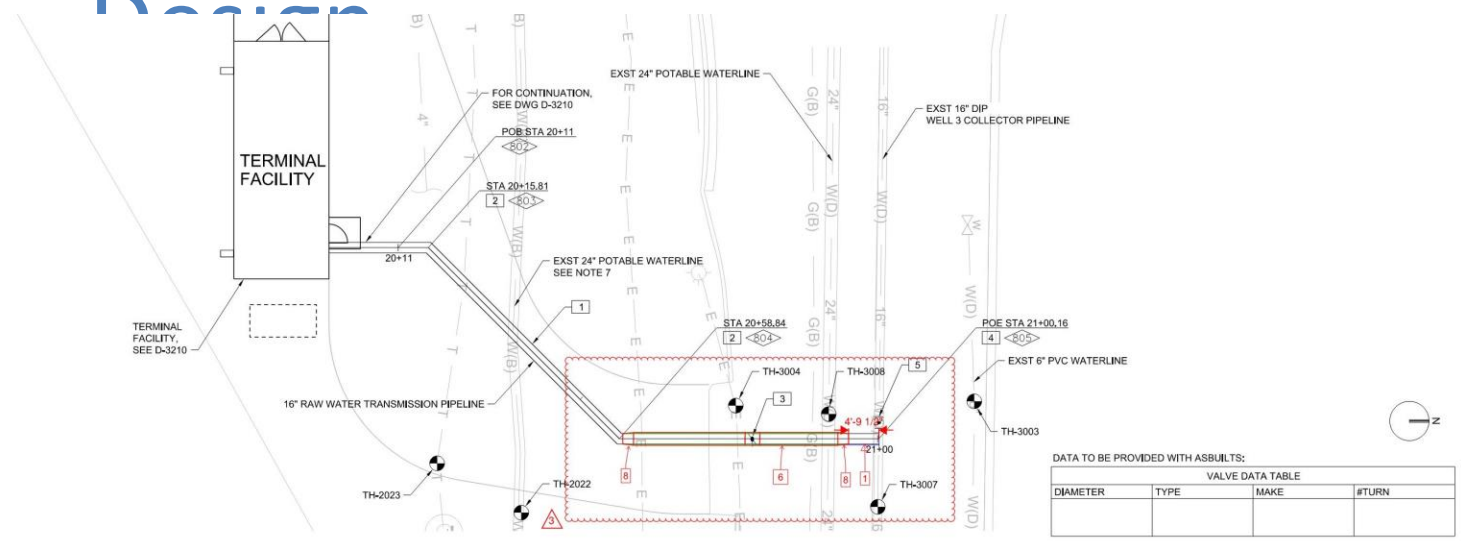
- Eccentric Reducers were delayed by months
- Manufacturer could not provide a reliable shipping date
- Solution
 - Contractor able to locate concentric reducers
 - Modified design to use available fittings
 - Pipeline was going uphill in these locations, so concentric were acceptable



To Accommodate Supply Chain Delays, Modified

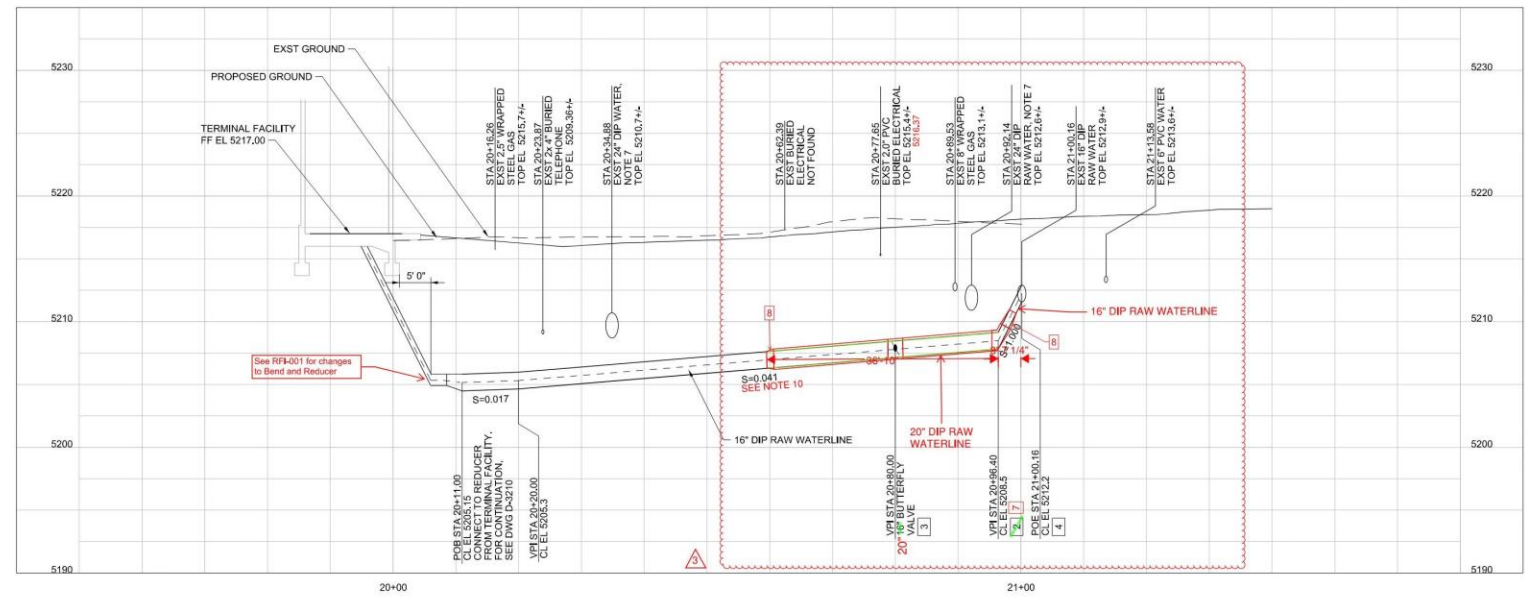
- Pre-purchased 16-inch valves were delayed
- Manufacturer could not provide a reliable shipping date
- Solution
 - Borrowed one 16-inch valves from Mission Warehouse
 - Contractor identified fittings that were available
 - Modified design to use 20-inch valve

Design



DATA TO BE PROVIDED WITH ASBUILTS:

VALVE DATA TABLE			
DIAMETER	TYPE	MAKE	#TURN



Addressed Unexpected/Undocumented Utilities

Quickly

- 12-inch water pipeline
 - Solution was to dog leg under new 20-inch pipeline
- 24-inch and 36-inch storm drain pipelines
 - Found when excavator hit pipeline
 - Solution was to shift alignment below storm drain pipelines



Addressed Unexpected/Undocumented Utilities

Quickly

- 66-inch RCP storm drain pipeline with no manholes at surface
 - Found by pilot tube drilled prior to boring
 - Solution was to lower horizontal auger boring
 - Key was to investigate, evaluate, and determine solution within 3 days



Managed Unexpected Ro

- Geotechnical investigations found rock deeper than pipe trench
- Actual rock found in larger area and shallower than investigations
- Construction contractor able to use a rock trencher, no blasting allowed due to proximity of subdivision
- Added about 4 weeks to two of the pipeline segments



Shut Down Construction for UCI Masters Bike Race

- Union Cycliste Internationale, UCI (International Cyclists Union)
- Two days prior to bike race, City informed project that bike race would close nearby road for 3 days
- Pipeline project was scheduled to close adjacent road day of bike race start
- Water Authority elected to delay start of new pipeline segment
 - Delayed construction schedule by 3 days
 - Allowed local residents to have major arterial to travel in/out of subdivision

Considerations for Future Fast-Track Projects

Considerations for Future Fast-Track Projects

- Hold early meetings with cities, districts, permitting agencies, stakeholders early in the project and keep them updated on progress
- Be proactive with public notices
- Have a way to address complaints
- Understand supply chain issues for equipment/supplies and design in alternatives to minimize impacts
- Be creative in solutions and consider everyone's ideas
- Be adaptable, flexible, and work towards solutions
- Foster an atmosphere of teamwork to work towards the goal of fast-track completion of the pipeline construction

Thank you

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Upcoming Events / Save the Date

Board Meeting

August 10, 2023, Industry Day
Virtual

October Post Meeting

October 11, 2023
Pacific Paradise??

Member Social

December TBD

