

Capital Improvement Program

Utility Infrastructure Investment

City Council Study Session
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Purpose

- Update City Council on utility projects included in the adopted FY19/20 Capital Improvement Program
- Review specific short-term prioritized projects that are included in the Enterprise Fund forecast



Background

- On May 20, 2019 Council adopted the Five-Year Capital Improvement Program (CIP)
- Included in the 5-Year CIP were approximately \$800M in forecasted utility projects



Background

- Staff identified definitive short-term needs (3 years) while staying on track for long-term infrastructure objectives
- Considerations included department assessments, financial constraints and ability to complete projects



Current Projects (FY19/20)

\$164M for Utility Infrastructure Investment

- Greenfield Water Reclamation Plant Expansion
 - \$62M
- Mesa Drive Phase II
- Electric Substation Improvements
- Scheduled Replacements: Valves, meters, hydrants, poles, switches, transformers, vaults



Historical Infrastructure Investment

- From FY 2016-2019, the City of Mesa has invested over \$400M in utility system improvements.
 - Long-term bond financing
 - Enterprise revenue (cash)
- 2 major plant projects
 - Signal Butte Water Treatment Plant
 - Greenfield Water Reclamation Plant Expansion
- Transmission/Distribution/Collection infrastructure
- Substation improvements





Plants

FY 2016-2019

Water Treatment \$139.1M

Wastewater Reclamation \$101.8M





Transmission-Distribution - Collection FY 2016-2019

Electric \$11.5M

Natural Gas \$25.1M

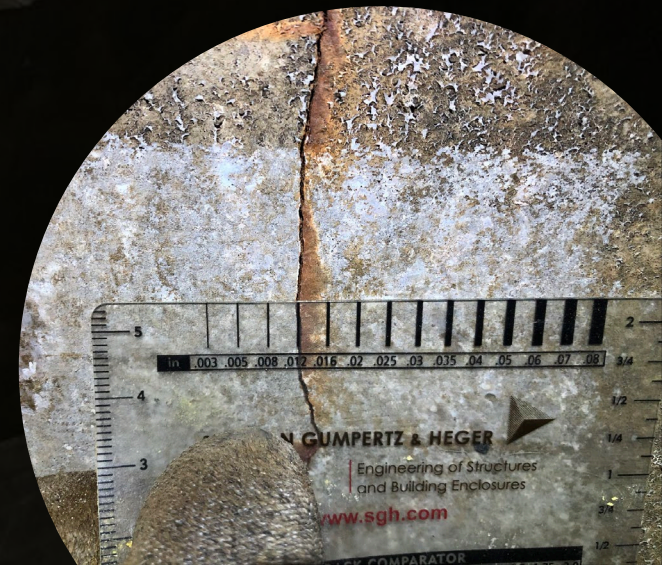
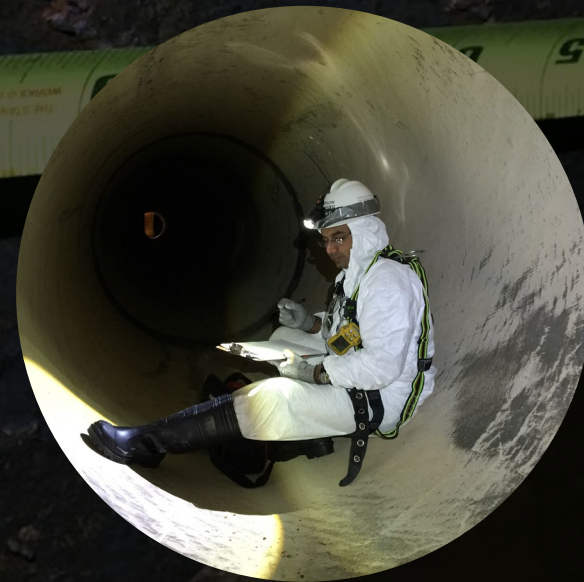
Water \$111.6M

Wastewater \$16.5M



Asset Management

- Distribution Integrity Management Program
- Video Line Inspection
- Physical Inspection
- Leak Survey & Detection
- Safety Evaluations
- Risk Assessments



Water Resources Asset Management

Policy Objectives:

- Evaluate and prioritize capital projects to optimize limited available funding
- Address relative importance of projects with multiple competing objectives
- Assure capital expenditure/project accomplishes intended goals and objectives



Water Resources Asset Management

- Each project is assigned a risk score
- Probability is the likelihood of an occurrence happening within a certain period of time
- Consequences assess the seriousness of a project based on the following criteria:
 - Safety & Health
 - Liability for Consequential Loss
 - Loss of Service
 - Public Confidence
 - Environmental
 - Economic



Water Asset Management

\$5.8M Annually Spent Towards Water Asset Management

- Water Distribution Operation & Maintenance
- Water Line Inspection Program
- Meter Replacement Program
- Fire Hydrant and Water Valve Replacement



Wastewater Asset Management

\$3.1M Annually Spent Towards Wastewater Asset Management

- Wastewater Collection System Maintenance
- Sewer Line Conditional Assessment Program
- Manhole Evaluation and Rehab Program



Natural Gas Asset Management

Distribution Integrity Management Program (DIMP)

- Evaluate system: design, characteristics, operating conditions, and maintenance/operating history
- Identify existing and potential threats
- Evaluate and rank risks
- Identify and implement measures to address risks
- Evaluate program performance, monitor results, and effectiveness
- Report performance results to Federal & State Pipeline Safety Regulators
- Assess and improve the Integrity Management program



Natural Gas Asset Management

\$5.9M Annually Spent Towards Natural Gas Asset Management

- Prescriptive safety regulations drive system management
- Provide tools for compliance, reliability, and efficiency
- Identify safety risks
- Promote continuous assessment
- Ensure system capacity for current and forecasted customers



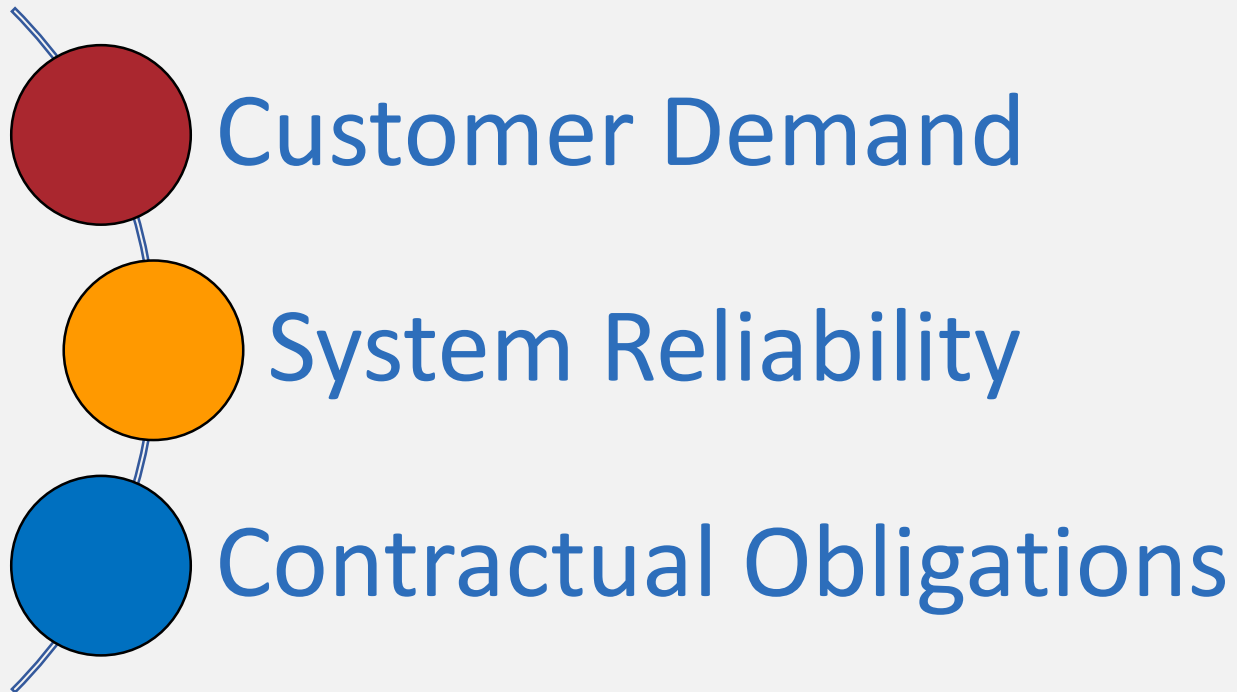
Electric Asset Management

\$2.1M Annually Spent Towards Electric Asset Management

- Wood Distribution Poles
- Distribution Transformers/Switches
- Vaults and Lids
- Substation Transformers
- Substation Switchgear, Circuit Breakers
- Electric Meters



Balancing needs for the next 3 years



System Reliability

Neighborhood Infrastructure

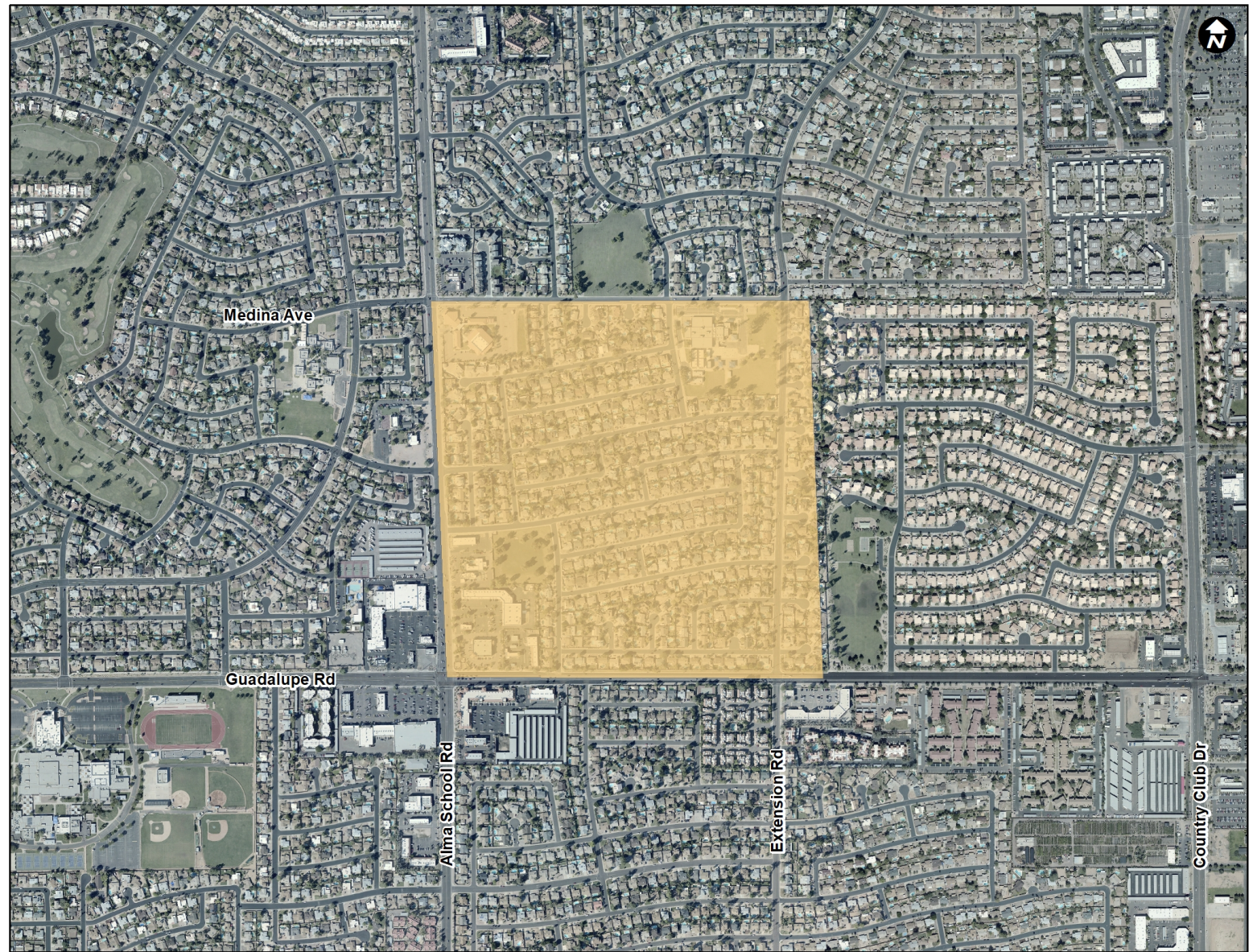
- Gilbert & Baseline
 - Water \$5.0M



System Reliability

Neighborhood Infrastructure

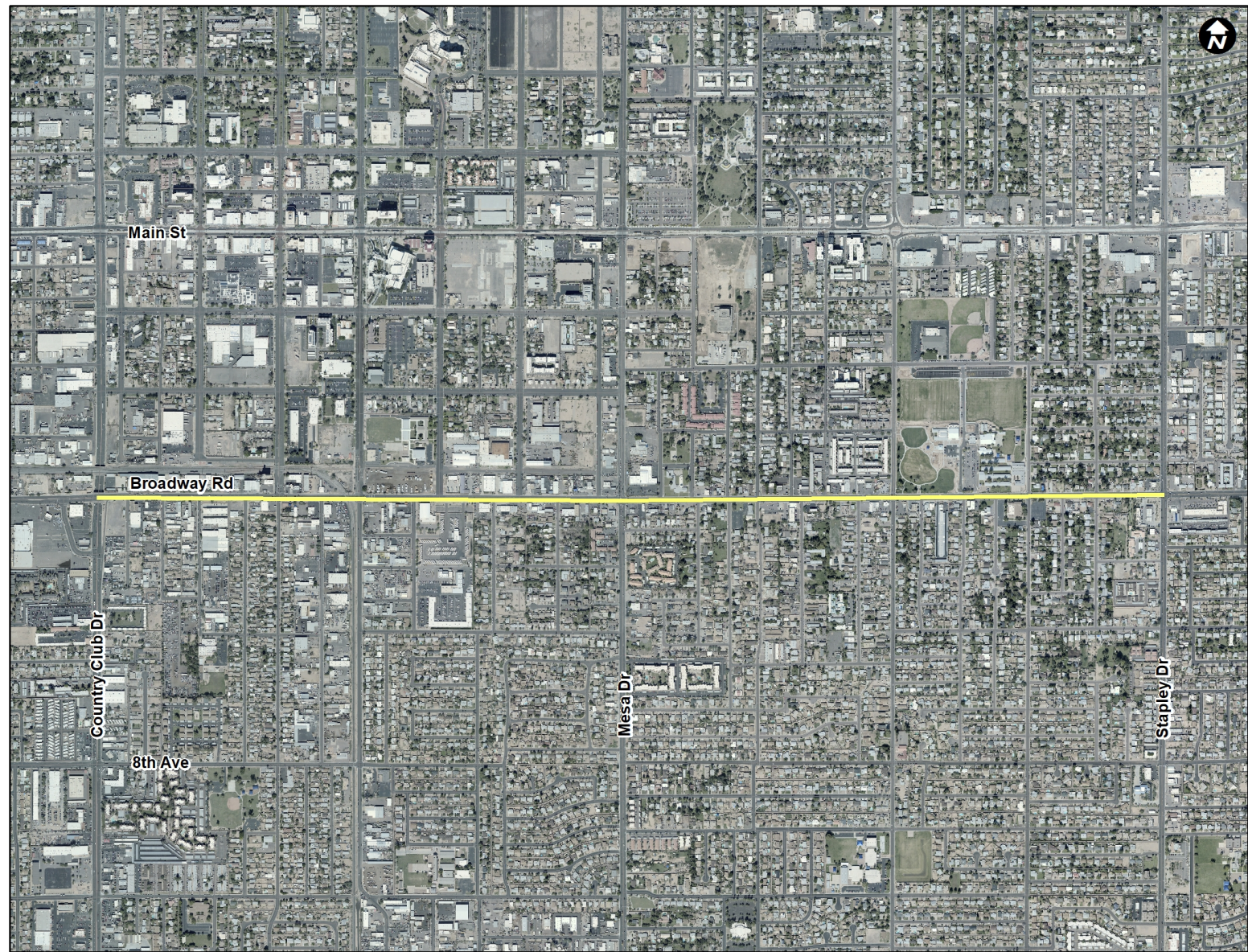
- Alma School & Guadalupe
 - Water \$5.2M



System Reliability

Transmission

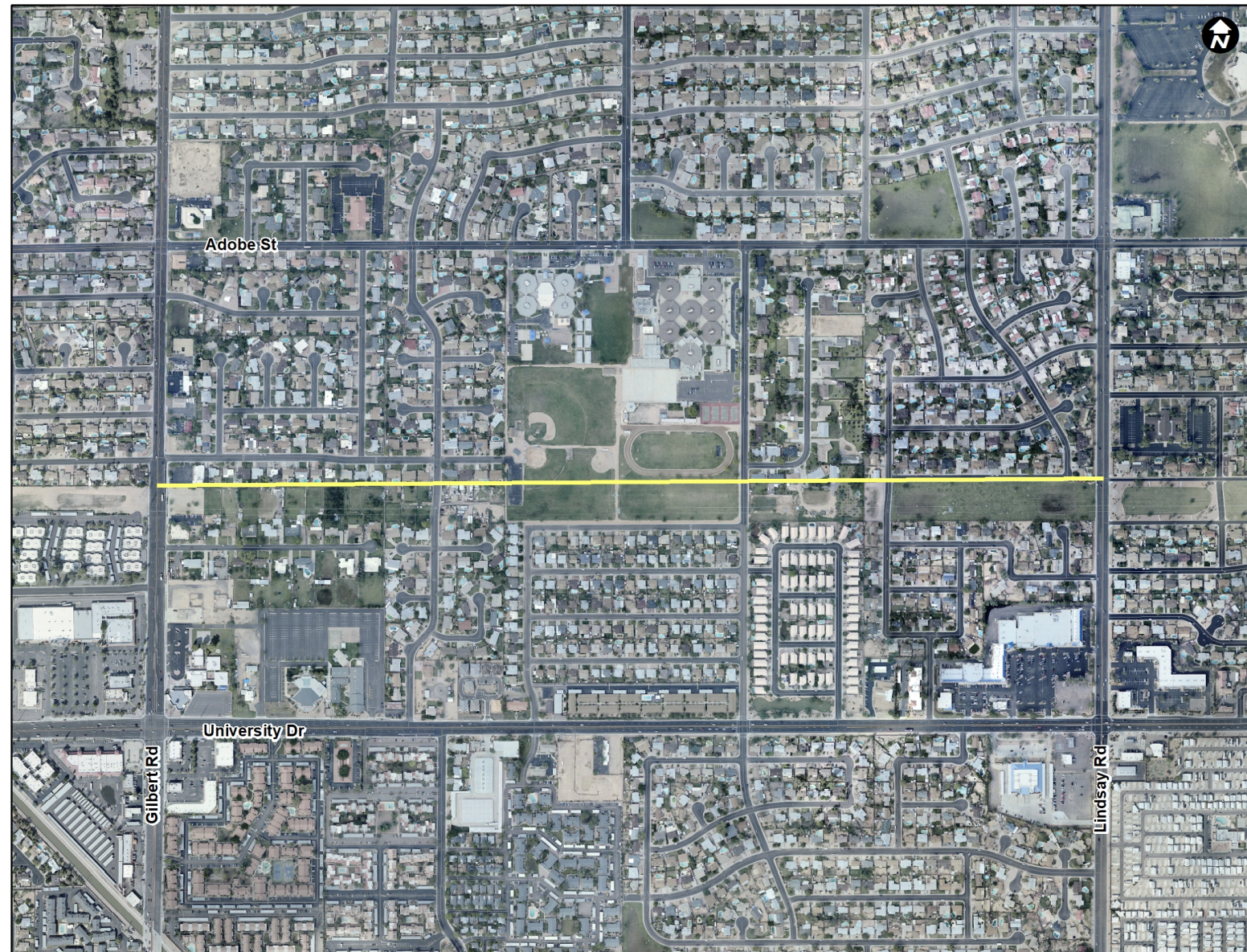
- **Broadway Road:
Country Club to
Stapley Drive**
 - Water \$10.6M



System Reliability

Transmission

- 6th Street: Gilbert Road to Lindsay Road
 - Water \$4.6M



System Reliability

- Country Club Drive & Southern Avenue
 - Electric: \$0.4M
 - Gas: \$1.9M
 - Wastewater: \$0.6M
 - Water: \$2.8M



*Utility estimates only



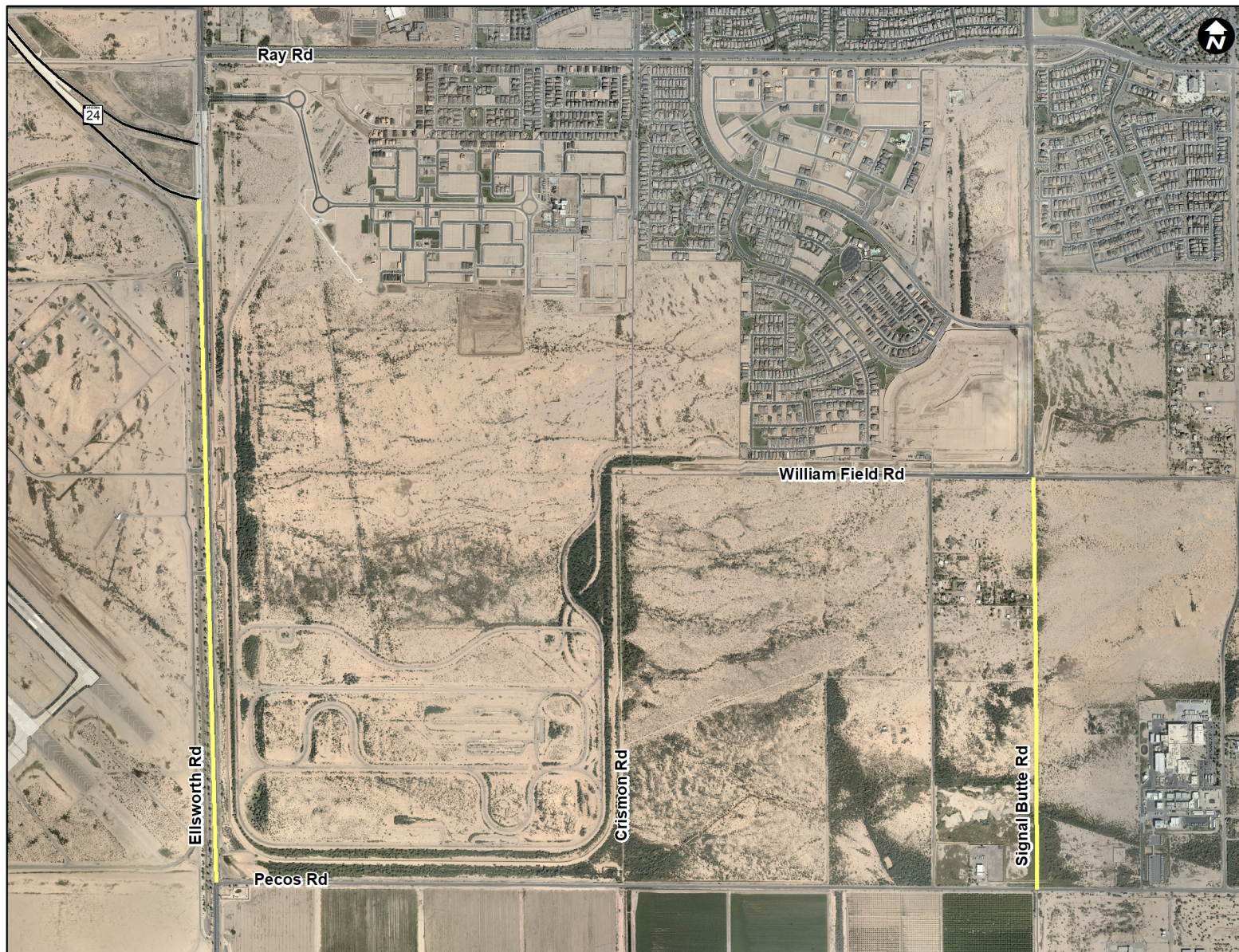
Customer Demand

- Ellsworth Road: SR 24 to Pecos

- Wastewater \$1.7M
- Water \$3.2M

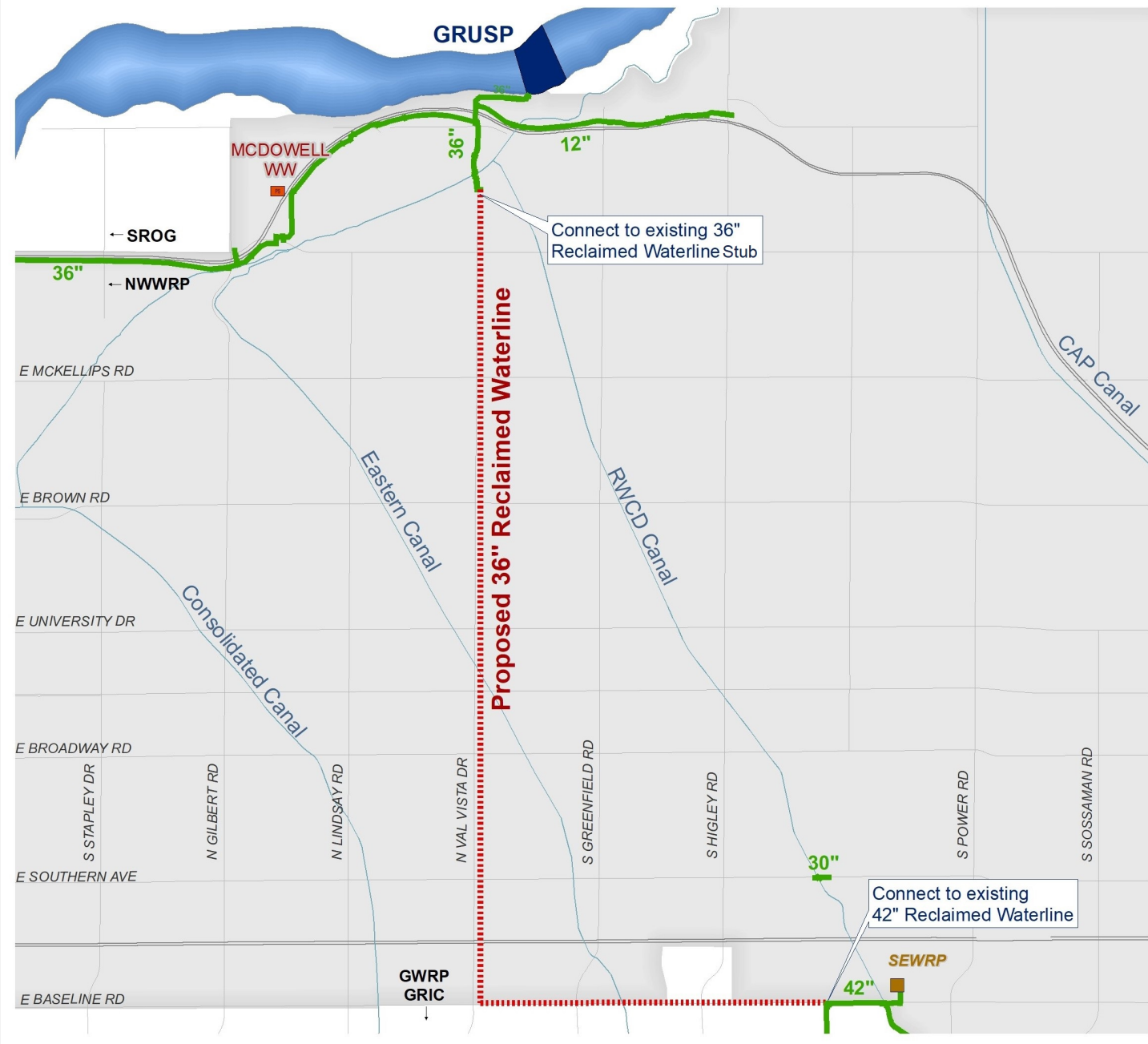
- Signal Butte Road: Williams Field to Pecos

- Water \$5.2M



*Utility estimates only





Customer Demand Reclaimed Waterline

- Construct waterline from Northwest Plant to existing line that conveys reclaimed water to Greenfield Plant
- Additional reclaimed water delivered to GRIC in exchange for CAP water
- Exchange provides additional CAP water to support customer demand
- Project Estimate - \$66M



3-Year Utility Infrastructure Investment



Questions?

