



Phase 1B Program Development: Progress Workshop

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Kimley»Horn



Introduction

Where We've Been

- Contracted by ARWA in June
- Coordination
- Construction and Design Packaging Analysis
- Procurement Analysis

What We're Doing Today

- Preliminary Workshop
- Progress to Date
- Procurement Recommendations

Next Steps

- Finalize Schedule Analysis
- Prepare Report



Work Performed to Date

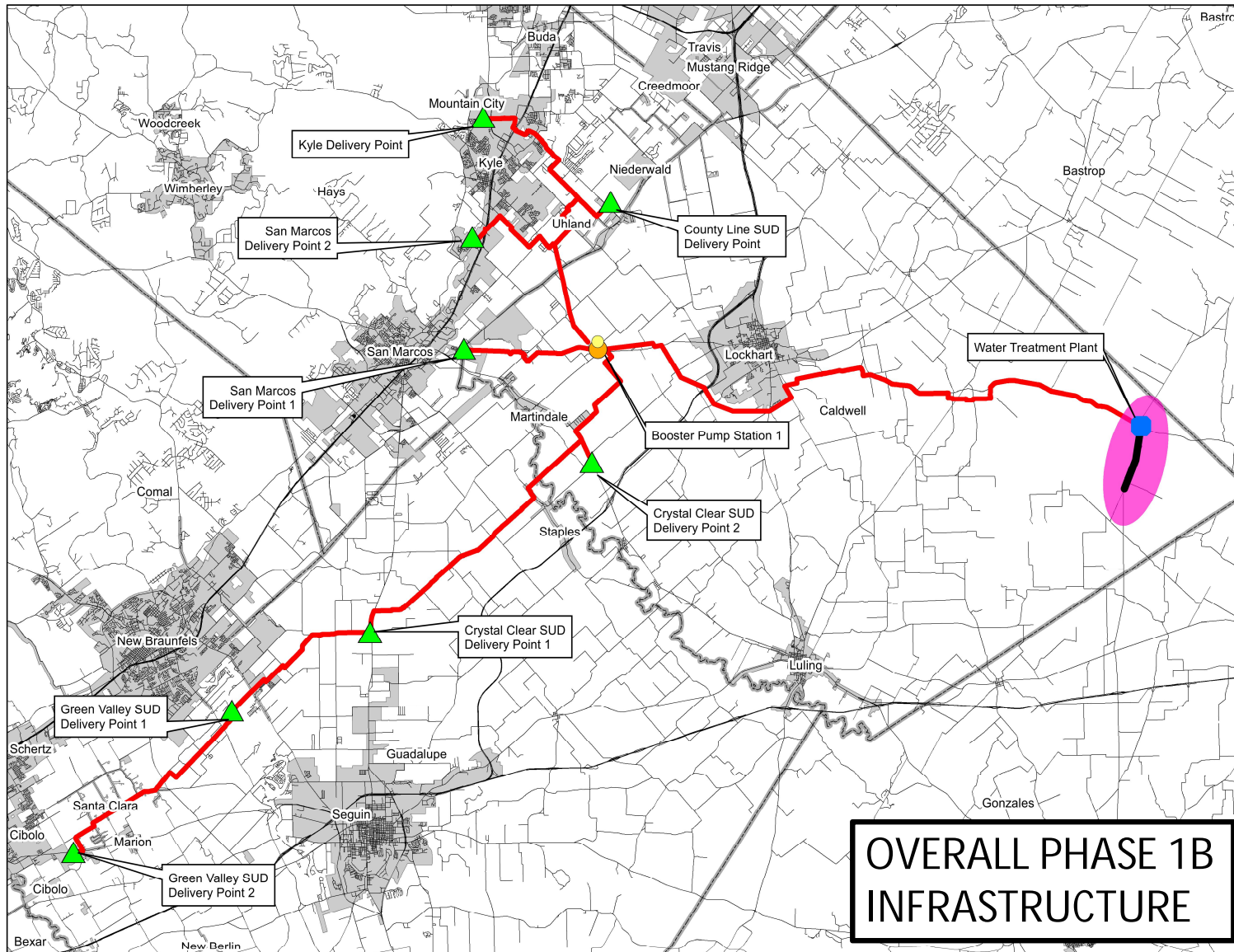
Review of Materials

- *HCPUA 2016 Capital Improvements Plan*
- *2014 Plumbing Plan* by LAN, Inc.
- *Phase 1B Pipeline Route Analysis* by K Friese + Associates, Inc.

Input from:

- Contractors
- Owners with Program Experience
- Others (TWDB, etc.)

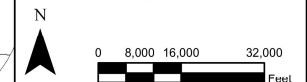




Legend

- Admin/Operations Building
- Booster Pump Station
- ▲ Delivery Point
- WTP, Well Civil/Elec/Mech, HSPS
- Raw Water
- Pipeline
- Well Development
- Roadways
- Cities
- Counties

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TITLE: Overall Exhibit

PROJECT: Alliance Regional Water Authority

DATE: 9/27/2017



OVERALL PHASE 1B INFRASTRUCTURE

Construction Packaging Analysis

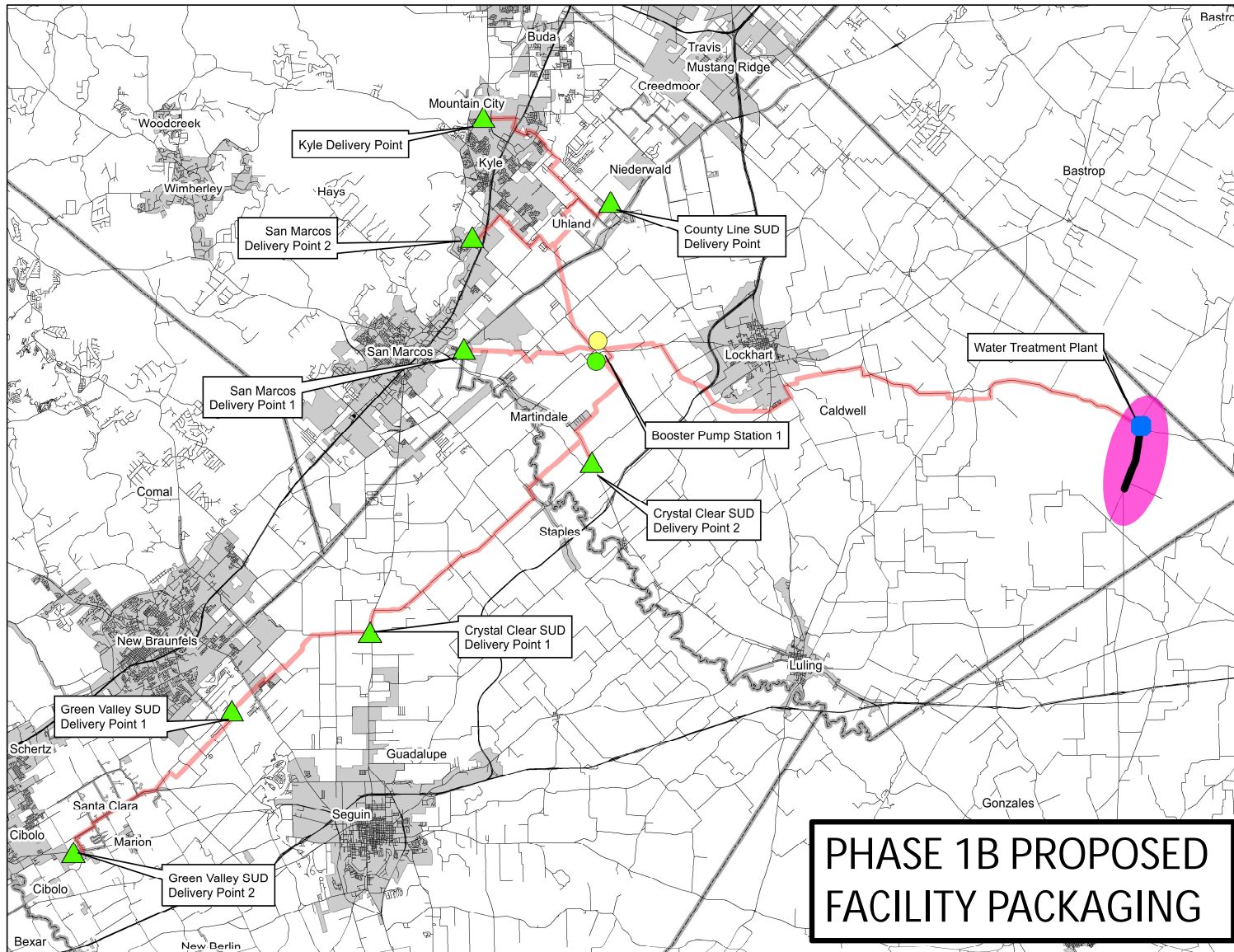
Key Criteria for Construction Packaging

- Contractor Expertise
- Contract Size
- Geography
- Schedule

PRELIMINARY CONSTRUCTION COST PROJECTIONS	
Transmission Mains	\$150,000,000
Well Drilling	\$3,000,000
Raw Water Lines, Well Infrastructure	\$11,500,000
Water Treatment Plant & High Service Pump Station	\$11,500,000
Booster Pump Station	\$7,000,000
Administrative / Operations Facility	\$2,100,000
Delivery Points (8 sites)	\$2,400,000

Construction Packaging Analysis

RECOMMENDED CONSTRUCTION PACKAGING	
Transmission Mains – 5 to 7 Segments	\$20,000,000 to \$30,000,000 per Segment
Well Drilling	\$3,000,000
Raw Water Lines, Well Infrastructure	\$11,500,000
Water Treatment Plant & High Service Pump Station	\$11,500,000
Booster Pump Station & Delivery Points (8 sites)	\$9,400,000
Administrative / Operations Facility	\$2,100,000



Legend

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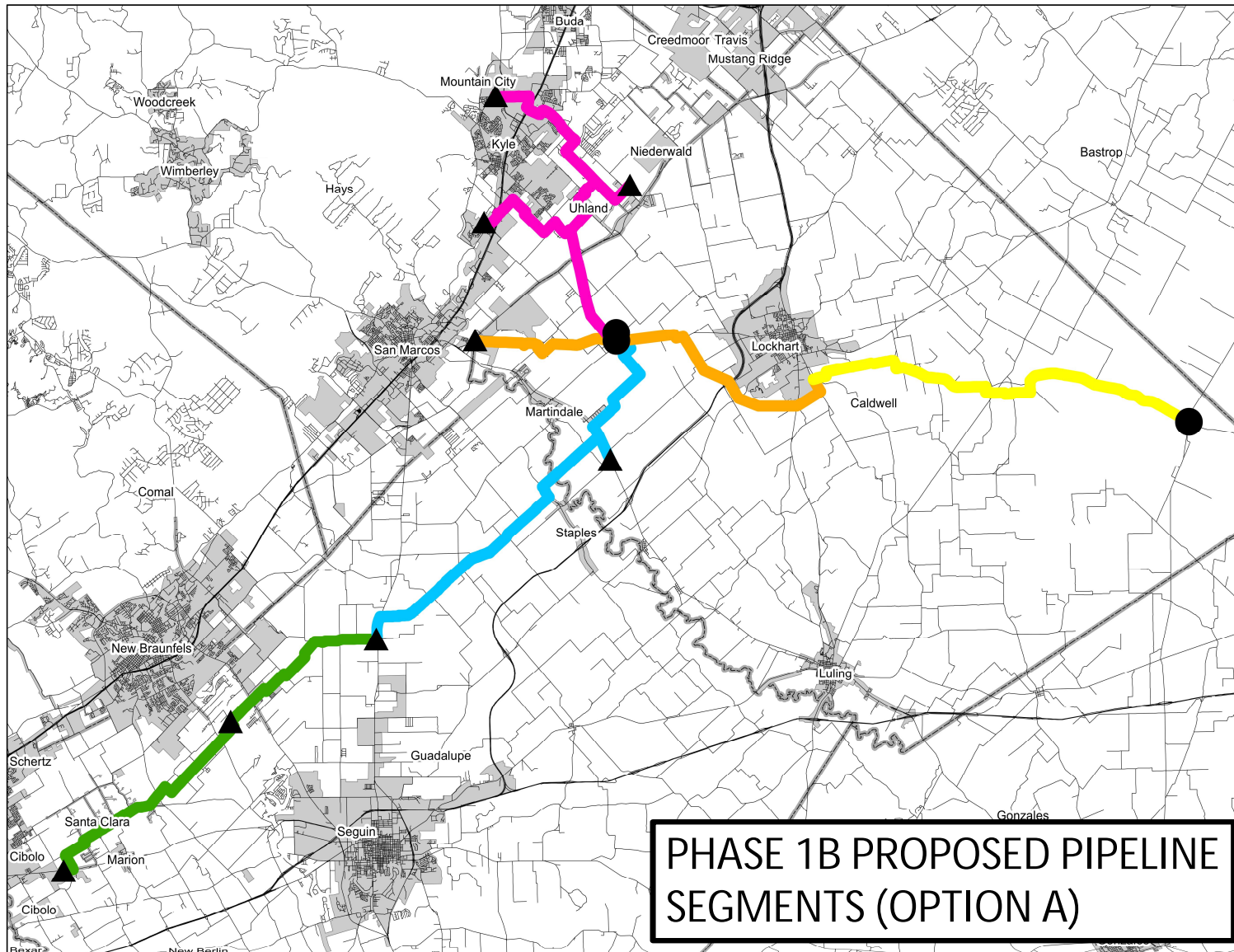
TITLE: Proposed Facilities Exhibit

PROJECT: Alliance Regional Water Authority

DATE: 9/27/2017



PHASE 1B PROPOSED FACILITY PACKAGING



PHASE 1B PROPOSED PIPELINE SEGMENTS (OPTION A)

Legend

Package

- 1
- 2
- 3
- 4
- 5

- Roadways
- Cities
- Counties

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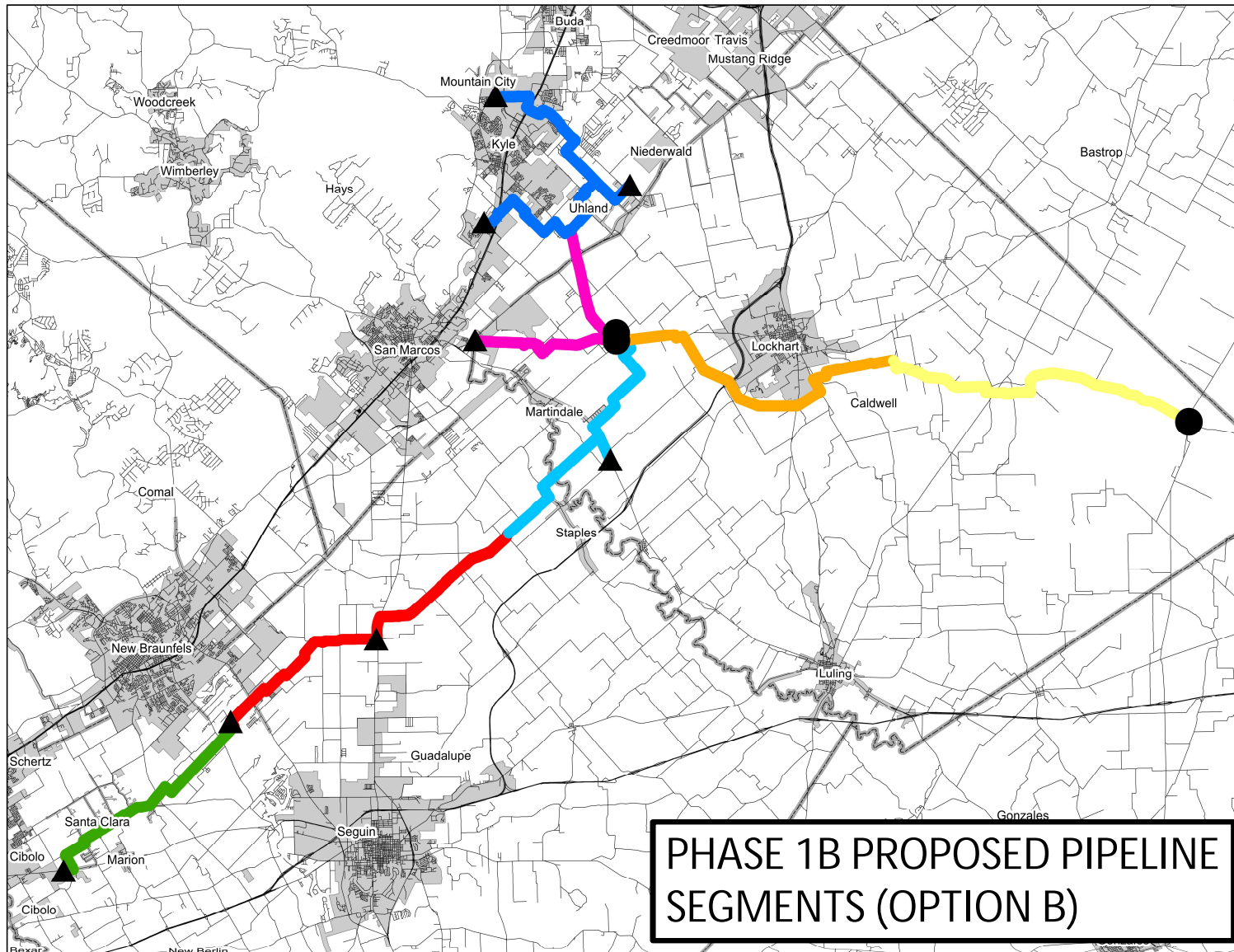


TITLE: Pipeline Package Option A Exhibit

PROJECT: Alliance Regional Water Authority

DATE: 9/27/2017





PHASE 1B PROPOSED PIPELINE SEGMENTS (OPTION B)

Legend

Package

- 1
- 2
- 3
- 4
- 5
- 6
- 7

- Roadways
- Cities
- Counties

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TITLE: Pipeline Package Option B Exhibit

PROJECT: Alliance Regional Water Authority

DATE: 9/18/2017





Questions?

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Design Packaging Analysis

Key Criteria for Design Packaging

- Risk – Schedule (land acquisition)
- SWIFT Funding Reimbursement

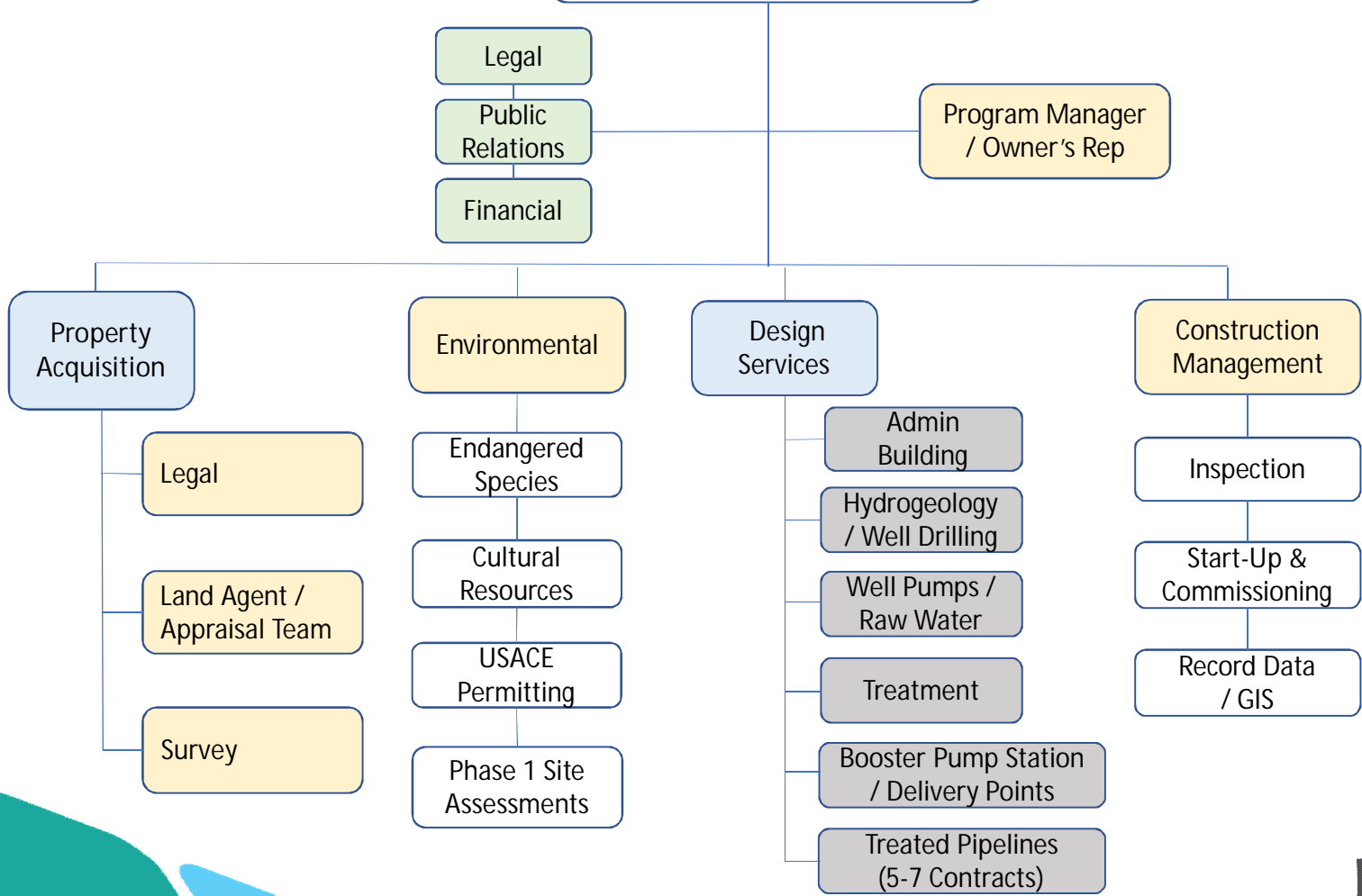
Design Packages

- 10-12 Design Packages
- Property Acquisition
- Environmental
- Construction Management
- Program Manager / Owner's Representative



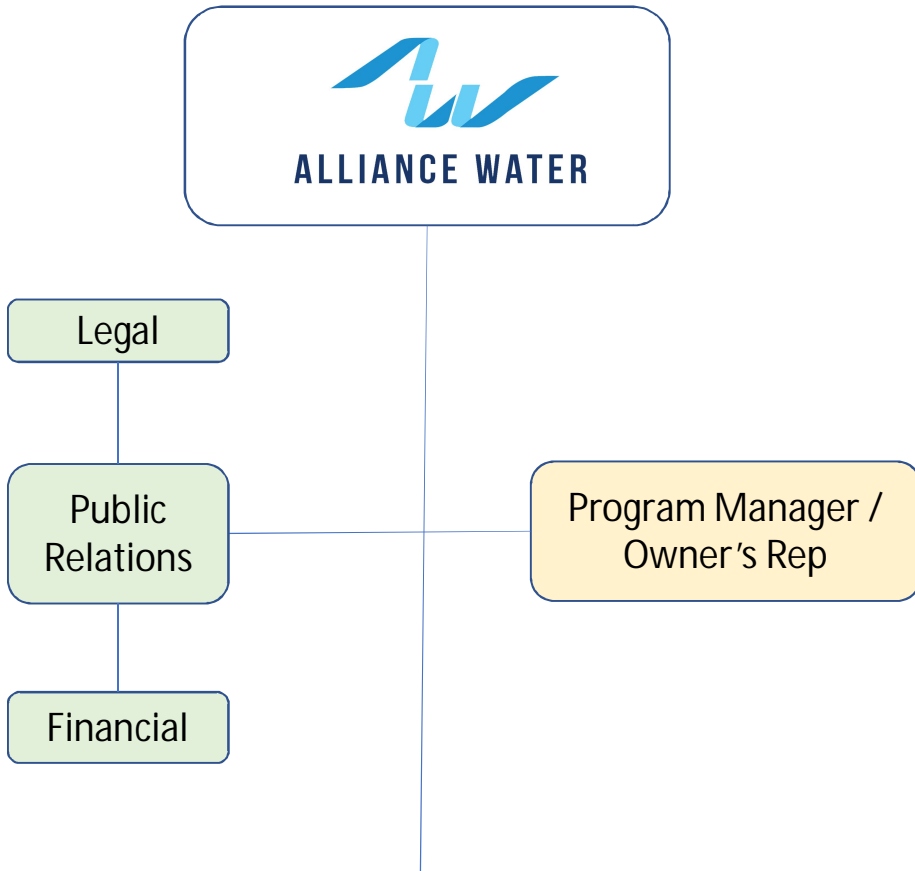
Questions?

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Procurement
14 – 16 Professional
Services Contract
Selections to be
made Initially

- Significant Task
- Currently Contracted
- RFQ Selection (Various Services)
- RFQ Selection (Design Contract)
- Team Member (no direct contract)



- Project Controls – Budgeting & Communication
- Schedule Management
- Quality Assurance
- TWDB Coordination
- Reporting
- Data Management
- Design Standards – Specs & Details
- Cathodic Protection Standards
- Telemetry and I&C Standards
- System-wide Hydraulic Modeling
- TCEQ Permitting Coordination/Tracking
- Electrical Power Planning
- Construction Bidding & Contracting Documents
- Startup & Commissioning Planning



Property Acquisition

Legal

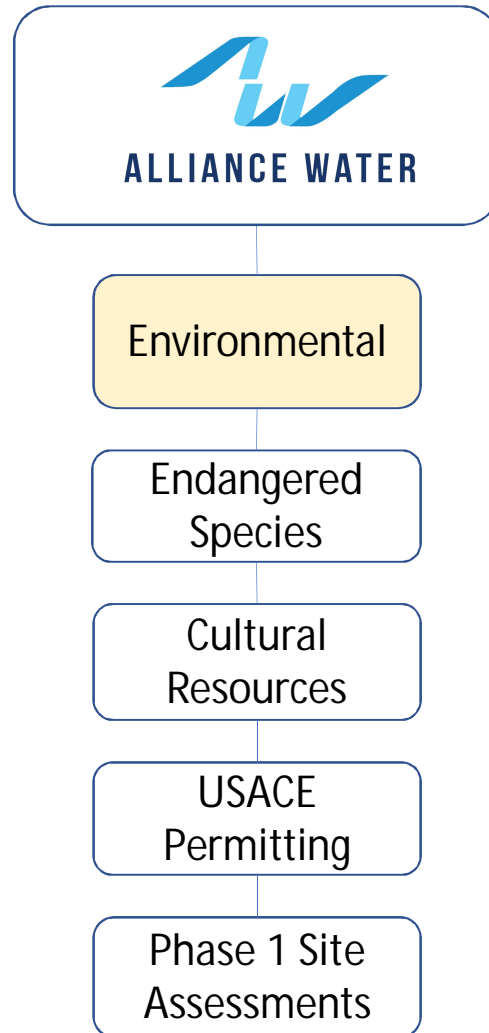
Land Agent /
Appraisal Team

Survey

- Eminent Domain Support

- Rights of Entry
- Landowner Coordination

- Overall Survey Control
- Boundary Surveys
- Legal Descriptions





Design Services

Admin Building

Hydrogeology / Well Drilling

- Services:
 - Architectural
 - Structural
 - Survey/Platting
 - Geotech
 - Mechanical
 - Electrical
 - Civil

- Services:
 - Hydrogeology
 - Well Permitting (if necessary)
 - Pump Selection

- Contracting:
- Initial Contract
 - Feasibility Study
 - Building and Site Master Plan
 - Design Contract
 - Design Document
 - Construction Documents
 - Procurement
 - Construction Phase Services

- Contracting:
- Initial Contract
 - Engineering Feasibility Report
 - Design Contract
 - Preliminary Engineering Report
 - Preliminary and Final Design
 - Procurement
 - Construction Phase Services



Engineering Design Services

Well Pumps / Raw Water

Treatment

- Services:
 - Well Pump Installation
 - Mechanical (Wells)
 - I&C Wells
 - Raw Water Pipeline
 - Civil
 - Survey
 - Geotech
 - Power

- Services:
 - Water Quality
 - Permitting
 - Treatment Process
 - Hydraulics and Transient Analysis from Plant to Pump Station
 - Treatment Plant Design
 - High Service Pump Station Design

- Contracting:
- Initial Contract
 - Engineering Feasibility Report
 - Design Contract
 - Preliminary Engineering Report
 - Preliminary and Final Design
 - Procurement
 - Construction Phase Services

- Services Cont.
 - Structural
 - Architectural
 - Electrical
 - Survey
 - Geotech
 - Architectural
 - Instrumentation and Controls
 - Civil
 - Air Valve Sizing



Engineering Design Services

Booster Pump Station/ Delivery Points

Transmission Pipelines (5-7 Contracts)

- Services:
 - Pump Station and Storage Tank Design
 - Delivery Points Design(8)
 - Hydraulics and Transient Analysis from Pump Station to Delivery Points
 - Air Valve Sizing

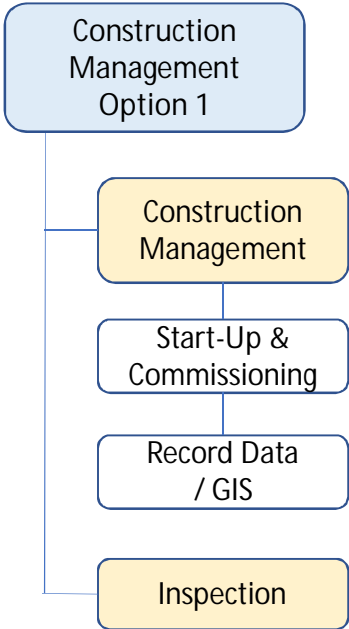
- Services:
 - Pipeline Design
 - Trenchless Design
 - Survey
 - Geotechnical
 - Subsurface Utility Engineering(SUE)
 - Air Valve Locations

- Services Cont.
 - Structural
 - Architectural
 - Electrical
 - Survey
 - Geotech
 - Architectural
 - Instrumentation and Controls
 - Civil
 - Permitting

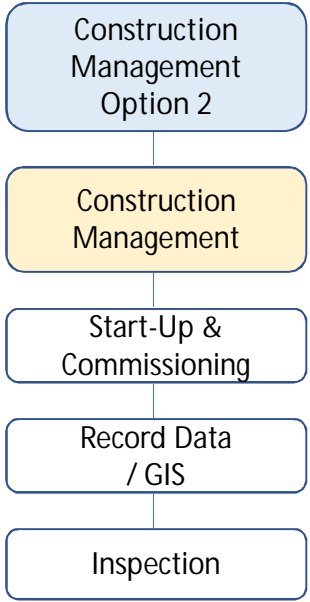
- Services Cont.
 - Traffic Control
 - Cathodic Protection
 - Permitting
 - Surface Restoration

Contracting:

- Initial Contract
 - Engineering Feasibility Report
- Design Contract
 - Preliminary Engineering Report
 - Preliminary and Final Design
 - Procurement
- Construction Phase Services



- Progress Meetings
 - Pay Applications
 - Change Orders / Claims
-
- Field Data Collection
 - Conversion to GIS





Questions?

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Sample Procurement Schedule for Upcoming Services

ID	Task Name	Duration	Start	Finish	Nov '17			Dec '17			Jan '18			Feb '18			Mar '18			Apr '18							
					22	29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	4	11	18	25
1	Survey	183 Calendar days	Mon 10/30/17	Mon 4/30/18	[Gantt bar for Survey task]																						
2	Develop Survey RFQ	33 Calendar days	Mon 10/30/17	Fri 12/1/17	[Gantt bar for Develop Survey RFQ task]																						
3	Issue RFQ	40 Calendar days	Mon 12/4/17	Fri 1/12/18	[Gantt bar for Issue RFQ task]																						
4	Review Submittals and Make Selection	33 Calendar days	Mon 1/15/18	Fri 2/16/18	[Gantt bar for Review Submittals and Make Selection task]																						
5	Negotiations, Board Approvals and Contracting	71 Calendar days	Mon 2/19/18	Mon 4/30/18	[Gantt bar for Negotiations, Board Approvals and Contracting task]																						

Projected Procurement

14-16 Professional Services Contracts to be Made Initially

- Program Manager / Owner's Representative
- Legal (Property Acquisition)
- Survey (Property Acquisition)
- Land Agent & Appraisal Team (Property Acquisition)
- Environmental
- Pipeline Engineering (5 to 7 Contracts)
- Well Drilling / Hydrogeology
- Administrative / Operations Facility
- Water Treatment Plant
- Booster Pump Station

Next Steps

Recommended Next Steps for ARWA

- Move Forward with Procurement Process

Next Steps for Kimley-Horn

- Finalize Schedule Analysis
- Prepare Report



Questions?

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