

Town of Payson Comprehensive Water Management

Arizona Water Reuse 2015 Symposium
Flagstaff, AZ July 26th - 28th, 2015



PAYSON WATER CHALLENGES

- 43 Drought Sensitive In-town Groundwater Wells
- Growth Pressure on Limited Water Supply
- State Laws Not Conducive to Growth Management vis a vis Available Water Supply
- Surrounding Tonto National Forest Public Lands Off-Limits for Public Water Supply
- Conflict with Downstream Water Rights Holders
- No Nearby Water Supplier for Water Development Partnership



PAYSON WATER OPTIONS

(circa 1990)

- Groundwater – No Additional Within Town Limits
- Out of Town Private Land Groundwater – Available but Politically Unpopular
- Wastewater – Available
- Contaminated Groundwater – Available
- Surface Water – Available but \$50M Distant
- Water Conservation



PLAN OF ACTIONS

- 1994 - Pursue Blue Ridge Reservoir Surface Water Supply
- 1998 - Payson Water Resources Management Plan
- 1998 - Construction of Green Valley Park Water Reclamation Project
- 2000 - Construction of WQARF Groundwater Treatment Plant
- 2002 - Enacted Water Conservation Resolution #1742
- 2008 - Partner with SRP for Blue Ridge Reservoir Surface Water Use





AMERICAN GULCH



NORTHERN CALIFORNIA

WATER RECLAMATION PLANT

WATER RECLAMATION PLANT





GREEN VALLEY PARK

A WATER CONSERVATION PROJECT

***A TOWN OF PAYSON &
NORTHERN GILA COUNTY SANITARY DISTRICT JOINT VENTURE***

GREEN VALLEY PARK

“The Crown Jewel of Payson”

A Water Reclamation Project
(and so much more!)



TOWN OF PAYSON

WATER PRESSURE ZONE MAP

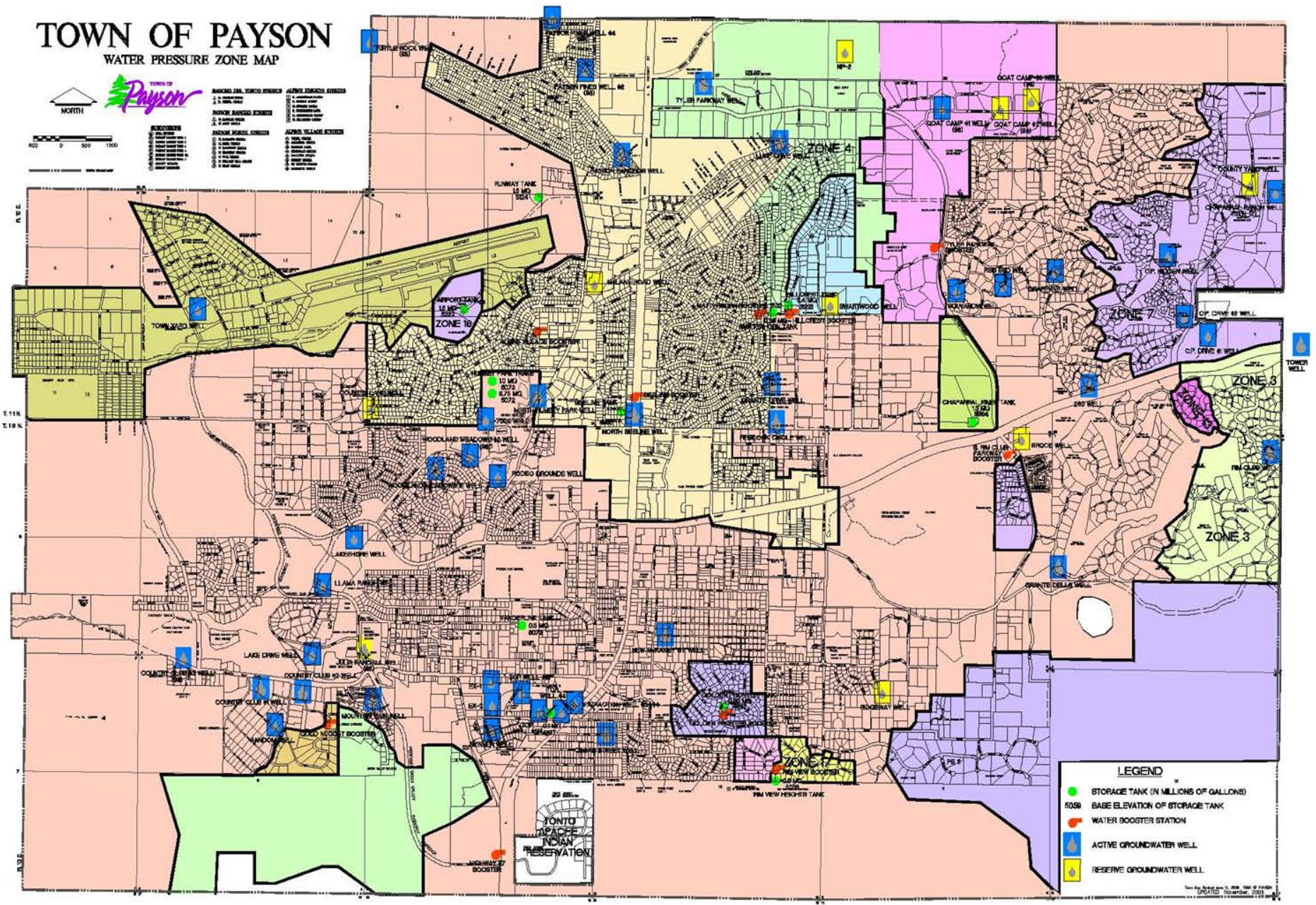


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LEGEND

WATER PRESSURE ZONES

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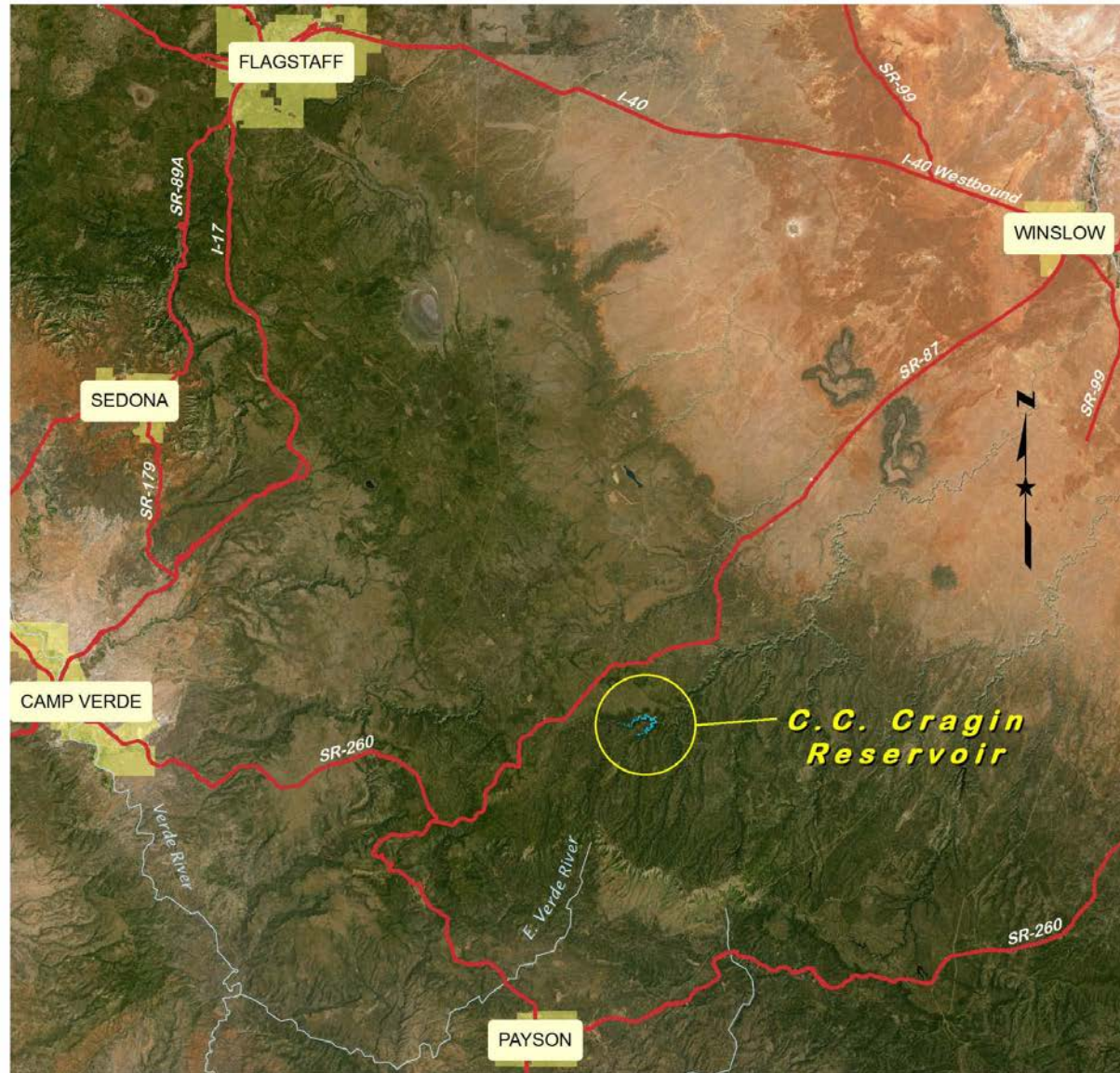


- LEGEND**
- STORAGE TANK (IN MILLIONS OF GALLONS)
 - 5096 BASE ELEVATION OF STORAGE TANK
 - WATER BOOSTER STATION
 - ACTIVE GROUNDWATER WELL
 - RESERVE GROUNDWATER WELL



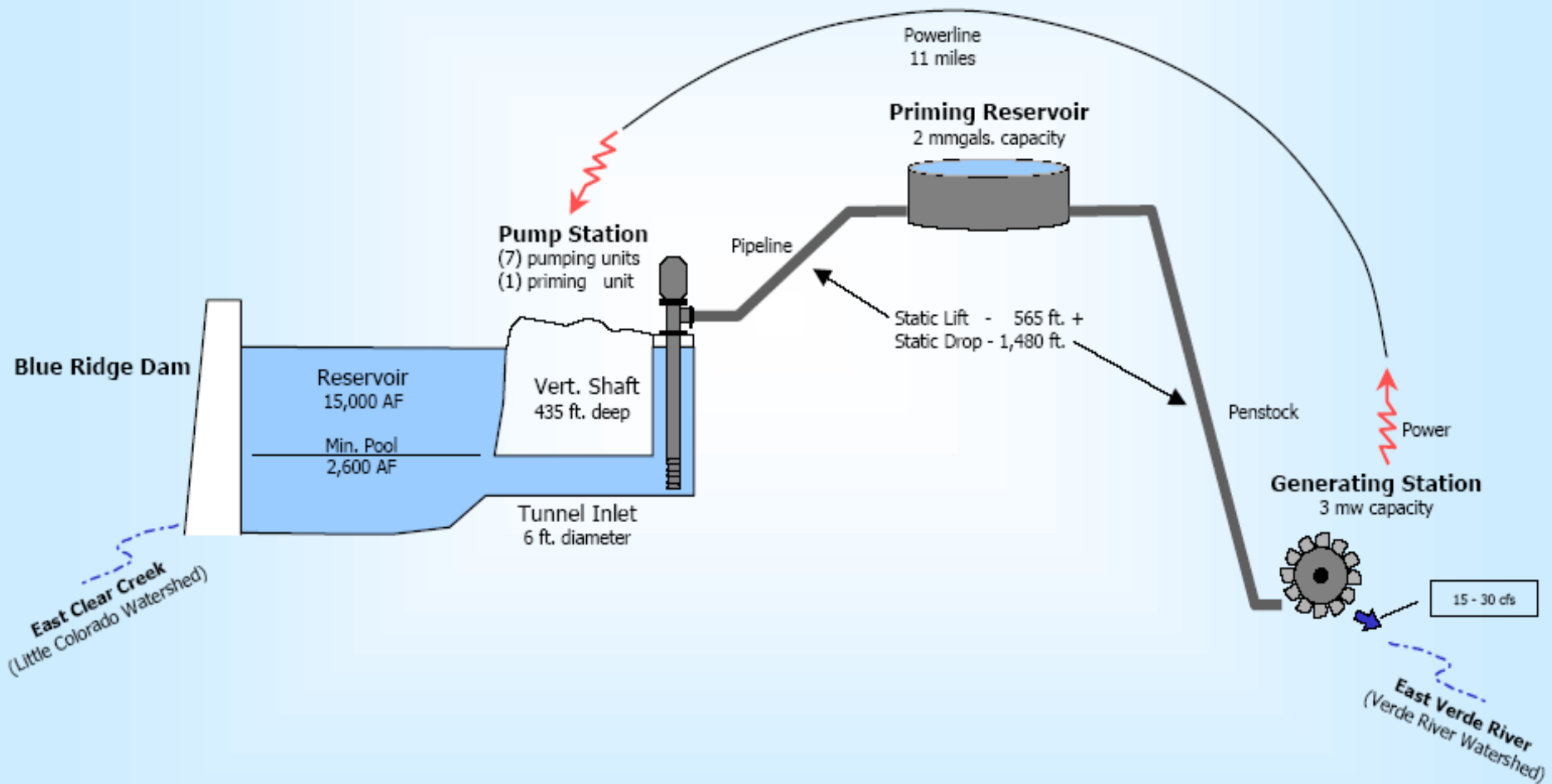


Project Location Map



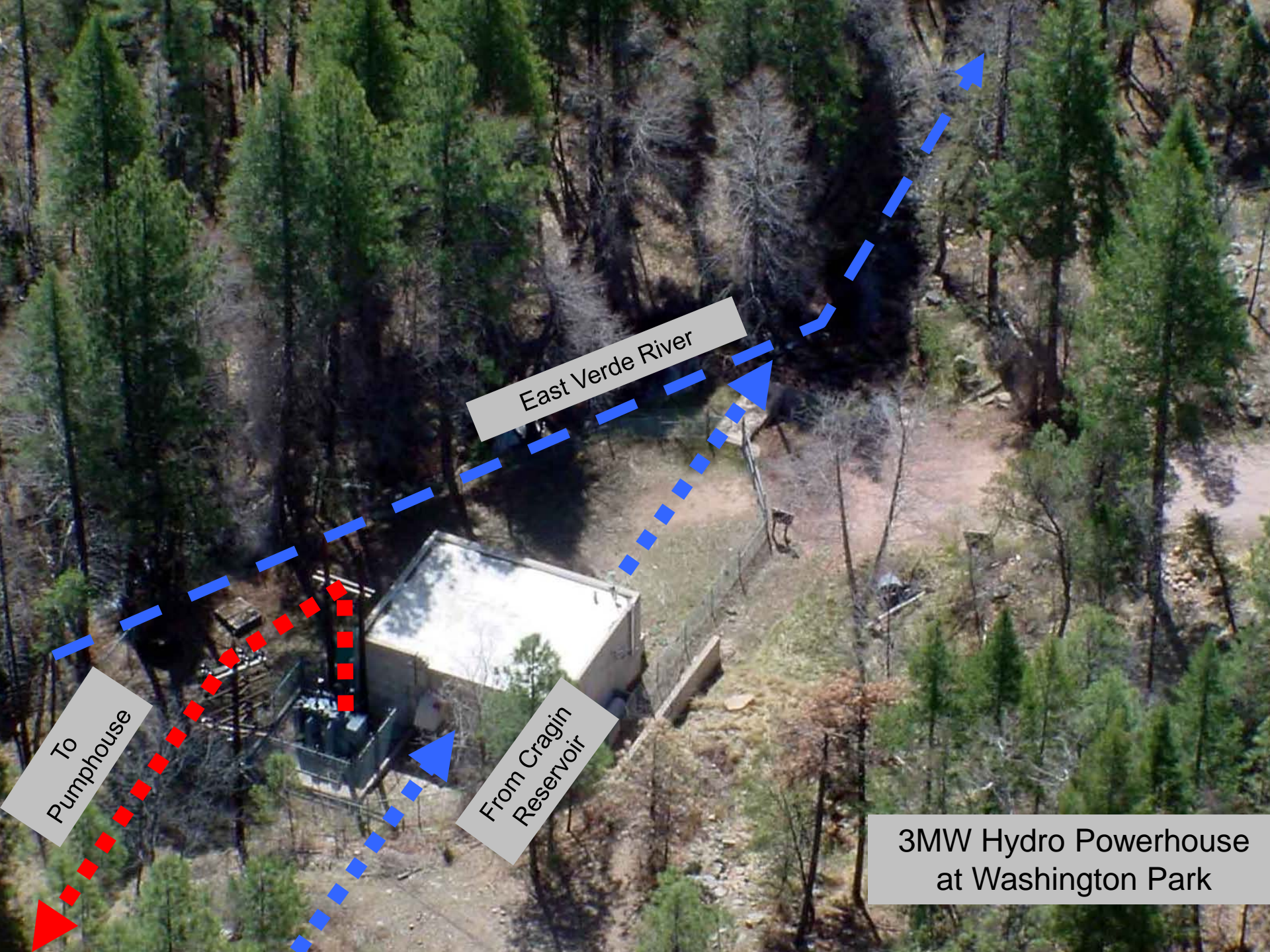


Cragin System Operation





11-mile Pipeline; 33"/24" diameter

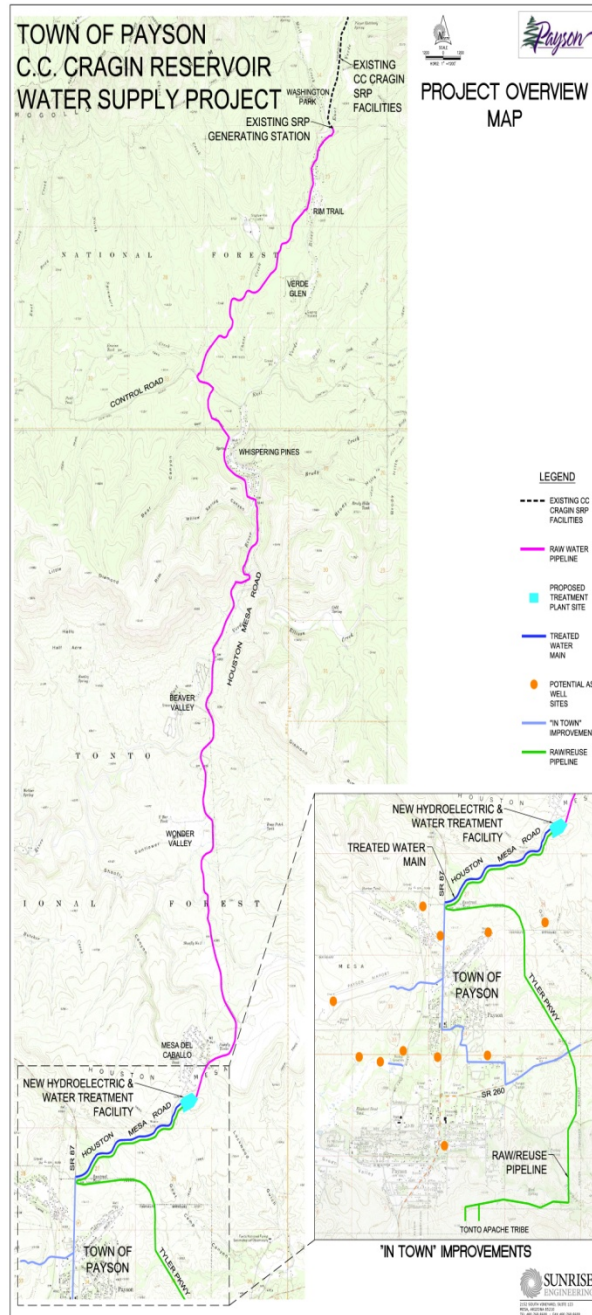


East Verde River

To
Pumphouse

From Cragin
Reservoir

3MW Hydro Powerhouse
at Washington Park



Project Overview

- Tailrace Connection
- Raw Water Pipeline
- New Hydro Generator Facility
- Water Treatment Plant
- Treated Water Pipeline
- In-Town System Improvements
- Aquifer Storage & Recovery Wells

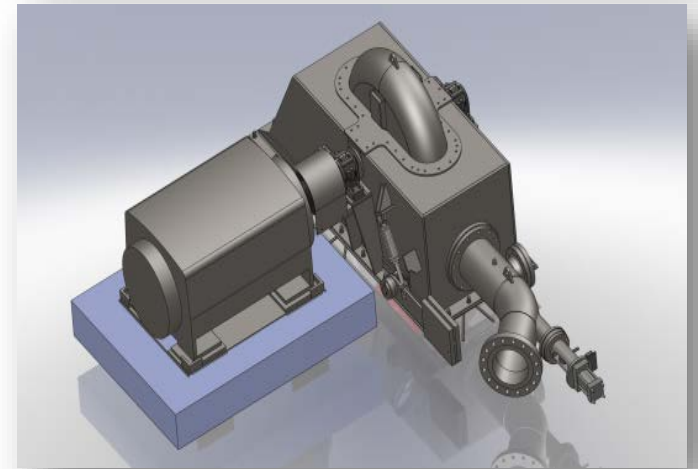
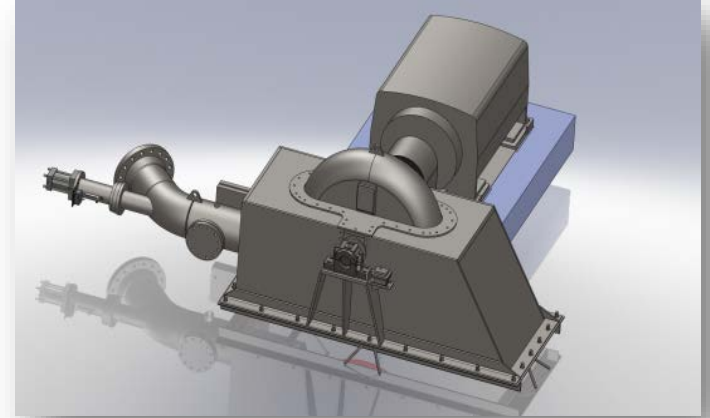


ARRA-FUNDED PIPE PURCHASE



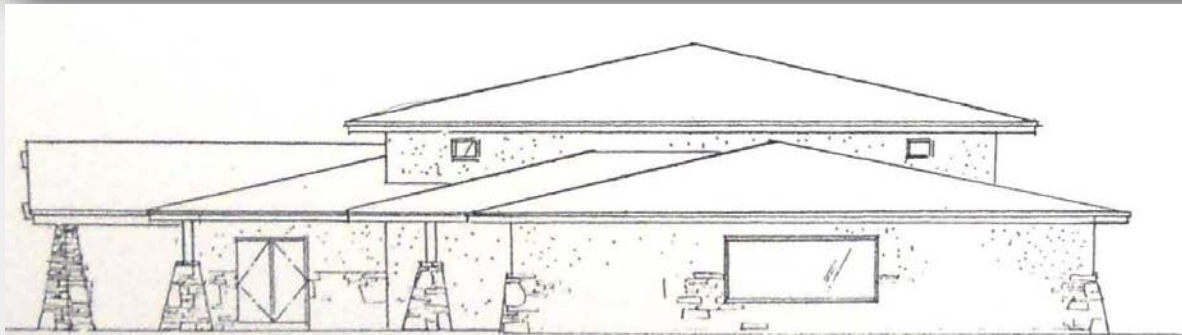
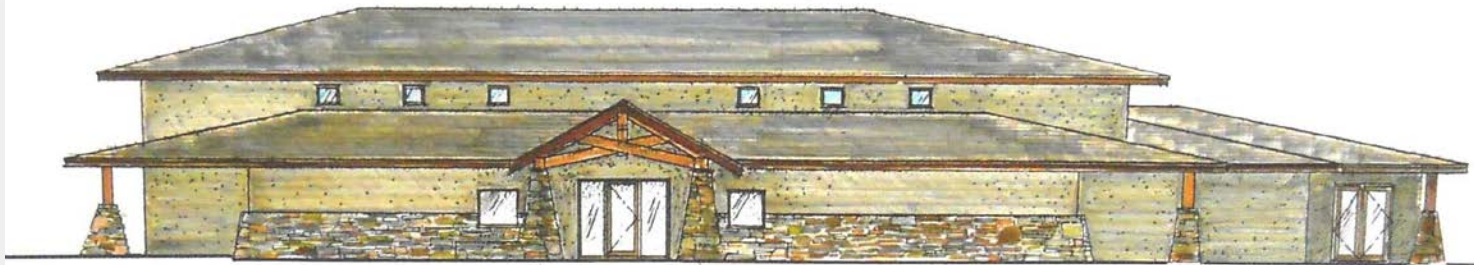
New Hydroelectric Facility

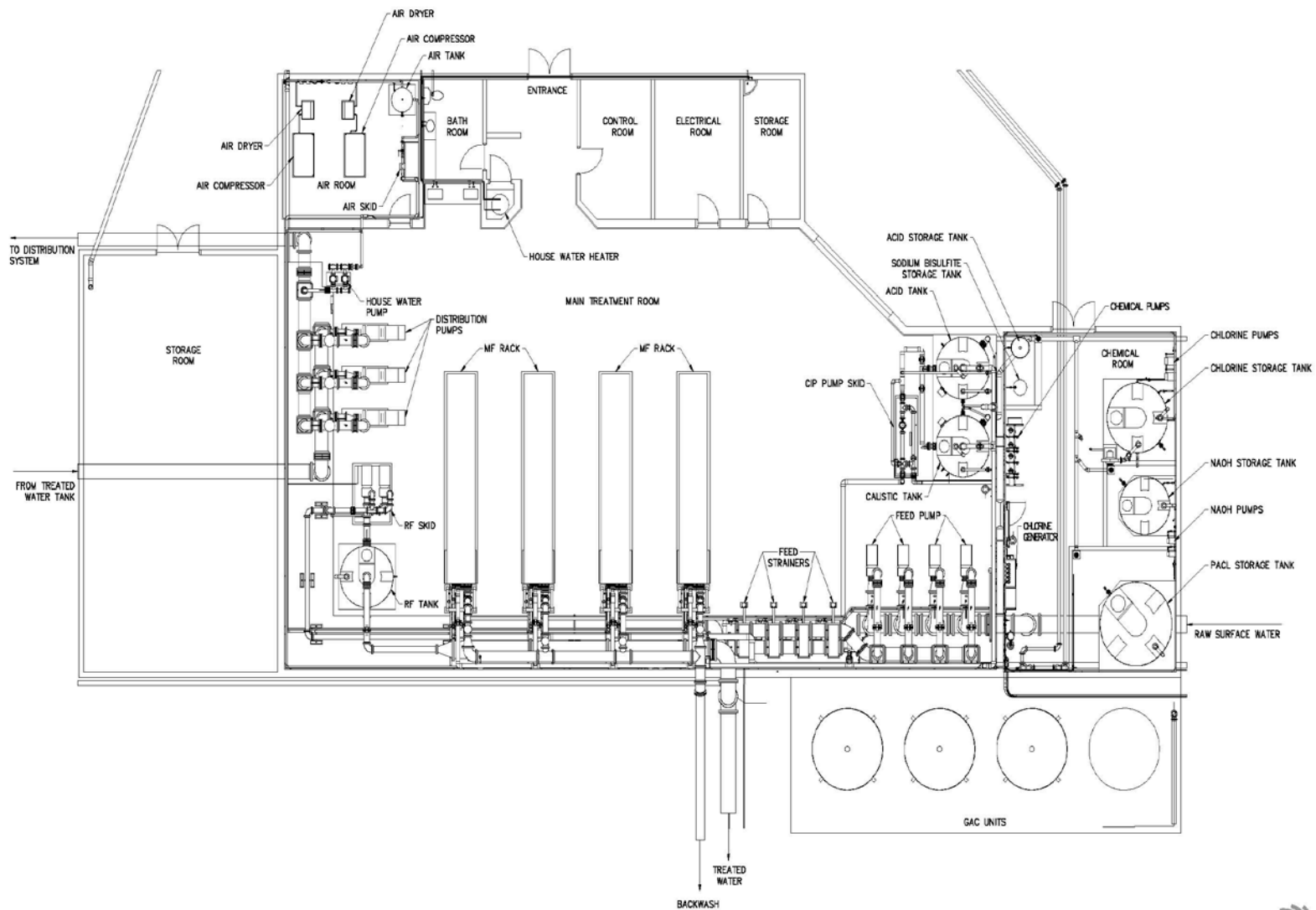
- Raw Waterline Creates a Penstock Perfect for a Hydro Facility
- Study Performed
- Pelton Type Turbine
- 220 kW Power Generation
- Use **Green** Power Back for Water Treatment Plant
- Reduce purchase of APS Power
- Sell Renewable Energy Credits Nationwide



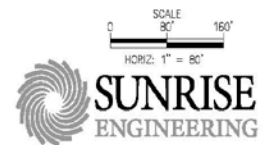
New Water Treatment Plant

- Early Water Treatment Plant Design & Renderings





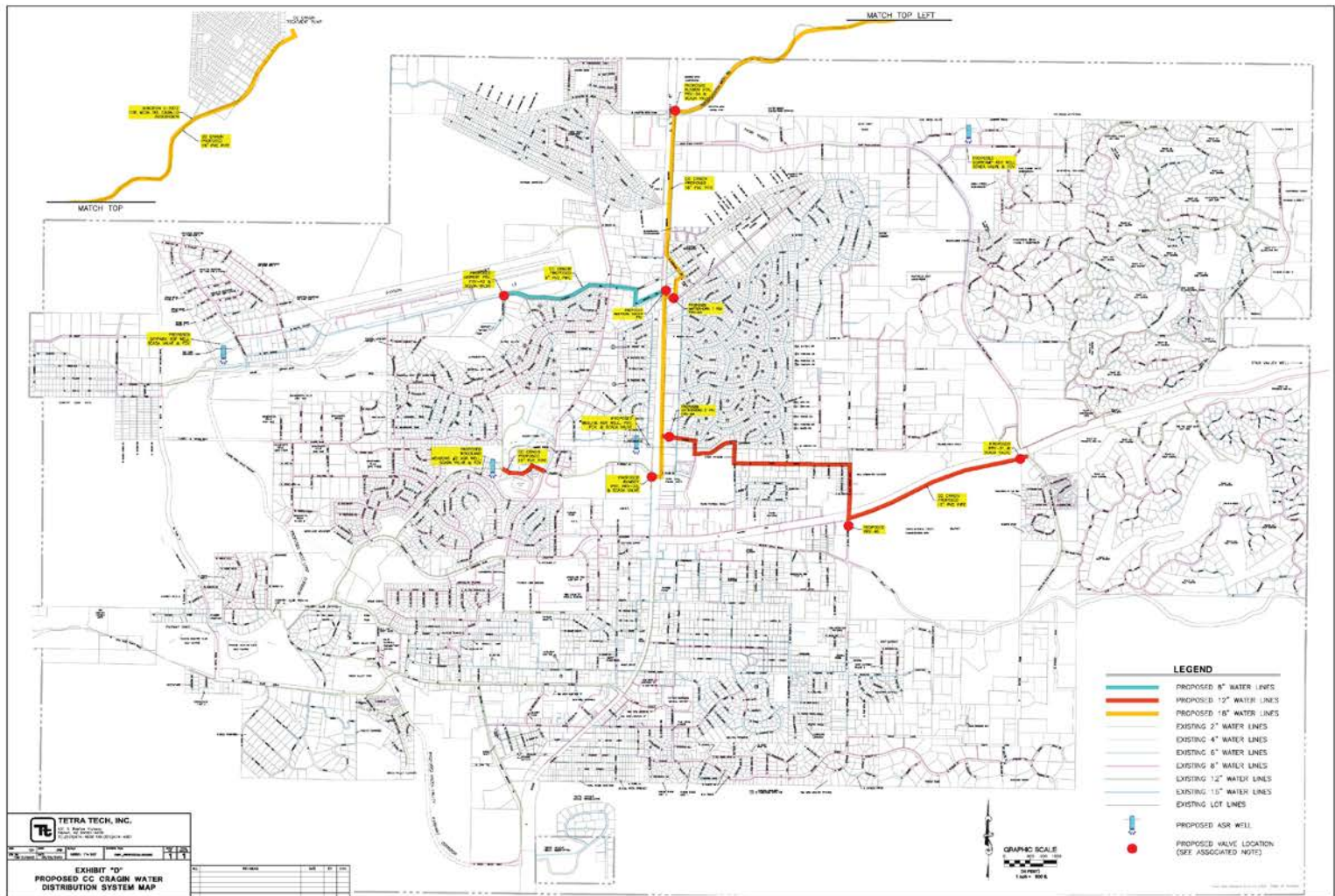
PAYSON MEMBRANE BUILDING



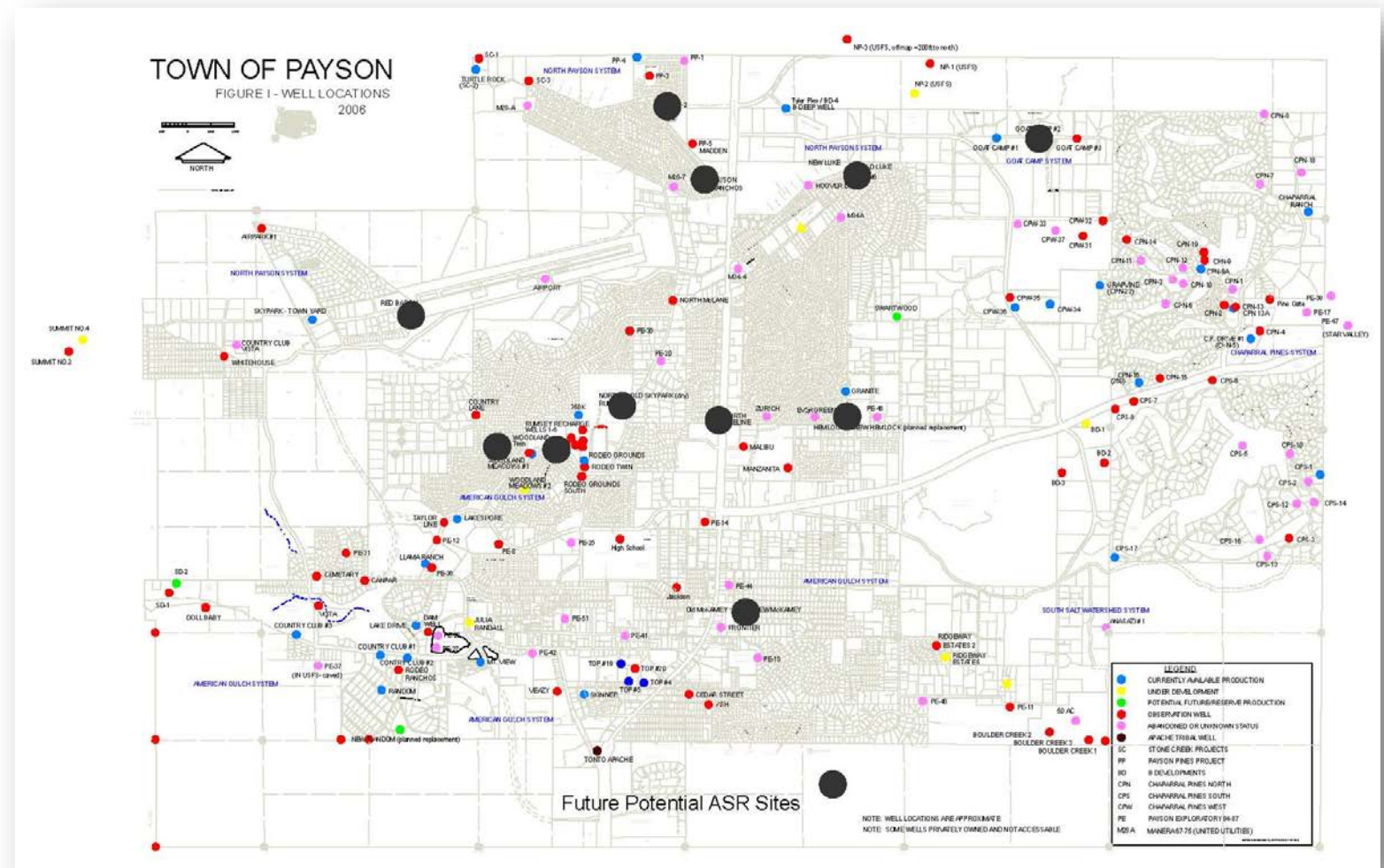
2152 SOUTH VINEYARD, SUITE 123
 MESA, ARIZONA 85210
 TEL 480.768.8500 • FAX 480.768.8609
www.sunrise-eng.com



Treated Water Improvements



Aquifer Storage & Recovery (ASR) Wells



Questions & Comments?

