

An aerial photograph of a large concrete dam situated in a deep, rugged canyon. The reservoir behind the dam is a vibrant blue, contrasting with the arid, brownish-orange rock walls. The sun is low in the sky, casting long shadows and highlighting the textures of the canyon walls. The title text is overlaid on the upper portion of the image.

# Salt River Pumped Storage Project

Spring Outreach

April 2024

A blue geometric graphic consisting of two overlapping triangles, one pointing right and one pointing left, creating a larger triangular shape.

# Welcome

# Purpose of Outreach

## Share Project Details

- Generation
- Transmission
- Resources
- Considerations



## Share Feedback:

- Site Selection
- Route Options



## Review Details & Ask Questions

- Displays
- Technical Experts

- Comment Cards
- Feedback Form
- Discussions
- Website



A wide-angle photograph of a massive concrete dam situated in a deep, rugged canyon. The canyon walls are composed of layered, reddish-brown rock. A river flows through the center of the canyon, its water appearing a deep blue. The dam is a long, low structure with several spillways. The sky is a clear, pale blue. The overall scene is bathed in the warm, golden light of late afternoon or early morning.

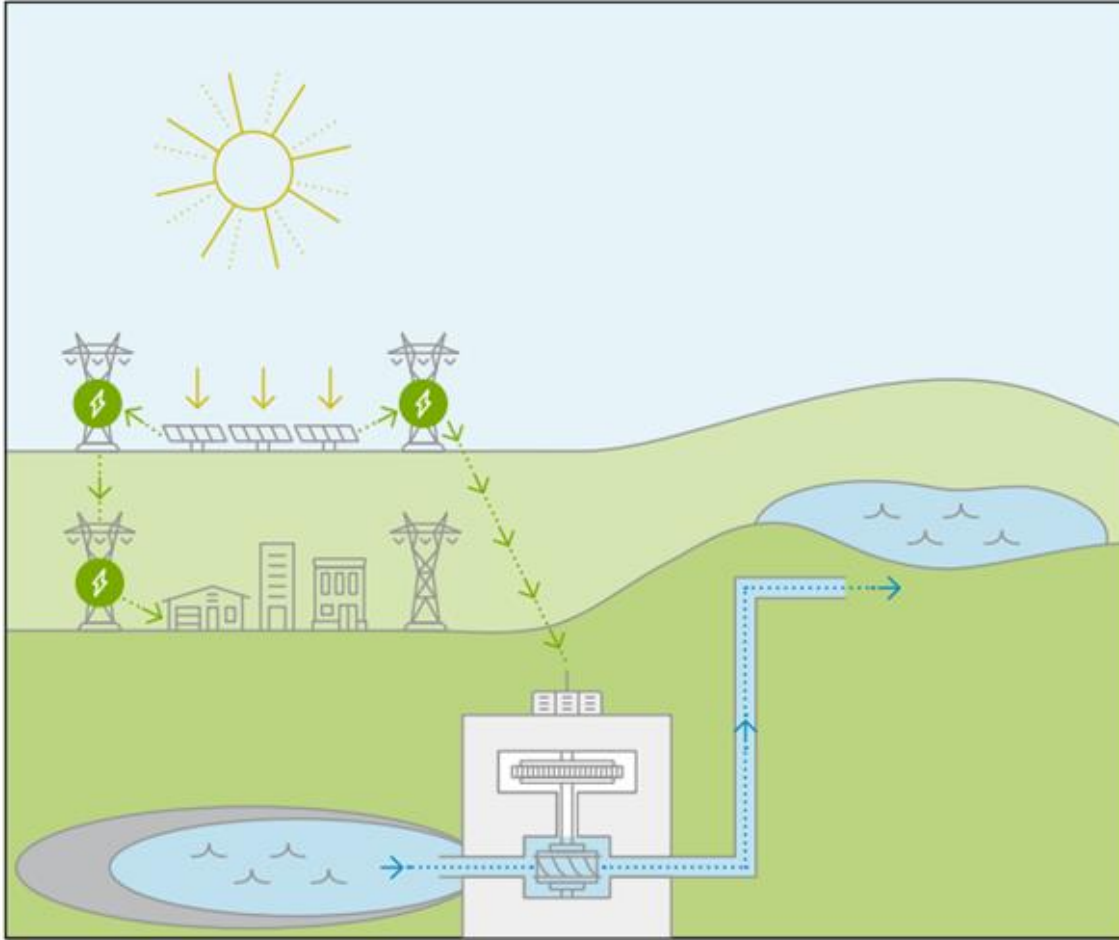
# Background: What is Pumped Storage?



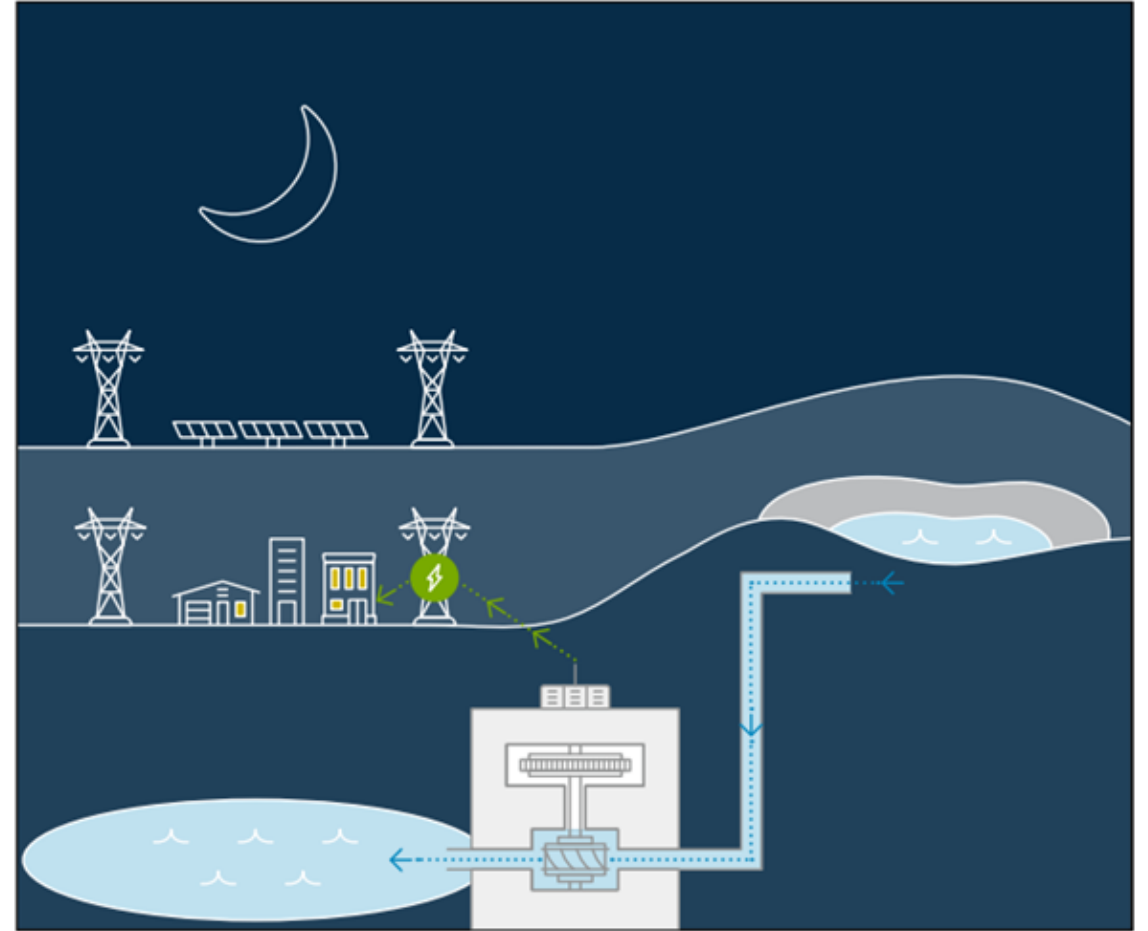


# Pumped Hydropower Technology Example

## Morning and Midday Operation



## Late Afternoon and Overnight Operation



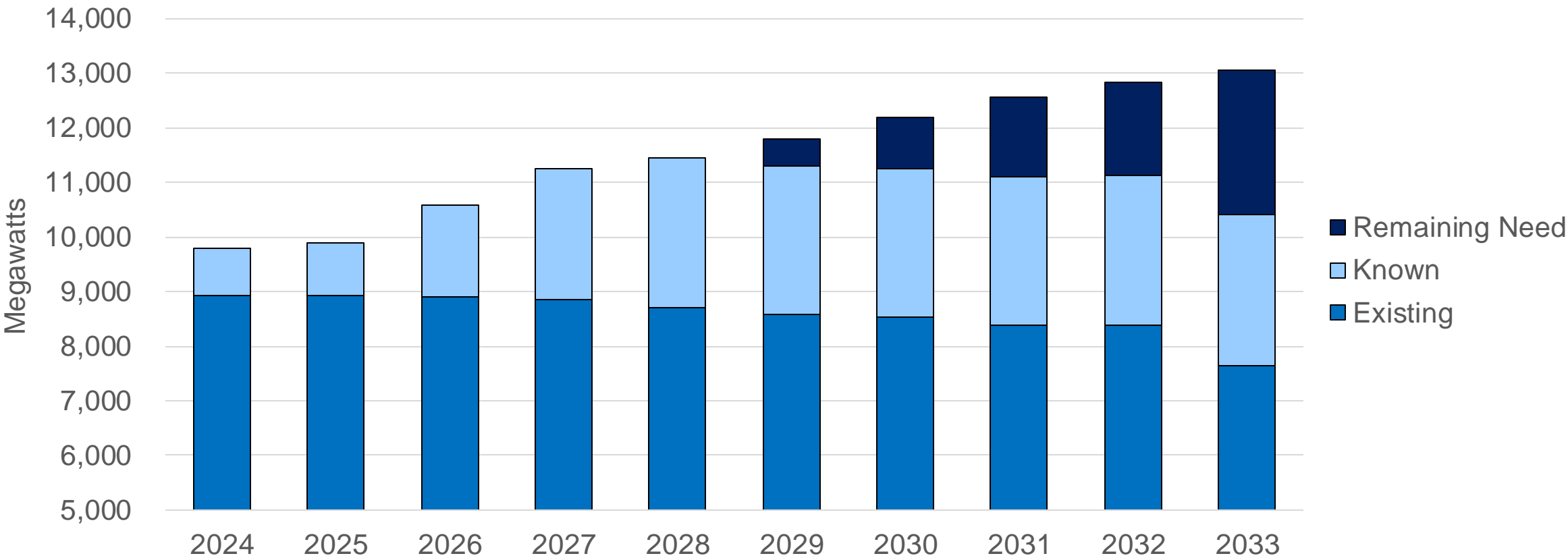
An aerial photograph of a large concrete dam situated in a deep, rugged canyon. The canyon walls are composed of layered, reddish-brown rock. A river flows through the canyon, curving around the base of the dam. The water is a deep blue. The sky is a clear, pale blue. The text "Background: Resource Plan & Need" is overlaid in white, bold, sans-serif font.

# Background: Resource Plan & Need



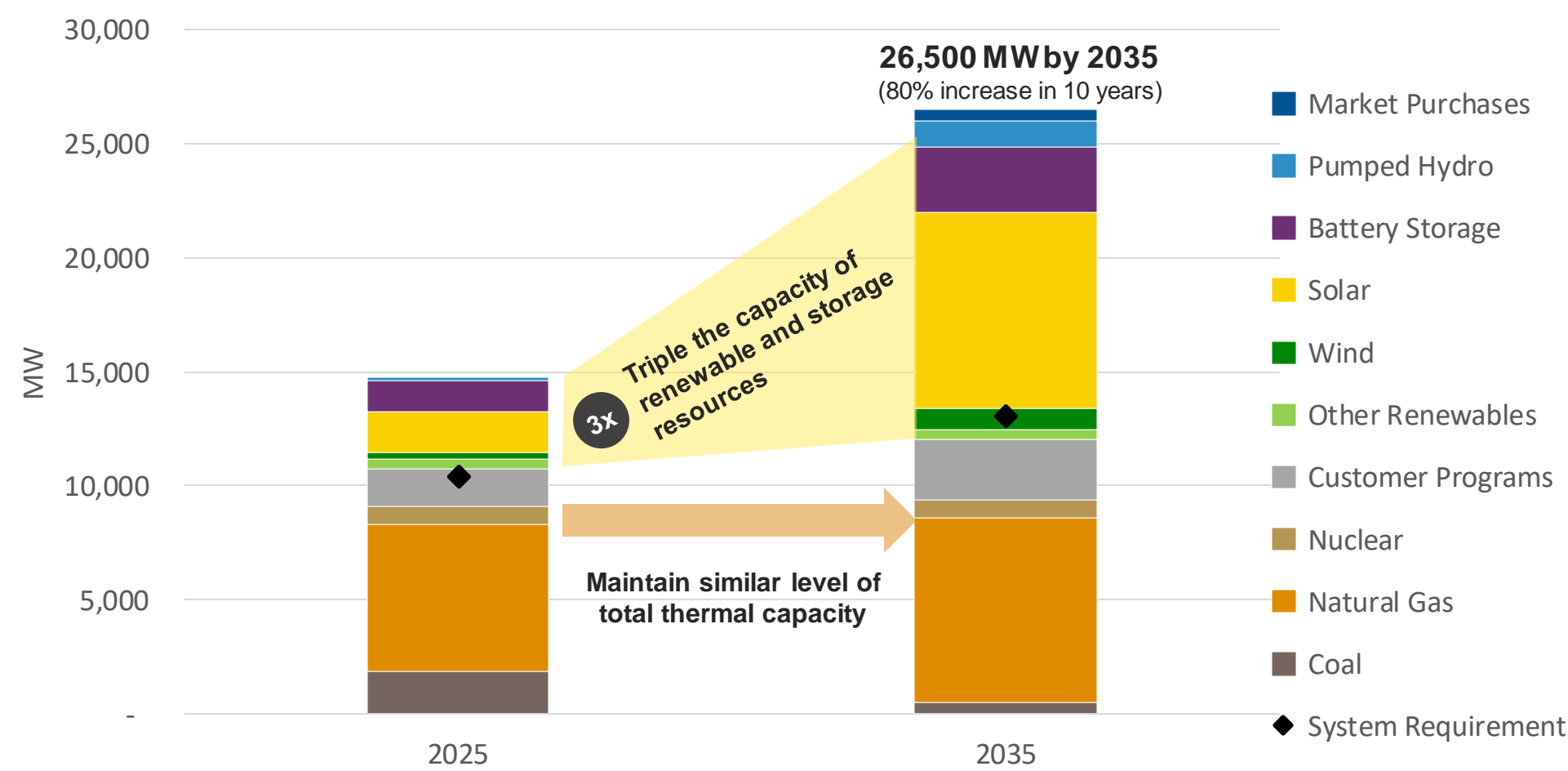


# Resource Needs to Meet Summer Peak Demand \*



**Key Takeaway:** SRP needs >2,600 MW by 2033; pumped storage could provide 1,000 MW in this timeframe

# Planned Resource Additions \*

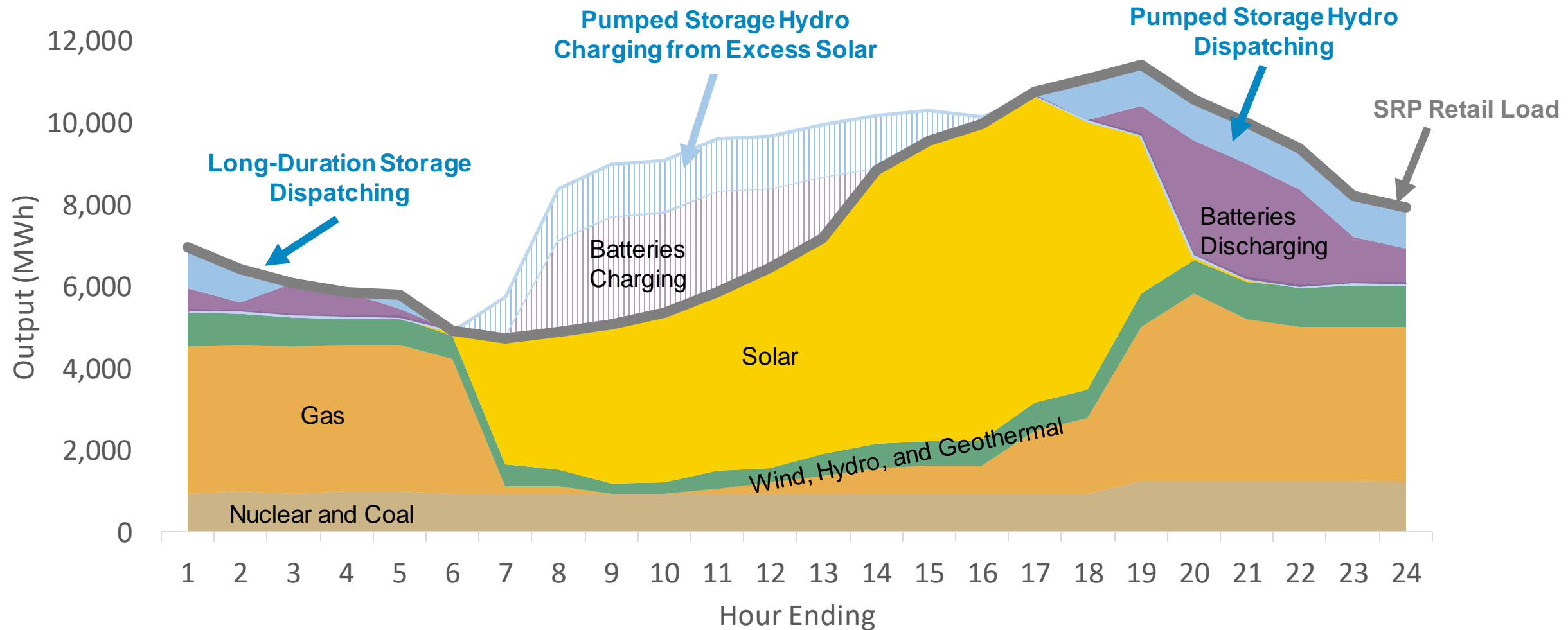


**Key Takeaway:** Majority of resource additions over this time will be solar and battery storage

\* Based on 2023 Integrated System Plan Balanced System Plan. Plans may change over time.



# Example Day in Summer 2035\*



**Key Takeaway:** Pumped storage can store solar and discharge it to meet peak demand and through the night

\* Modeling result – actual daily operations may differ

# Pumped Storage Benefits

## Benefits

- Resource Diversity
  - >4,300 MW of 4-hour and 1,000 MW of battery storage planned by 2033
  - Supply Chain & Workforce Diversity
- Proven Technology
  - SRP has ~150 MW in operation today
  - Less expected performance degradation
  - Provides a reliable source of inertia
- Long Asset Life
  - 100 years vs. 10-20 years for battery

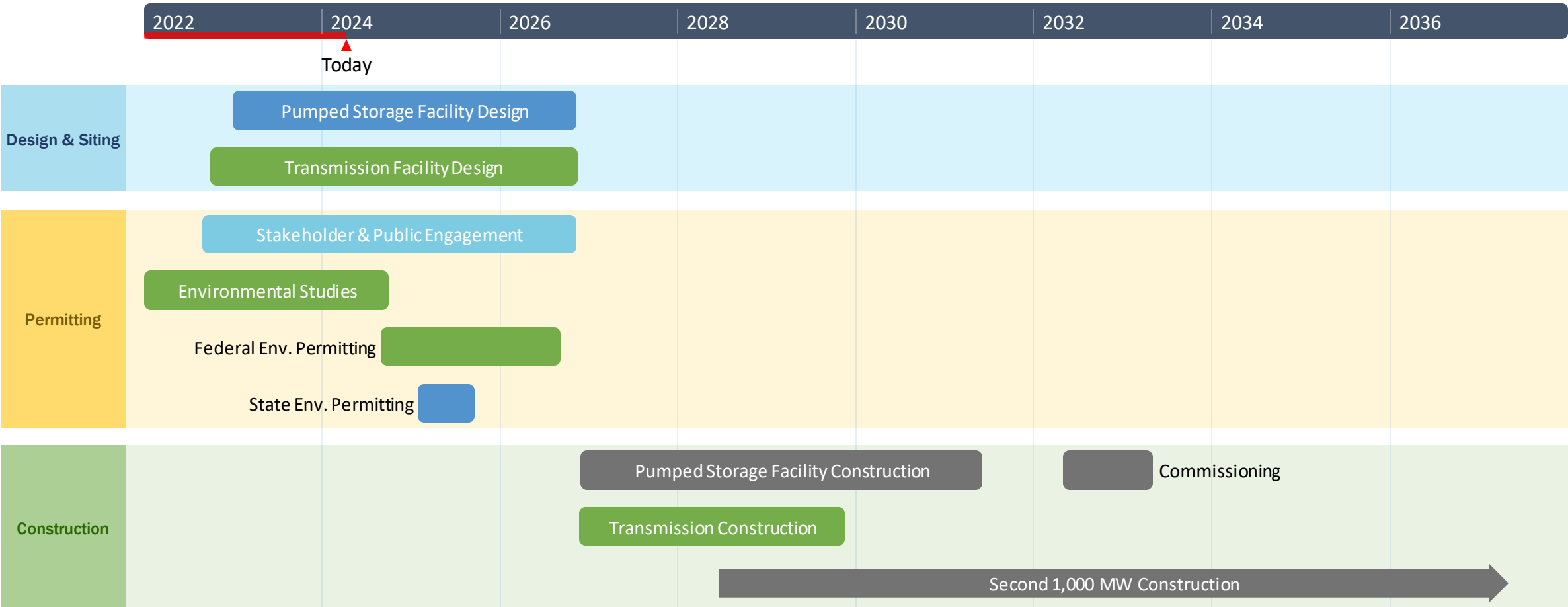


A wide-angle photograph of a massive concrete dam situated in a deep, rugged canyon. The canyon walls are composed of layered, reddish-brown rock. A river flows through the center of the canyon, its water a deep blue. The dam is a long, curved structure with several spillways. The sky is a clear, pale blue. The overall scene is one of natural grandeur and human engineering.

# Background: Project Development Timelines

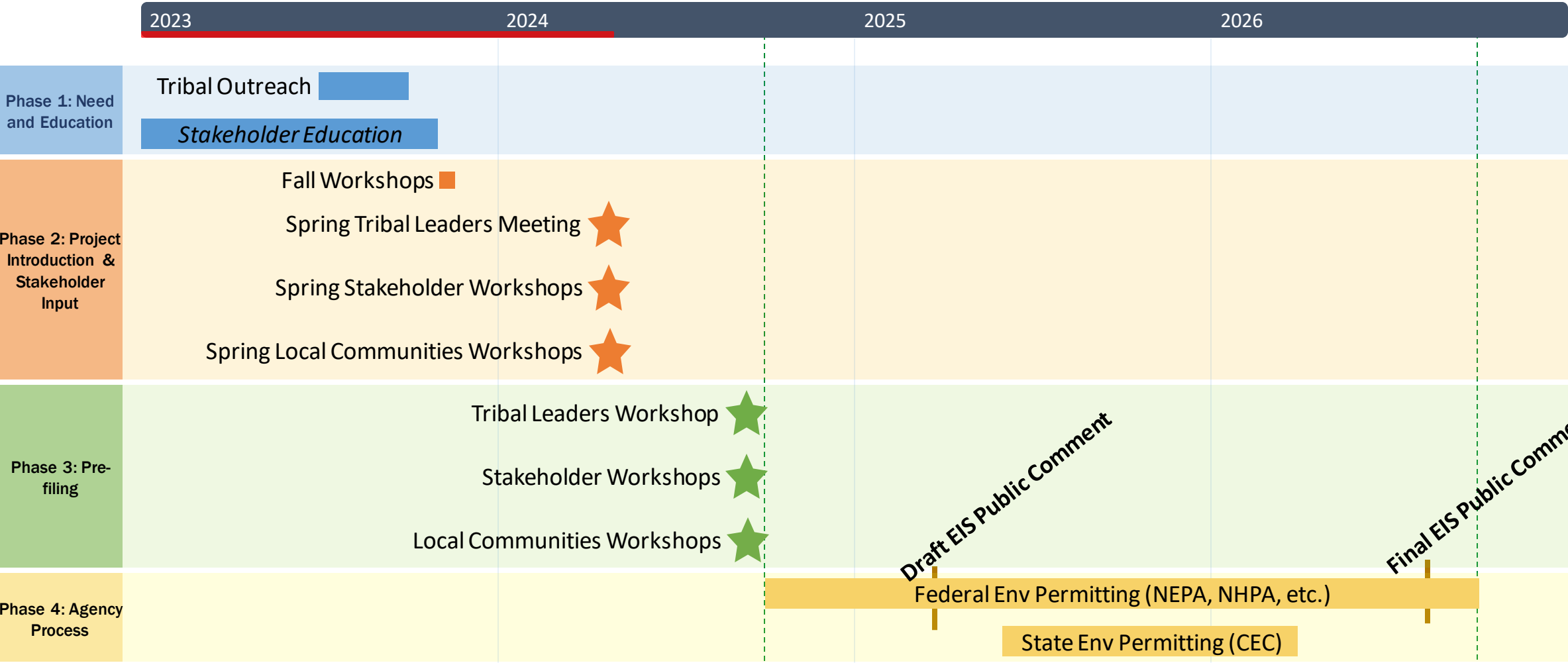


# Development Timeline





# Outreach Activities & Milestones

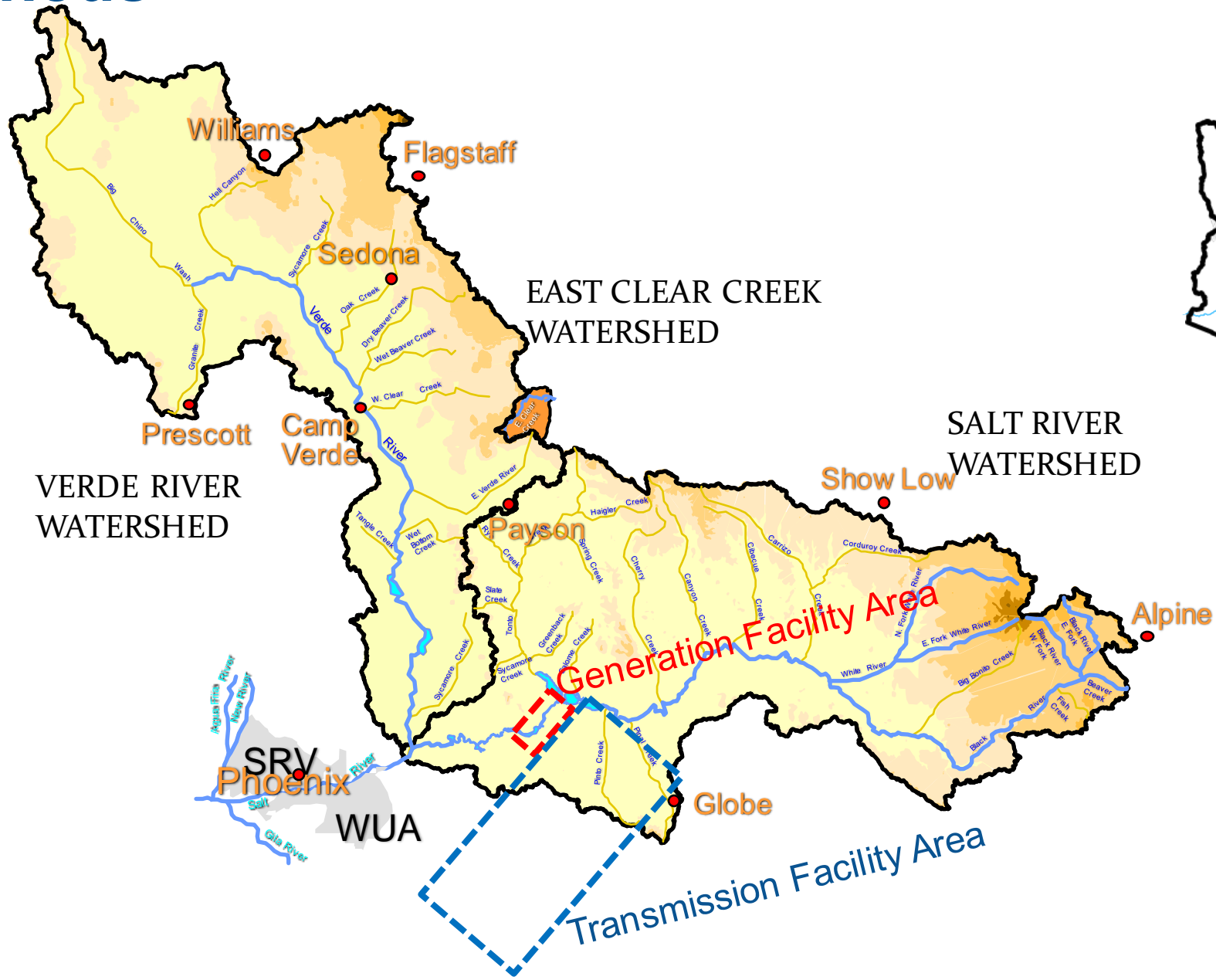


An aerial photograph of a large concrete dam situated in a deep, rugged canyon. The canyon walls are composed of layered, reddish-brown rock. A river flows through the canyon, and a reservoir is visible behind the dam. The sky is clear and blue. The text "Background: Project Location & Facilities & Considerations" is overlaid in white, bold, sans-serif font.

# Background: Project Location & Facilities & Considerations

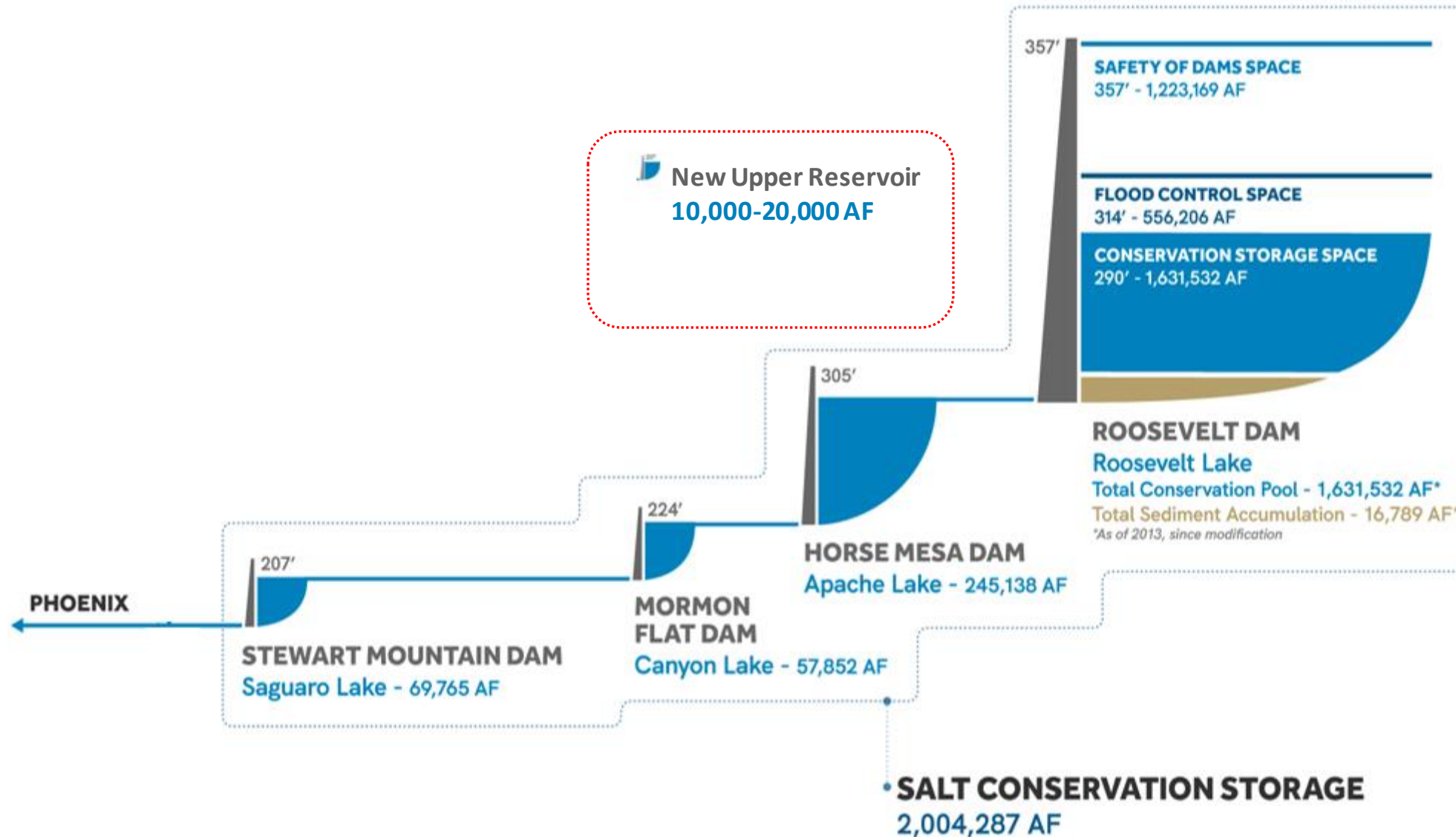


# SRP Watersheds

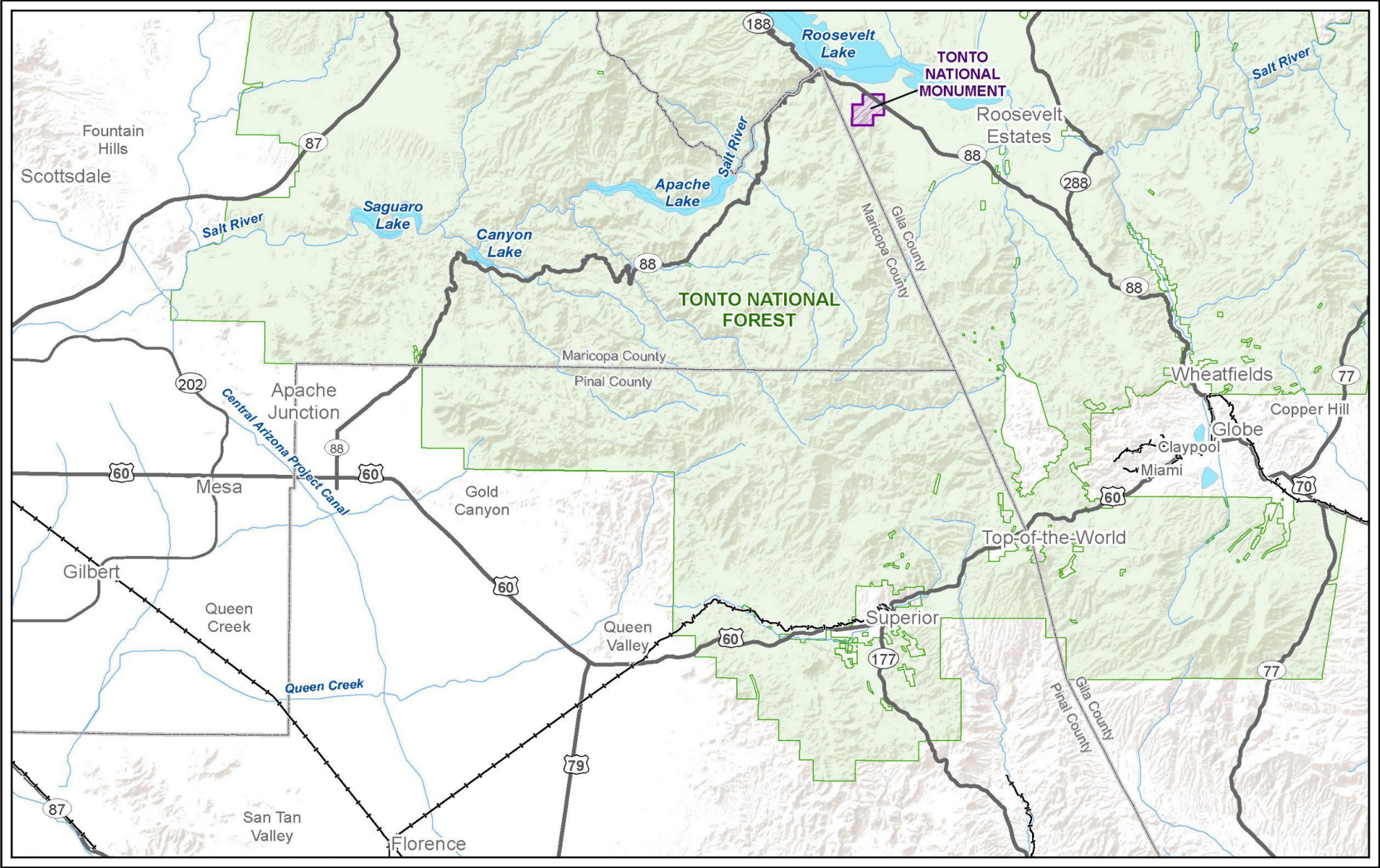




# Water System Support of Pumped Storage

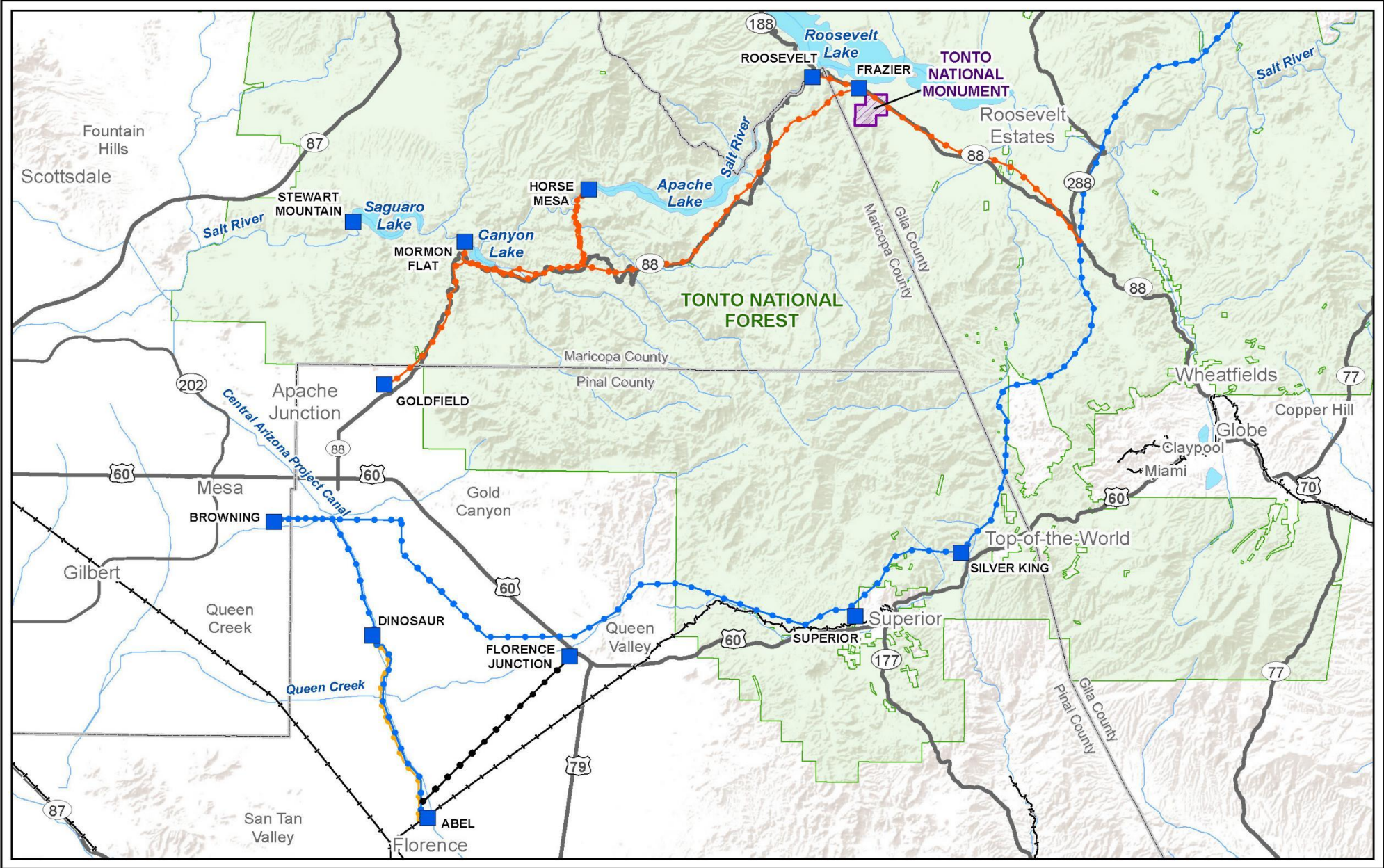


# Project Area Study Area



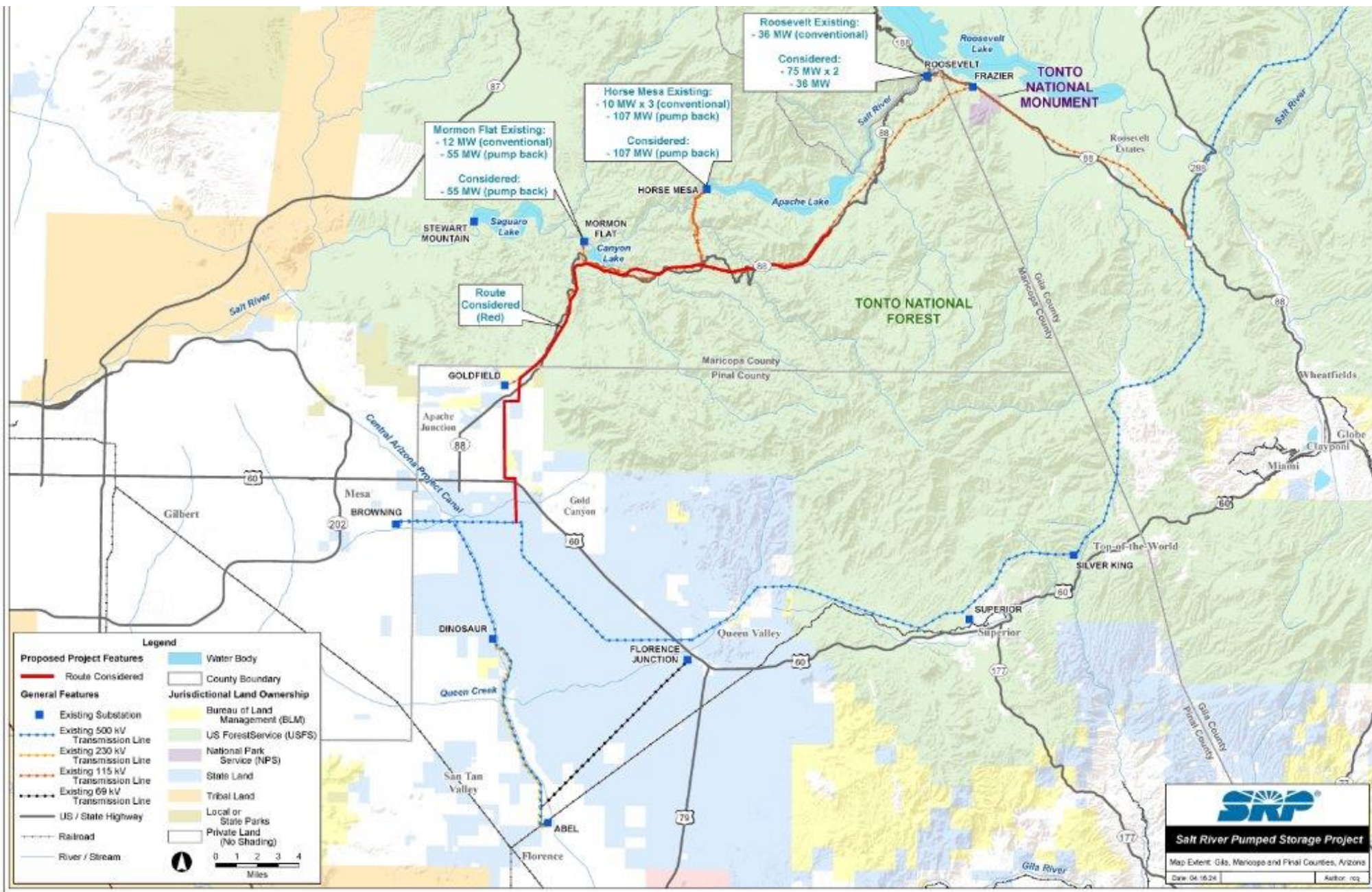


# Existing SRP Facilities





# SRP Project Components Considered





An aerial photograph of a large concrete dam situated in a deep, rugged canyon. The canyon walls are composed of layered, reddish-brown rock. A river flows through the canyon, curving around the base of the dam. The water is a deep blue. The sky is a clear, pale blue. The text "Project Updates: Fall Workshop Feedback" is overlaid in large, white, sans-serif font across the center of the image.

# Project Updates: Fall Workshop Feedback





# Feedback from Fall Workshop

## Generation Sites

- Preference for Site 2 over Site 1

## Transmission Routes

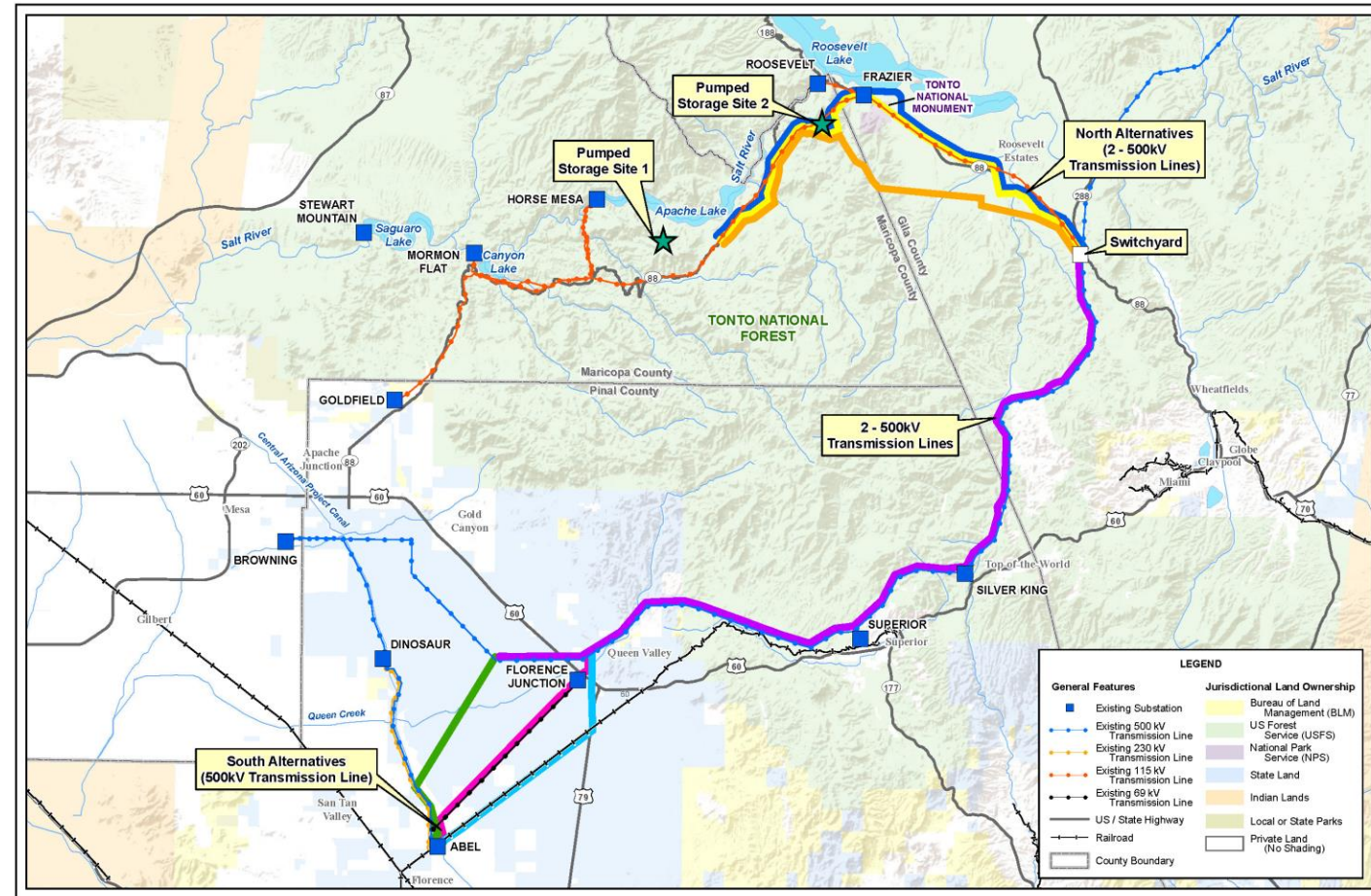
- Follow existing linear feature
- Minimize new disturbances

## Tonto National Monument

- Additional review for viewsheds & renderings from key visual points

## Tribal Consideration

- Additional Surveys
- Ethnography study to inform project developments





An aerial photograph of a large concrete dam situated in a deep, rugged canyon. A river flows through the canyon, curving around the base of the dam. The canyon walls are steep and composed of layered rock formations, with some sparse vegetation. The sky is clear and blue. The text "Project Updates: Resources" is overlaid in white, bold, sans-serif font in the center of the image.

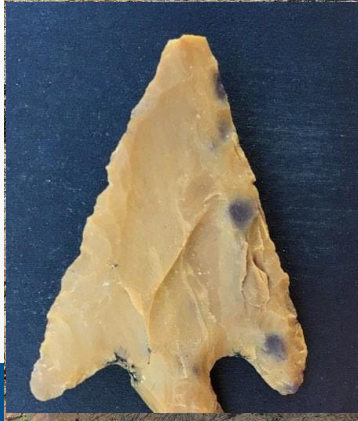
# Project Updates: Resources







# Cultural Resources within Project Area





# Cultural Resources

- Class III surveys were completed for proposed reservoir locations (Sites 1 & 2)
  - Purpose to identify archeological sites, historic cultural resources, and places important to Tribal Communities
- Site 1 removed from further consideration for SRP
- Site 2 - 943-acre inventoried area
  - 17 cultural resources identified:
    - 7 ancient Native American archaeological sites.
    - 1 rock feature, likely Basque shepherd related.
    - 1 historic highway camp, 1 mine prospect, and
    - 1 historic artifact scatter.
    - 6 historic utility lines and roads.
  - Other known cultural resources
    - Tonto National Monument
    - Apache Trail (SR 88)





# Cultural Resources

## New Initiatives

- Class III Survey of Northern Transmission Alternatives (in progress now)
- Identifying qualified consultants to start Ethnographic Study

## Next steps

- Class III Surveys of Southern Transmission Alternatives
- Class III Surveys of parallel corridor
- Class III surveys of staging areas, roads, and other facilities
- Class I inventory to support Cultural Resources Visual Impacts Study







Bald Eagle



Southwest Willow Flycatcher



Saguaro



Golden Eagle

# Potential Species within Project Area



Hedgehog Cactus



Yellow Billed-Cuckoo

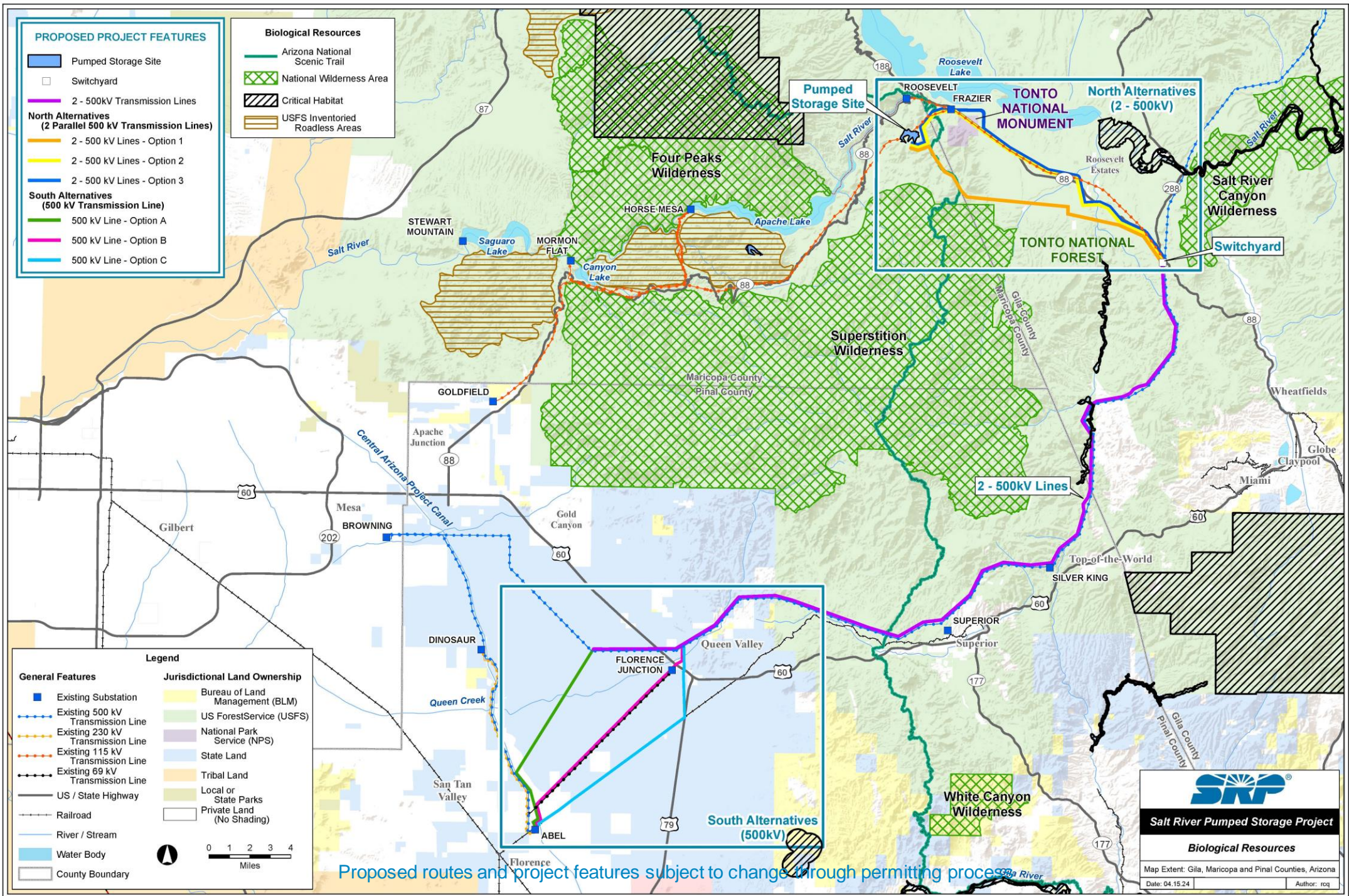


Gila Topminnow



Sonoran Desert Tortoise



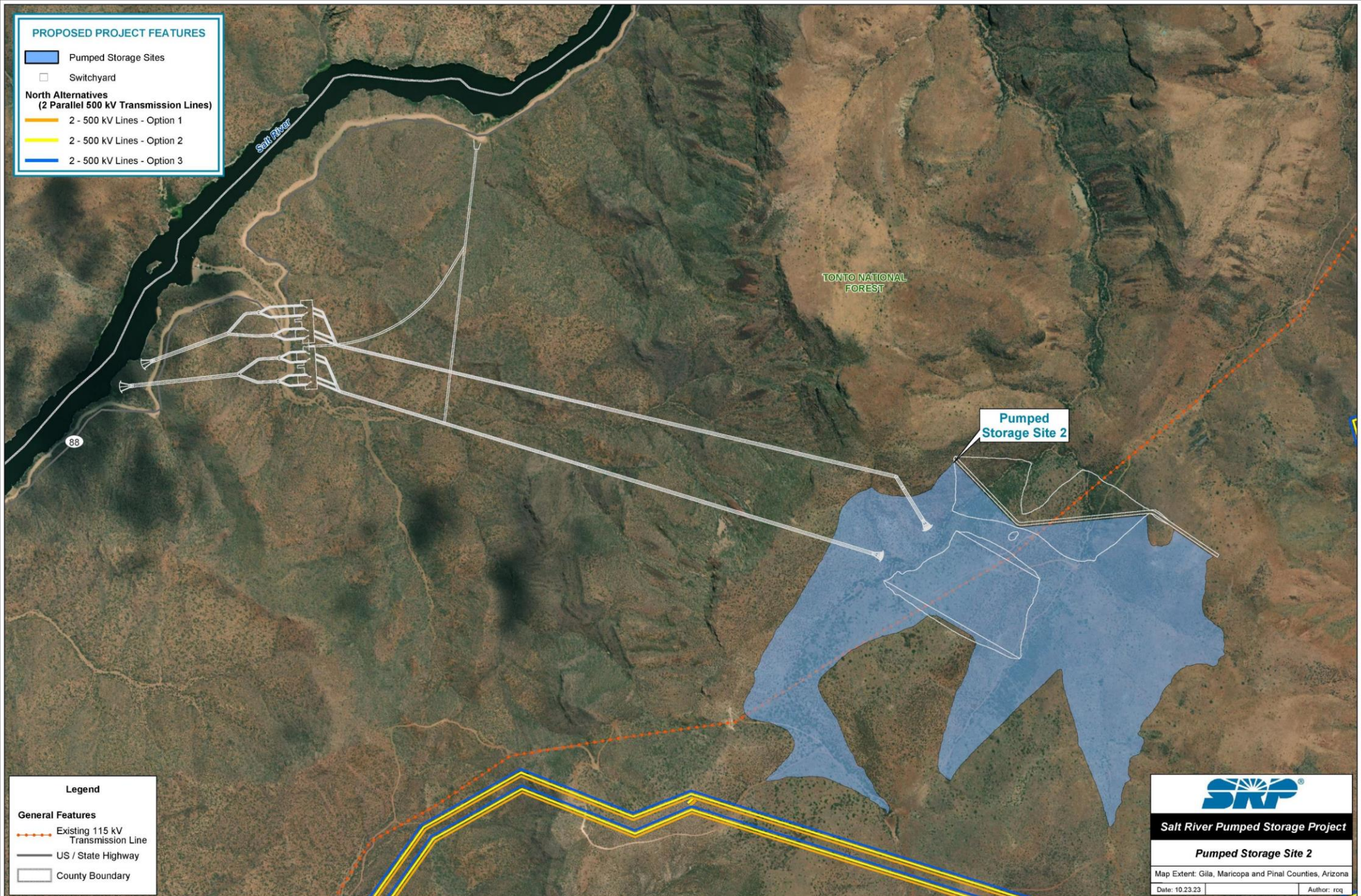




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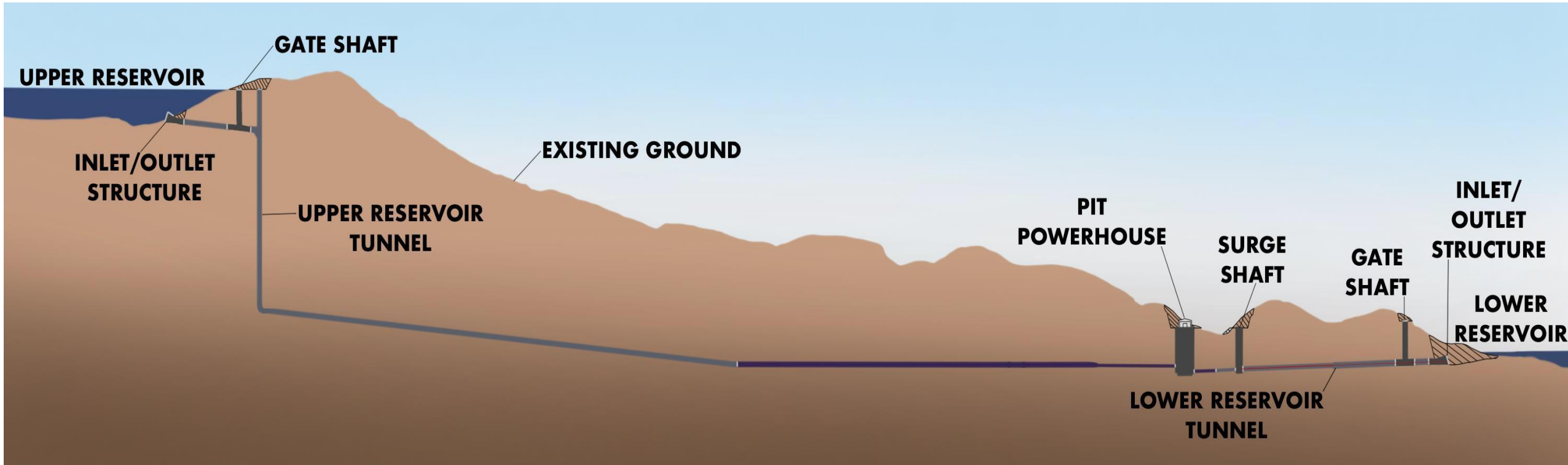
# Project Updates: Generation







# Pumped Storage Powerhouse Preference: Pit over Cavern



## Considerations:

- Access
- Safety
- Constructability
- Schedule
- Fall Workshop Feedback



# RENDERING: PIT STYLE POWERHOUSE FACILITIES



CONCEPTUAL RENDERING  
SUBJECT TO CHANGE

Visual Environments



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CONCEPTUAL RENDERING  
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CONCEPTUAL RENDERING  
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# RENDERING: UPPER RESERVOIR



CONCEPTUAL RENDERING  
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# RENDERING: UPPER RESERVOIR

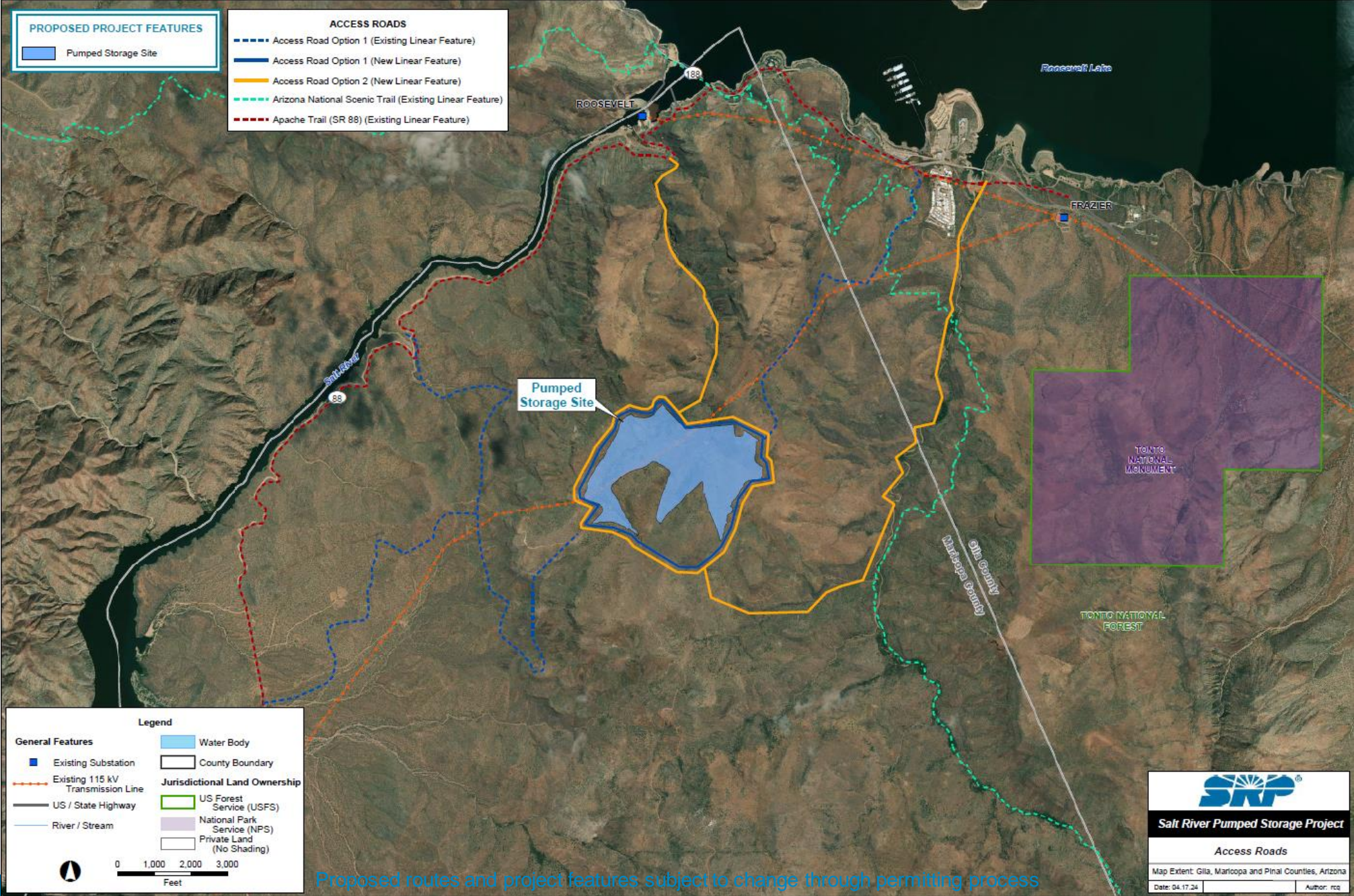


CONCEPTUAL RENDERING  
SUBJECT TO CHANGE

Visual Environments



# Access Roads: Upper Reservoir

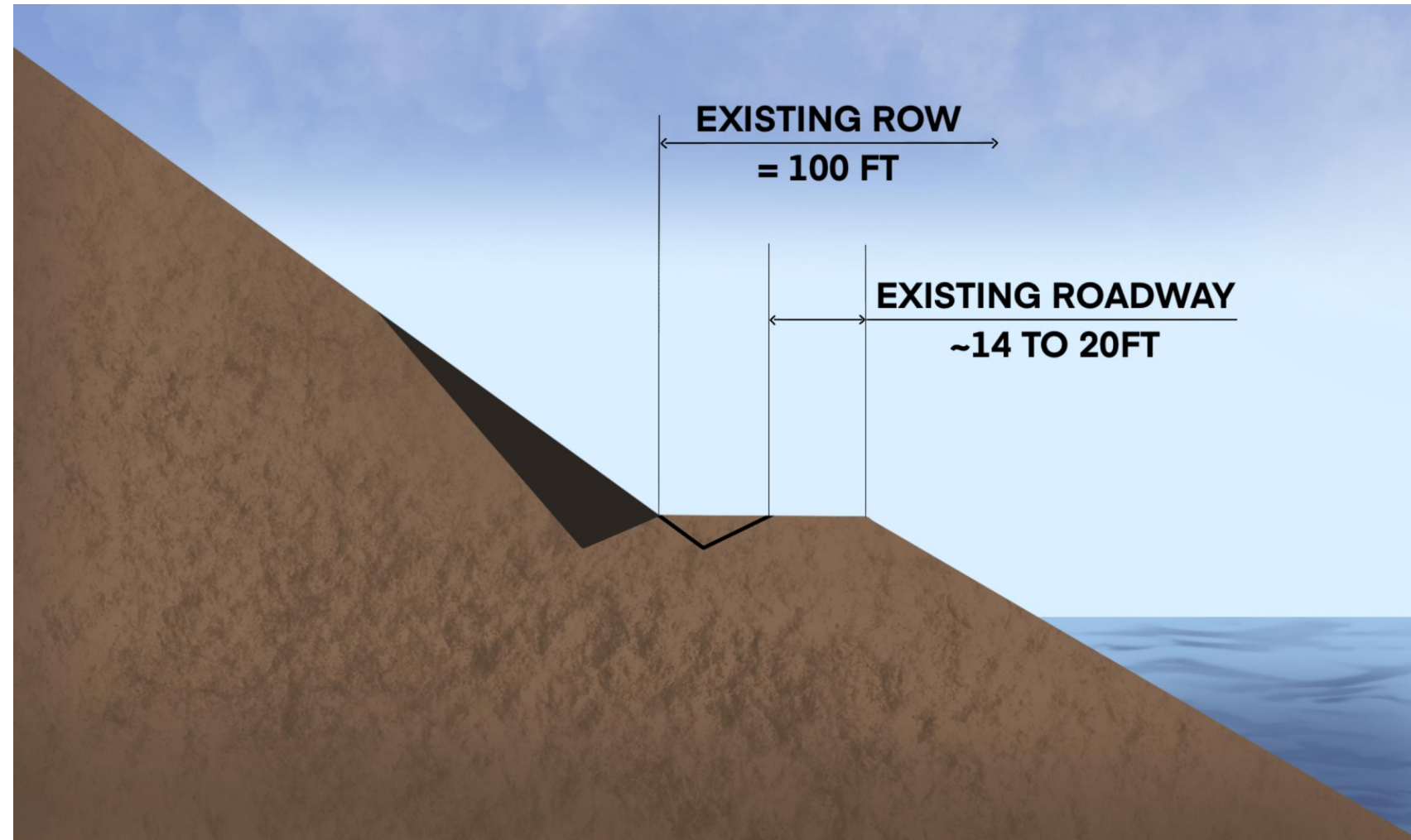




# Access Roads: Apache Trail

## Potential modifications considerations:

- Public access & safety
- Designs compatible with the rest of the Apache Trail in collaboration with ADOT & Tonto National Forest
- In slope rock cuts or sloped retaining walls





# Existing

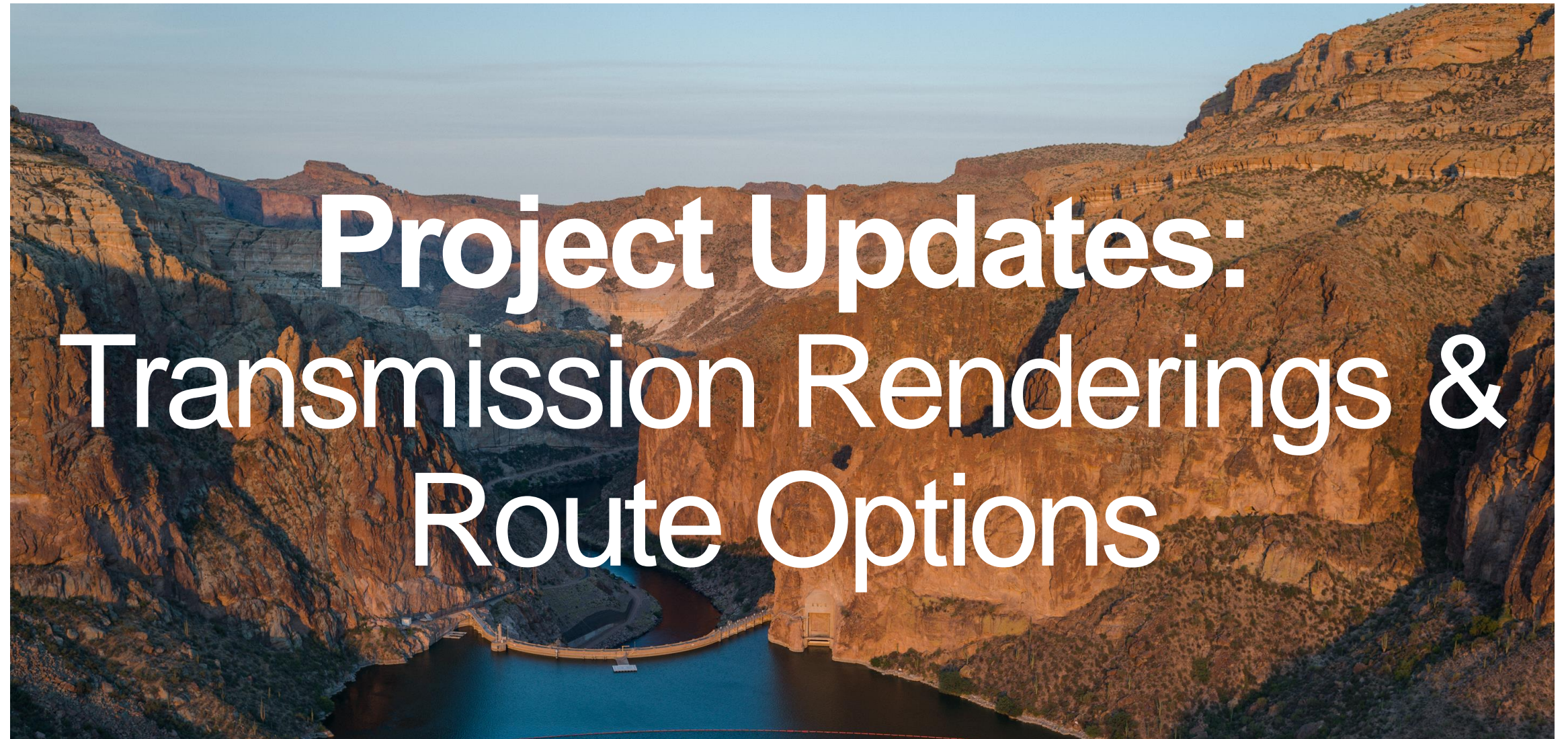


# Rendering



Proposed routes and project features subject to change through permitting process



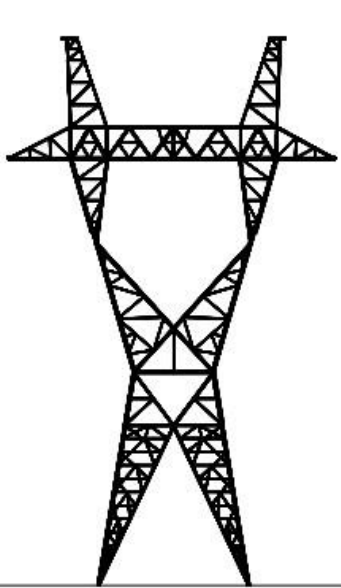


# Project Updates: Transmission Renderings & Route Options

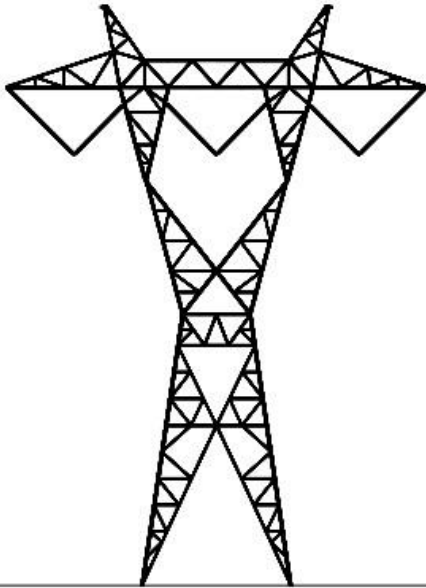




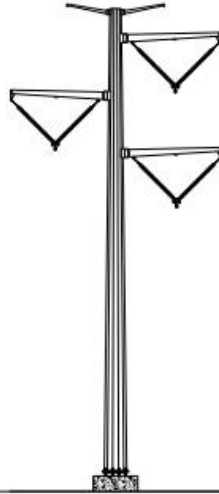
# Typical Structure Types



5A6 Tower Family  
500kV - Single Circuit  
Height: 114-145 ft.



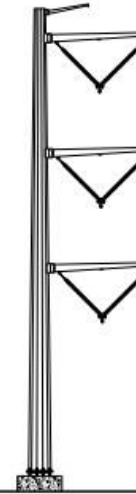
5T3+BE Tower Family  
500kV - Single Circuit  
Height: 97-160 ft.



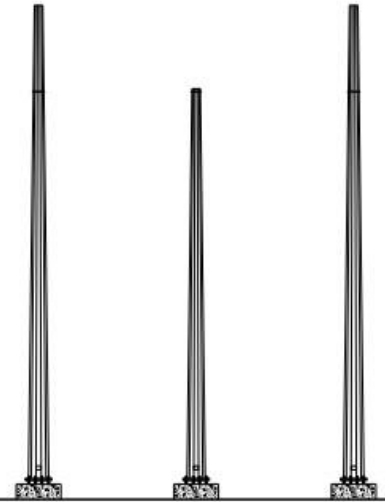
Monopole Tangent Delta  
500kV Single Circuit  
Fdn. Width: Up to 20 ft.  
Height: Up to 190 ft.



Monopole Tangent Delta  
500kV Single Circuit  
Fdn. Width: Up to 20 ft.  
Height: Up to 190 ft.



Monopole Tangent Vertical  
500kV Single Circuit  
Fdn. Width: Up to 20 ft.  
Height: Up to 190 ft.

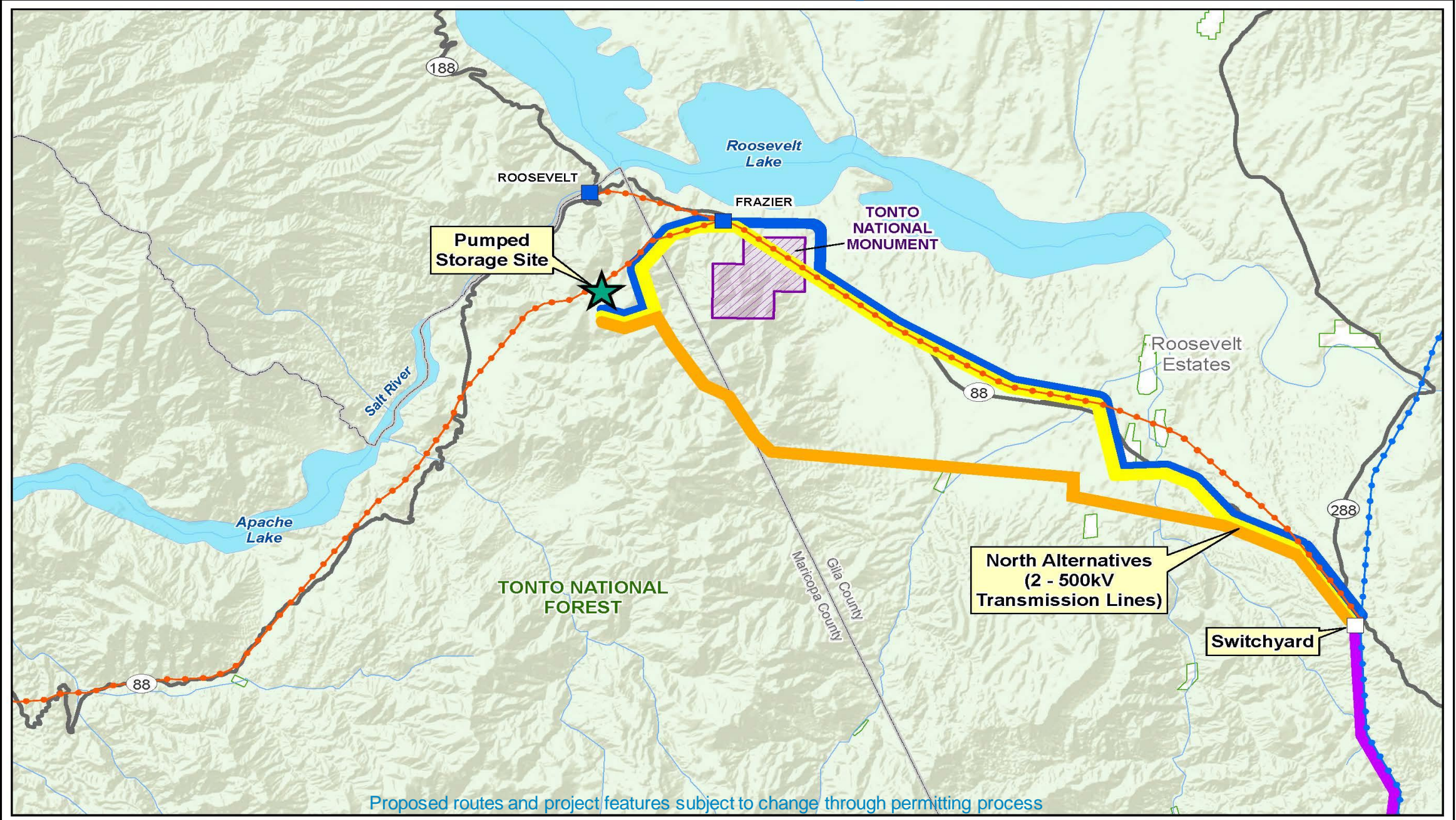


3-Pole Deadend  
500kV Single Circuit  
Fdn. Width: Up to 20 ft.  
Height: Up to 190 ft.

*Represents SRP's typical structures. Actual structure types for this project have not yet been determined and may vary depending on location.*

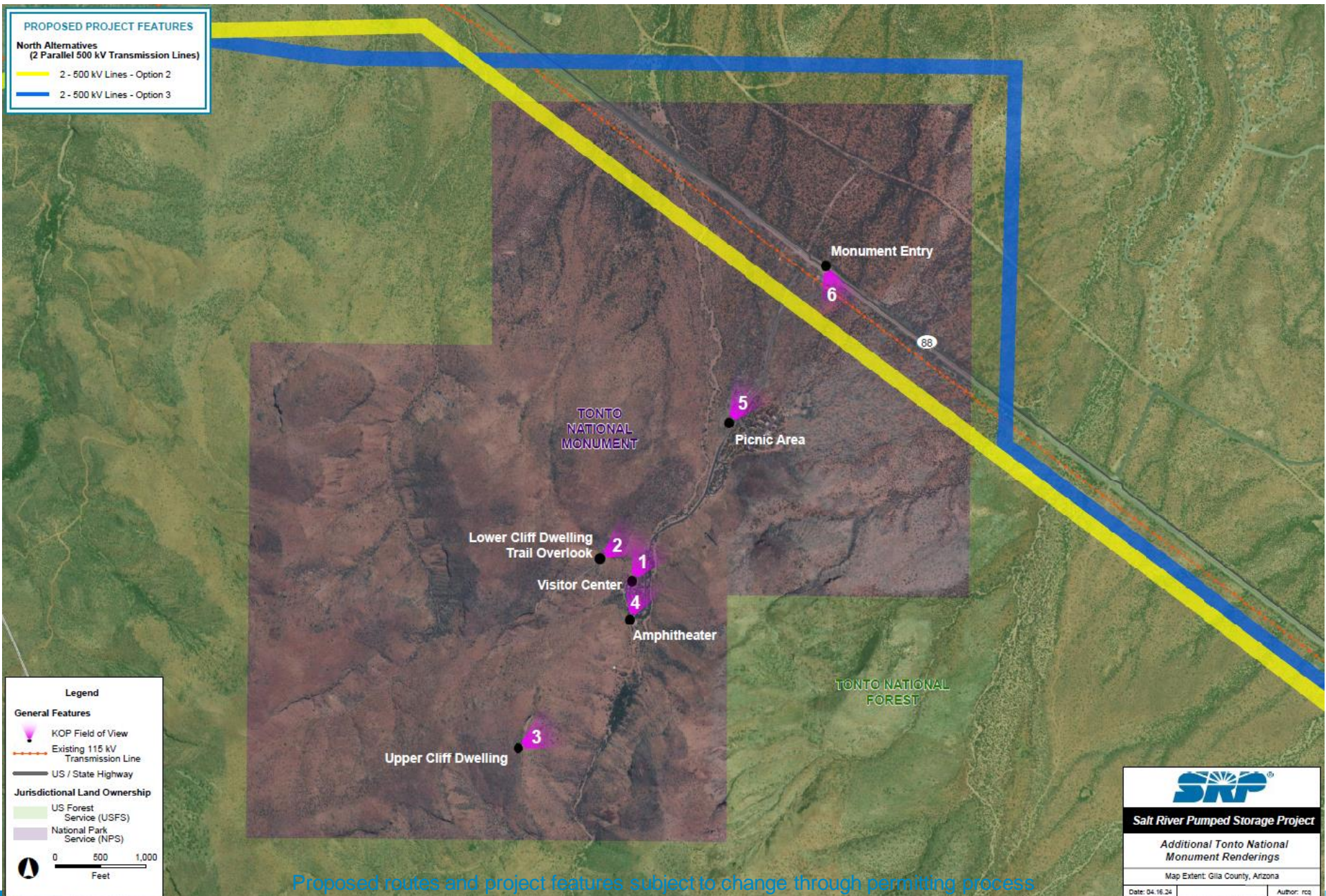


# Transmission Route, Northern Options





# Additional Tonto National Monument Renderings





# Existing View: Monument Entrance



Looking Southeast

KOP 6



# Rendering: Monument Entrance, Option 2



Looking Southeast

KOP 6

Proposed routes and project features subject to change through permitting process



# Rendering: Monument Entrance, Option 3



Looking Southeast

KOP 6

Proposed routes and project features subject to change through permitting process



# Existing View: Picnic Area



Looking Northeast

KOP 5



# Rendering: Picnic Area, Option 2



Looking Northeast

KOP 5

Proposed routes and project features subject to change through permitting process



# Rendering: Picnic Area, Option 3



Looking Northeast

KOP 5

Proposed routes and project features subject to change through permitting process



# Existing: Lower Cliff Dwelling



Looking North

KOP 2

Proposed routes and project features subject to change through permitting process



# Rendering: Lower Cliff Dwelling, Option 2



Looking North

KOP 2

Proposed routes and project features subject to change through permitting process



# Rendering: Lower Cliff Dwelling, Option 3



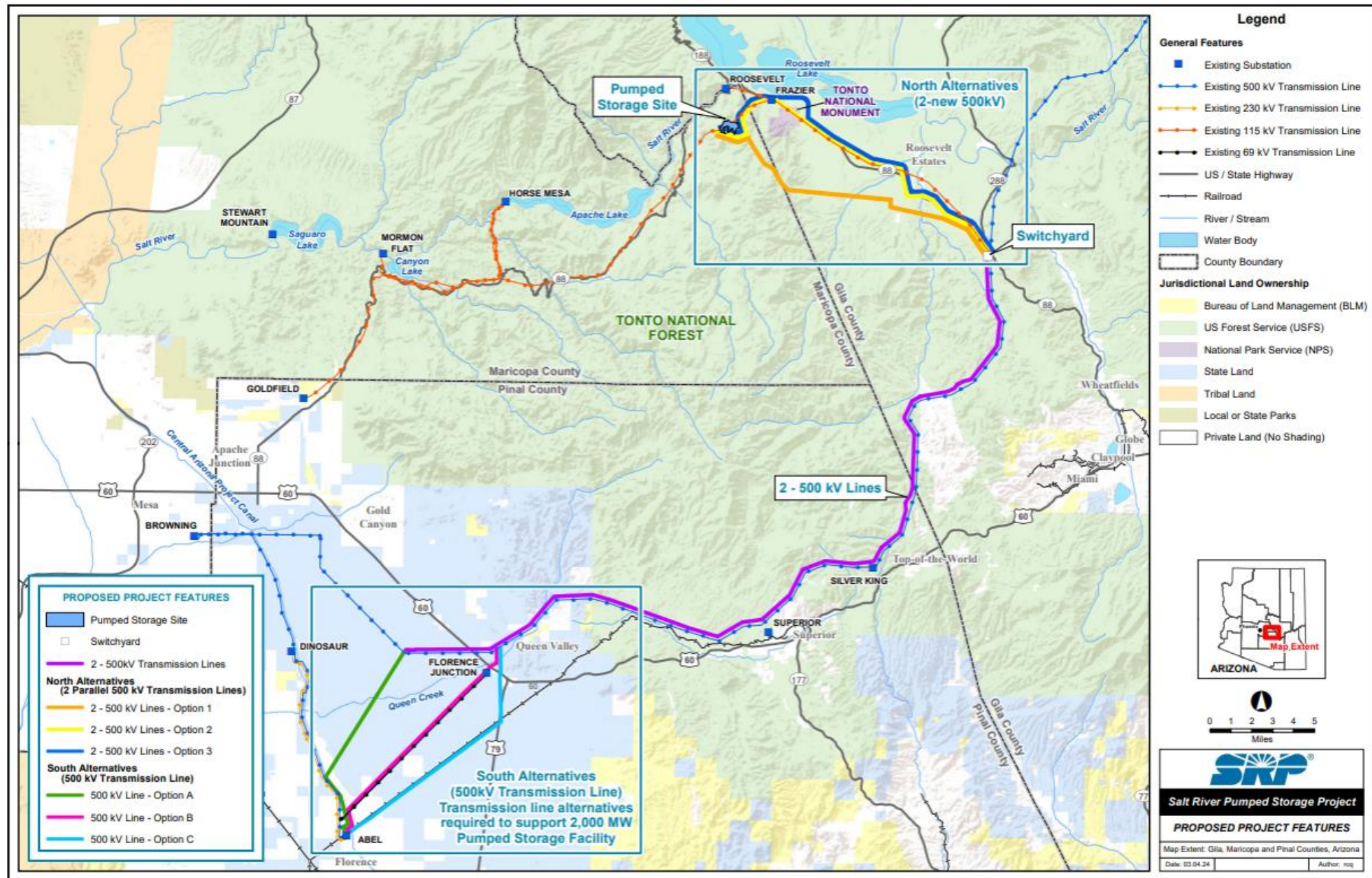
Looking North

KOP 2

Proposed routes and project features subject to change through permitting process



# Updated Project Study Area: Generation & Transmission Route Options





# Next Steps

- **Complete remaining spring workshops seeking input**
- **SRP take input and incorporate in overall process**
- **Fall Workshops: Fall 2024**
  - Re-engage with Tribal Leadership, Local Communities, and Stakeholders
  - Summarize feedback from spring workshops
  - Share decision rationale project updates
  - Provide opportunity for input



# Feedback and Thank You!



Scan this QR Code to add your feedback



[srp.net/pumped-storage](https://srp.net/pumped-storage)

1-855-584-1484



thank you!