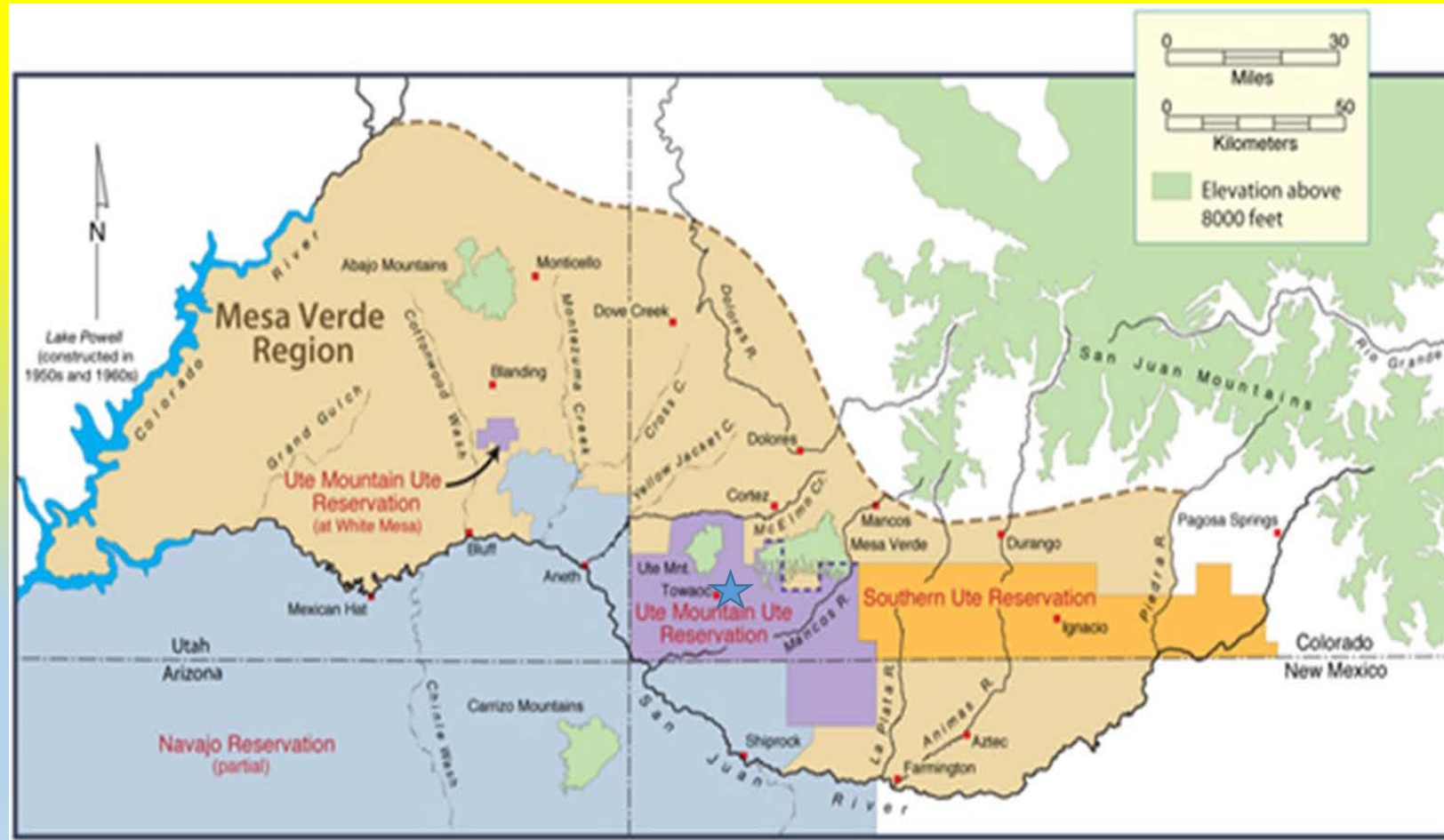


Ute Mountain Ute Tribe
Towaoc, Colorado

Ute Mountain Ute Tribe

Overview

- The Utes were Hunters & Gatherers and considered a war-like people
- The Utes, originally were seven (7) Bands situated in Colorado & Utah
- The Weeminuche Band is now known as the Ute Mountain Ute Tribe
- 2,500 Tribal Members
- Colorado & Utah Residence
- 55 Years of Age Life Expectancy
- 26 Years Median Age
- 582,321 acres Total Trust & Tribal Fee Lands (541,209 Trust Land & Tribal Fee Lands 41,112)

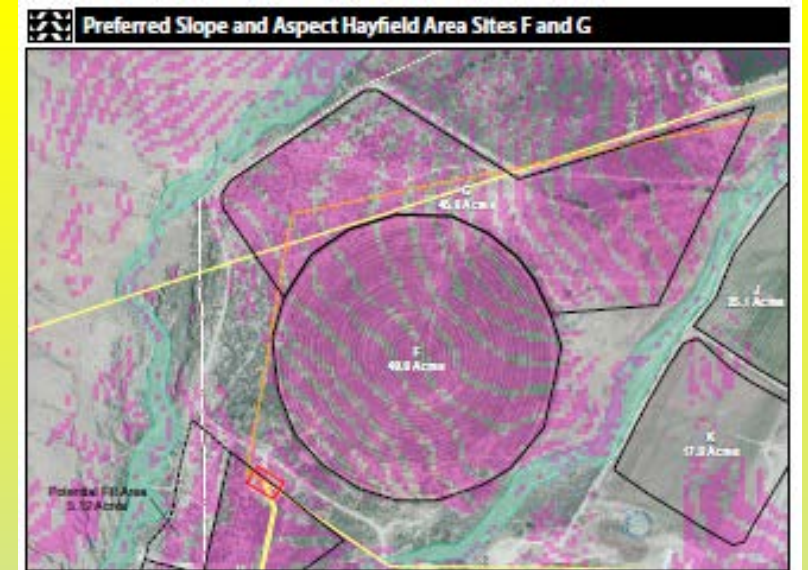


Master Sustainability Plan

- Land
- Hydro
- Solar



Tribal Administration Building
Courtesy Jim Rapp



- Goals – start small, then go big
- Solar Installations on government and housing buildings
- 2014 Feasibility Study – DOE Funded Planning Grant
- START Grant and Strategic Planning with Sandia Labs- Sandra Begay et al.
- Energy Efficiency – DOE funded EERE grant for energy audits and small facility solar

Project Overview

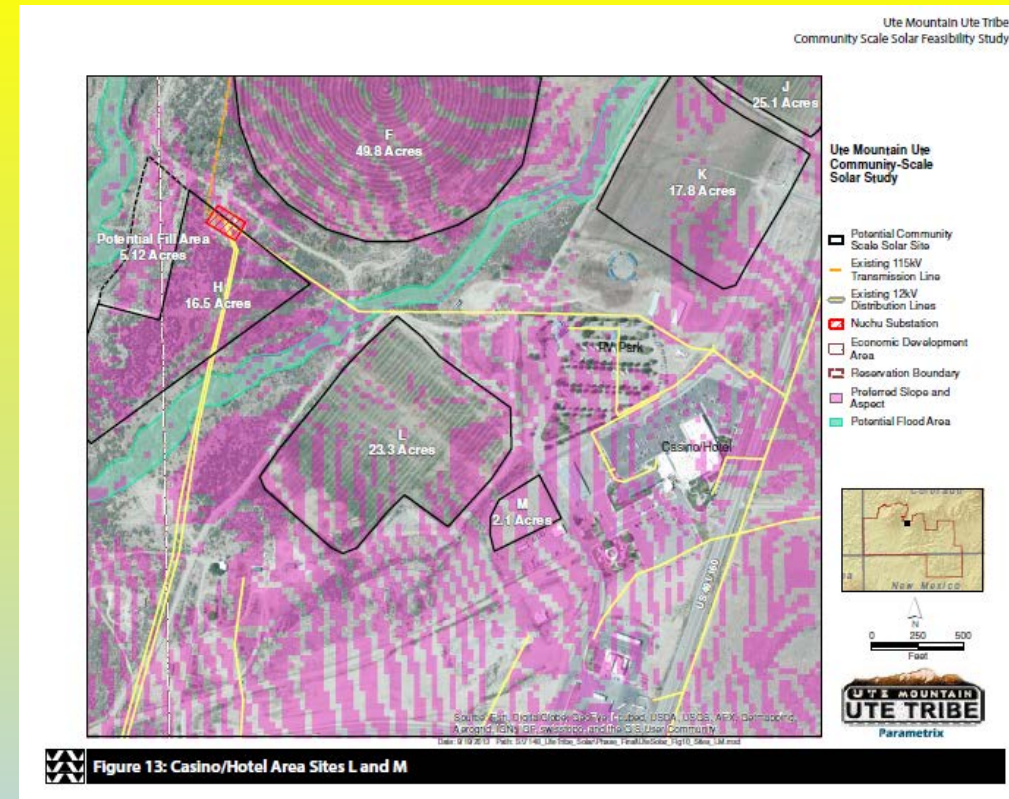


High Level Goals & Outcomes:

- Actualize phase I planning of 2014 Feasibility Study; deploy 1 MW array.
- Provide paid job skills training for Tribal members (intern positions) in solar installation, maintenance and repair.
- Off-set both a substantial number of buildings (over 75) and substantial percentage of Tribal load (over 10%) with clean solar power, eliminating between 1,515 tons of greenhouse gas emissions annually.
- Community solar bill credits to be negotiated with utility in proportion to Tribal load; 44% enterprise, 32% residential, 24% government buildings.
- Set UMUT on a path to energy independence; save tribe \$172,200 in energy expenses annually and save an estimated \$3,444,000 over the life of the solar system.

Project Status

- Mobilizing contracting & critical procurement
- Hiring project manager
- Finalizing workforce plan
- Developing schedule
 - Earliest ground breaking/construction- March 2018
 - Procurement may be expedited due to rapidly changing market conditions



Project Overview (continued)

Funding:

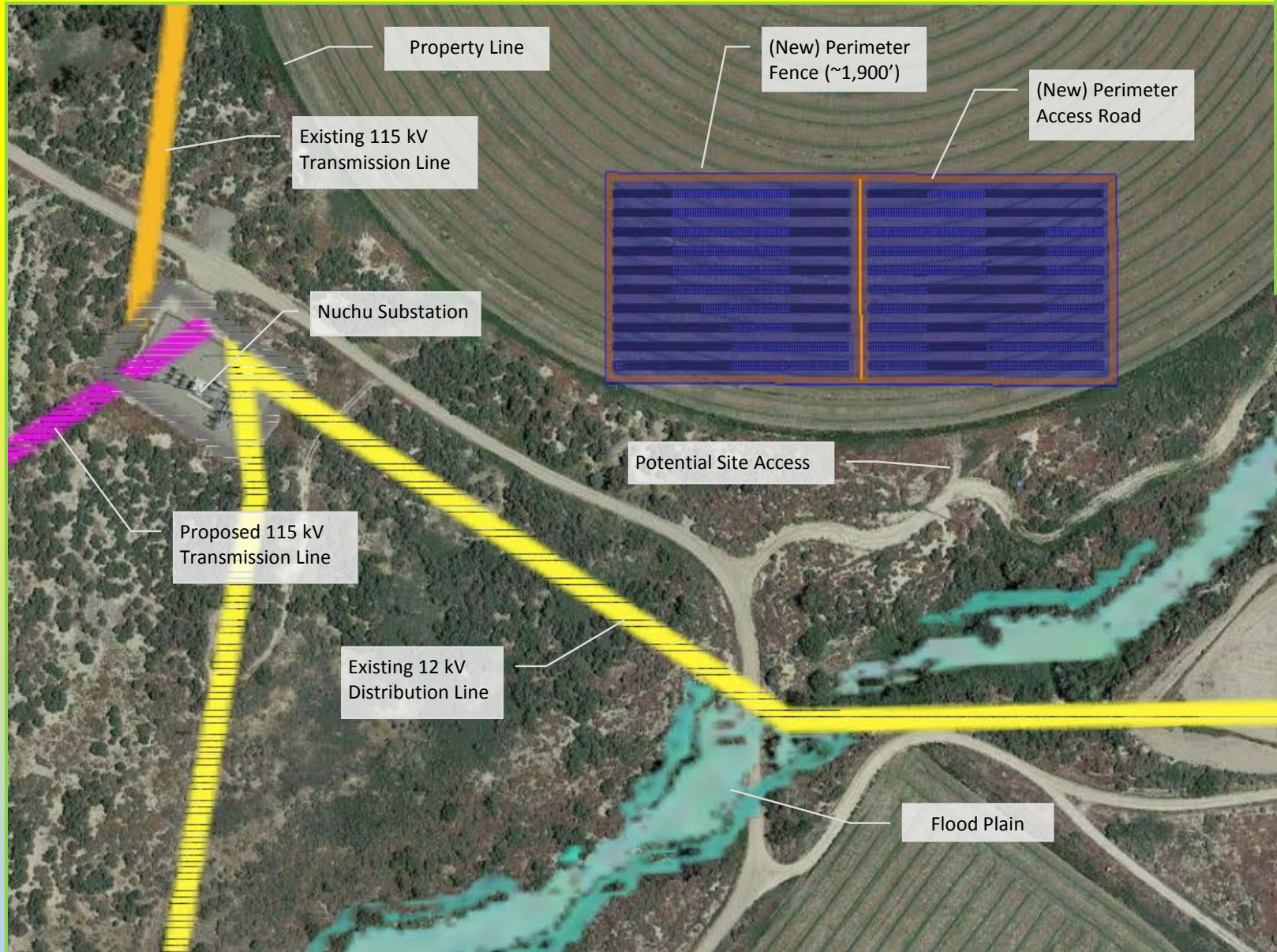
DOE	\$973,820
UMUT Match	\$973,820
Leveraged Dollars	<u>\$216,404</u>
Total Budget:	\$2,164,044



Complex interconnection

- Behind the meter(s) of large enterprise loads along 160/491; commercial interconnection will allow full retail rate bill credit (wholesale credit is sub \$.04)
- Currently no single load big enough to allow 1 MW interconnection; coupling a number of loads behind one meter is current strategy
- May need to establish a master meter with O&M relationship negotiated with the local utility to handle current underground lines and transformers

Project Location



Project Participants

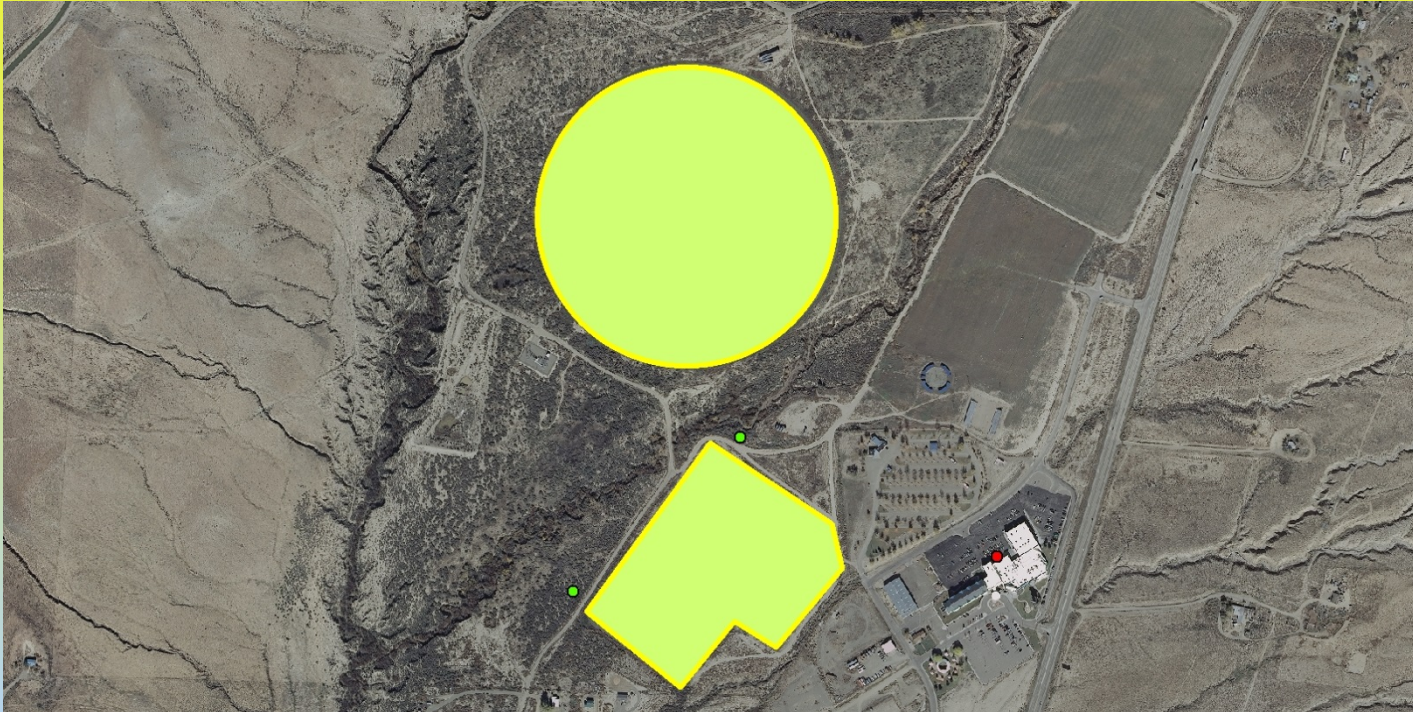


- Engineering, Procurement, Construction contractor is GRID Alternatives
 - Leading installation
 - Supporting Tribal workforce goals
 - Supporting leveraged dollars by donating developer fee
- Local Electric Company – Empire Electric
- Engaged Tribal Enterprise: Weeminuche Construction Authority
 - Site work
 - Potential Project Manager Role
 - Potential NEPA Lead (with subcontractors)



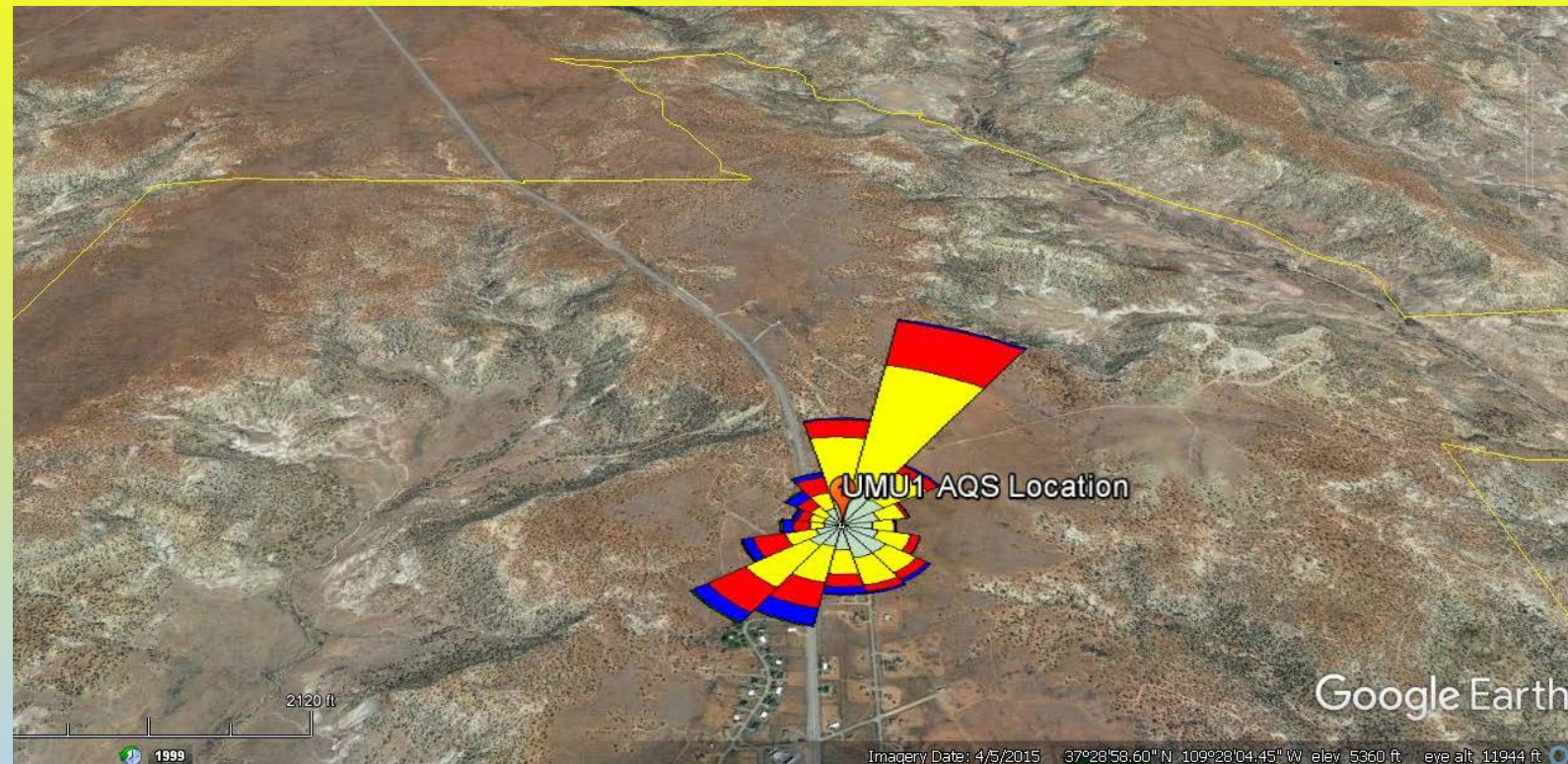
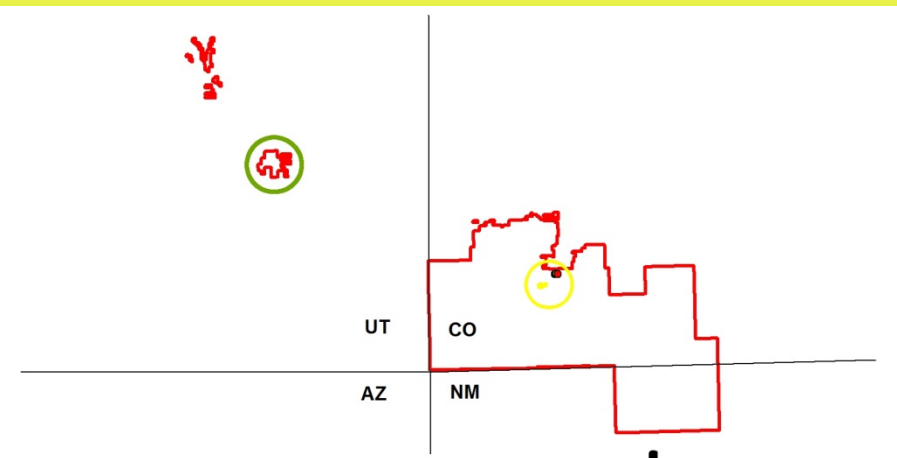
Future Phases of Community Solar

- Additional kW – mW at current site
- Brownfields to Greenfields
- Additional Facility Scale Offsets



Future Phases of Community Solar

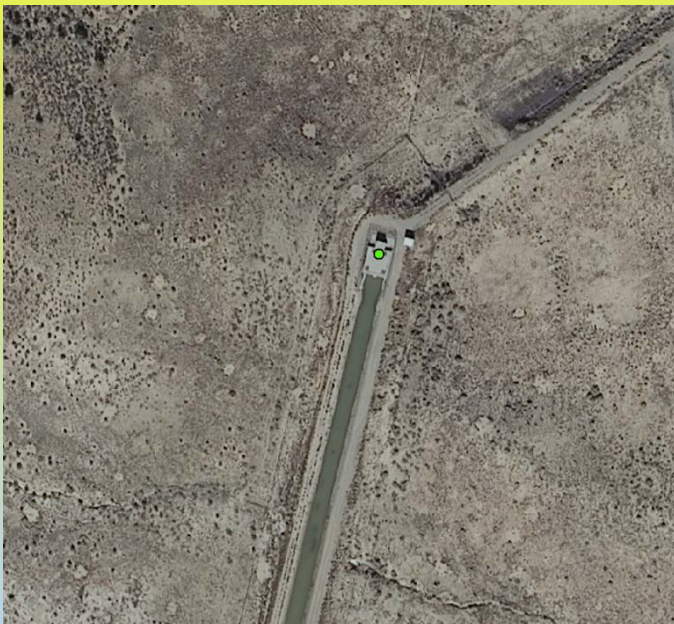
- White Mesa Community Solar
- White Mesa Wind



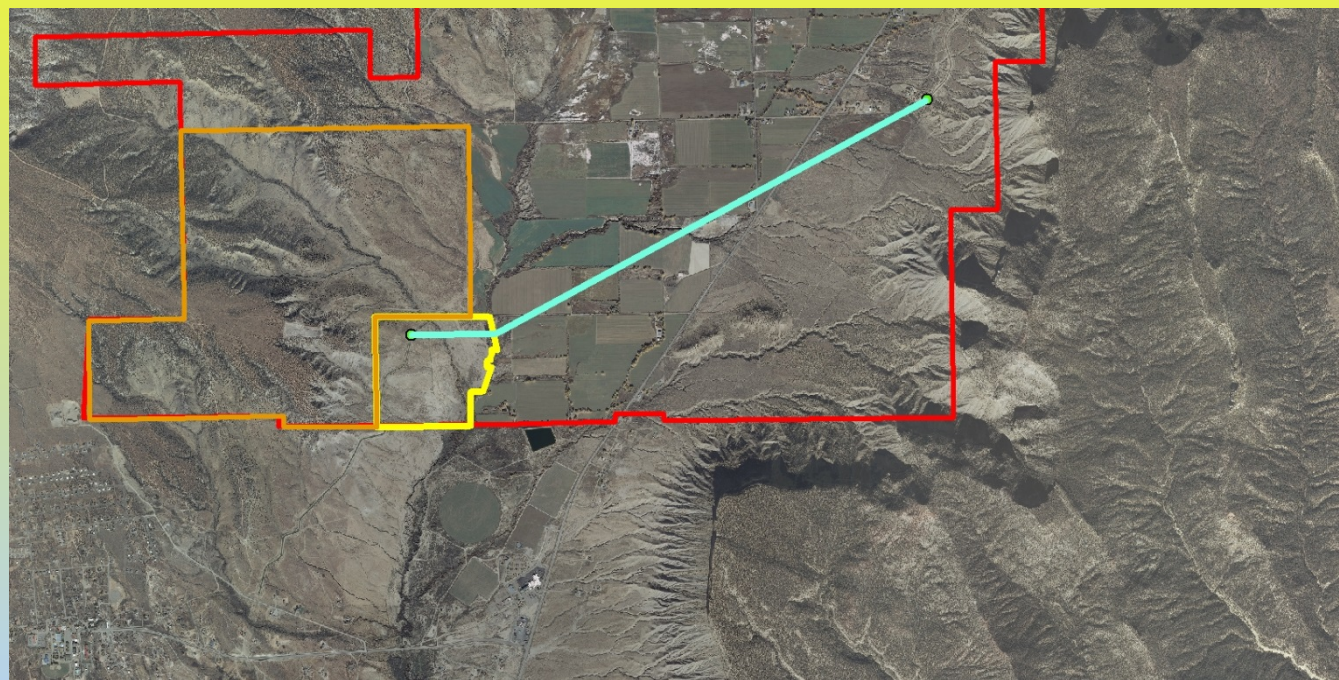
Renewable Energy Future for Tribe Commercial Opportunities



- Micro-Hydroelectric Project
 - 1.4 mW during irrigation season
 - >7000 mW-hours annually
 - Partners: Dolores Water Conservancy District, Tri-State Energy Power Purchase



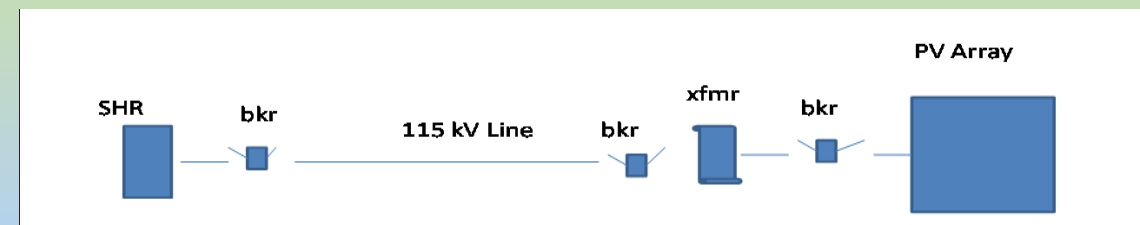
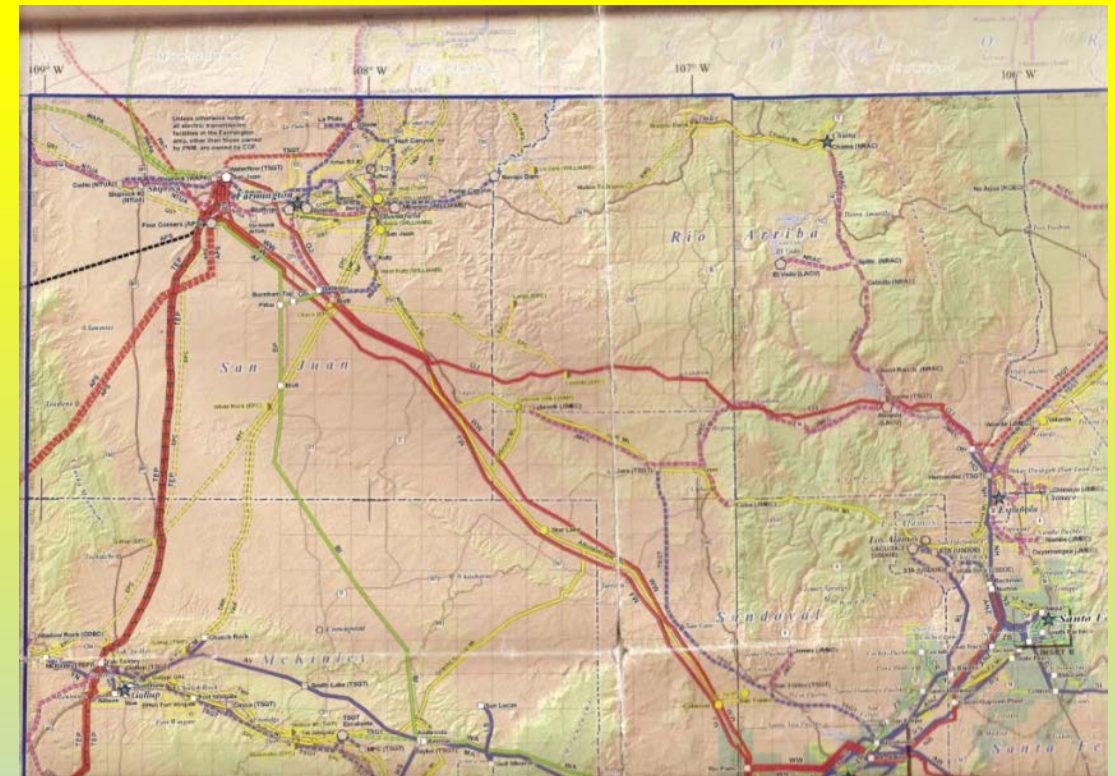
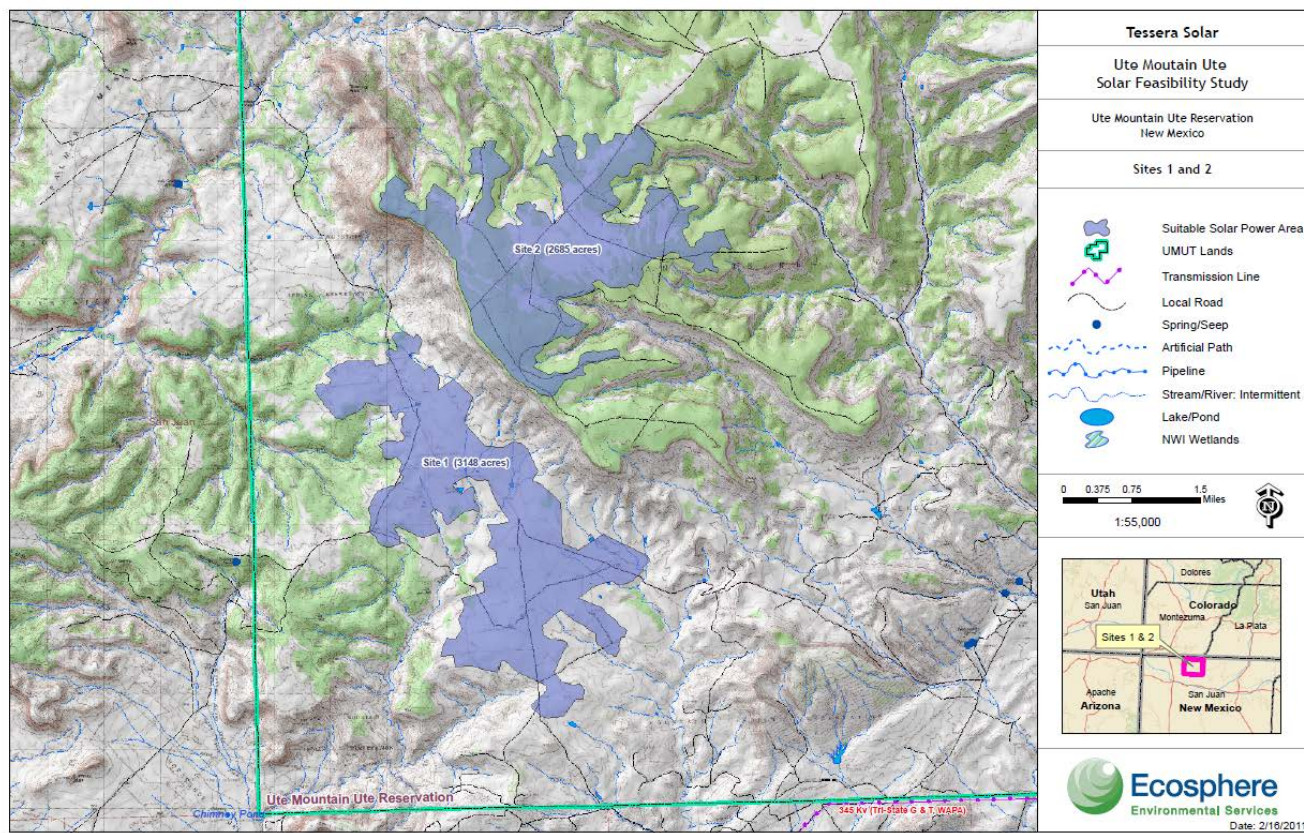
Towaoc Highline Canal
Courtesy Steve Albert



Large Scale Commercial Renewable Energy



- Commercial Solar
- Energy Storage



Challenges to Get Here

- Staff Changes – Many with Tribe’s Renewable Energy Committee
 - Future – Interns in Current Project
 - Future – NREL student energy science presentations!!!!
 - WCA to undertake first solar project participation
- Funding – One unfunded deployment grant
 - Tribal Council Support for match twice!!!
 - Got helpful constructive criticism from DOE on why it was not funded
 - Addressed the shortfalls in 2017 proposal
 - Solid Partners
 - Clear participation by local electric cooperative
 - Direct and Indirect Economic benefit to Tribal Members better described in proposal
 - Told Better Story of success to date

