# GRAVITY STORAGE LLC

## Pumped Storage Hydro Projects

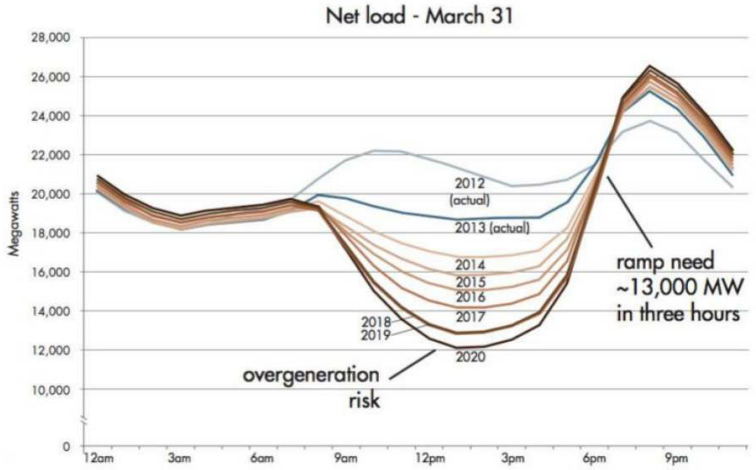
GS LLC

# CAUTIONARY STATEMENT

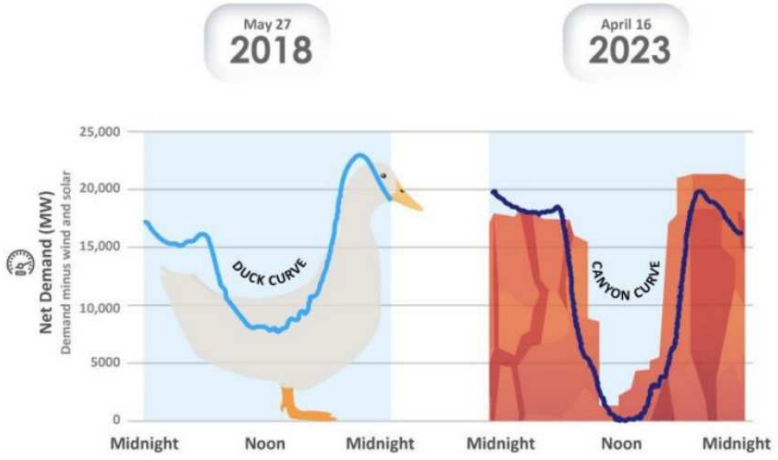
**SAFE HARBOR**

**Cautionary Note Regarding Forward Looking Statements:** This presentation contains forward-looking statements made regarding matters which are not historical facts, such as anticipated Net Revenue timing and amounts, expenditures and expansion plans; achieving gross margin positive operation and the timing thereof; costs associated with land acquisitions; costs associated with construction, equipment purchases and shipping; strategic and business plans; planned and potential activities and expenditures, are "forward looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and Canadian securities legislation and involve risks and uncertainties that could cause actual results to differ materially from those projected, anticipated, expected or implied. These risks and uncertainties include, but are not limited to, operating problems or accidents at operating project facilities; permitting problems or delays; variations in grid power requirements and power costs; delays or changes in planned expansions; equipment problems or delays; failure of equipment and improvements to achieve anticipated results including anticipated energy production, timing and cash operating costs; delay in achievement of cash flow gross margin positive operations for the outlined Pumped Storage Hydro Projects; energy price volatility, lower net back energy prices than anticipated and their impact on the timing of positive cash flow at the outlined Pumped Storage Hydro Projects; the availability of external financing, if required, on acceptable terms or at all; operating risks and results; future actions of governments of countries where our properties are located; world economic and capital markets conditions; and our future performance and expectations about our performance.

# THE CAISO POWER GRID




ORIGINAL DUCK CURVE




PRESENT DAY CANYON CURVE

- The original duck curve shows the challenge with the growing solar resource that results in net demand being reduced during the day(duck's belly) and increasing at sunset (duck's neck), with the duck's belly getting deeper and the neck getting steeper and longer with every year.
- The duck's belly can cause both over-generation issues and renewable curtailment.
- The neck can make it more difficult for the resource fleet to be flexible enough to ramp up.
- Our energy system has morphed from the duck curve to the canyon curve.
- Flexibility is paramount to address the challenges associated with the Canyon Curve.
- Pumped Storage Hydro will play a big part in delivering flexibility to the energy system. PSH will reduce the gas generation that is currently being used to climb out of the canyon.

Power Magazine, Duck Curve Now Looks Like a Canyon, Sonal Patel, Apr 27, 2023.

# STORAGES TECHNOLOGIES AVAILABLE

## PUMPED STORAGE HYDRO – LARGE CAPACITY STORAGE

| TYPE | Max. Power Rating (MW) | Discharge Time | Max. Cycles Lifetime | LCOS[1] Levelized Cost of Storage | Efficiency | Capital Cost US$/kW |
|---|---|---|---|---|---|---|
| Pumped Storage PSH | 3,000 | 4h – 16h | 30 - 60 Years | $0.105 | 70 – 85% | $1,700 - $5,100 |
| Li-ion Battery | 1,000 | 1 min – 8h | 1,000 – 10,000 | $0.160 | 85 - 95% | $2,500 - $3,900 |
| Lead-Acid Battery | 100 | 1 min – 8h | 6 – 40 years | $0.330 | 80 – 90% | $139 |
| Molten Salt (Thermal) | 150 | hours | 30 years | No data | 80 – 90% | $350 |
| Compressed Air CAES | 1,000 | 2h – 30h | 20 – 40 years | $0.105 | 40 – 70% | $800 - $1,550 |
| Flow Battery | 100 | hours | 12,000 – 14,000 | $0.180 | 60 – 85% | $5,200 |
| Hydrogen | 100 | mins - week | 5 – 30 years | $0.350 | 25 – 45% | $1,500 |

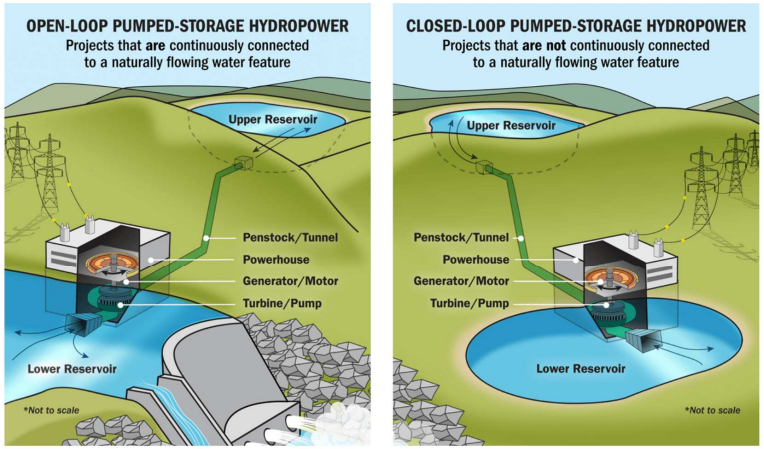
EESI, Energy Storage, February 2019

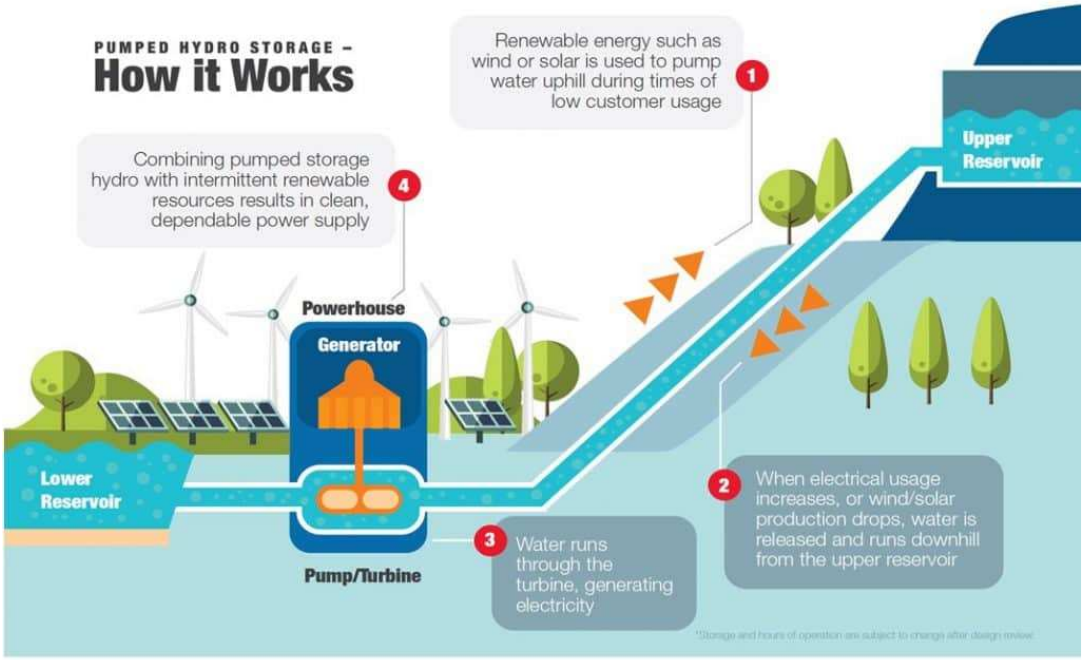
- LCOS[1] unit: US$/kwh, (US Department of Energy, 2022 Grid Energy Storage Technology Cost and Performance Assessment, August 2022).
- PSH facilities can typically provide 10 to 12 hours of electricity, compared to about 6 hours for lithium-ion batteries.
- **PSH projects are long-term investments:** Bath County, Virginia PSH (3-GW) operating since 1985.

# PUMPED STORAGE HYDRO (PSH)

## STORING RENEWABLE POWER

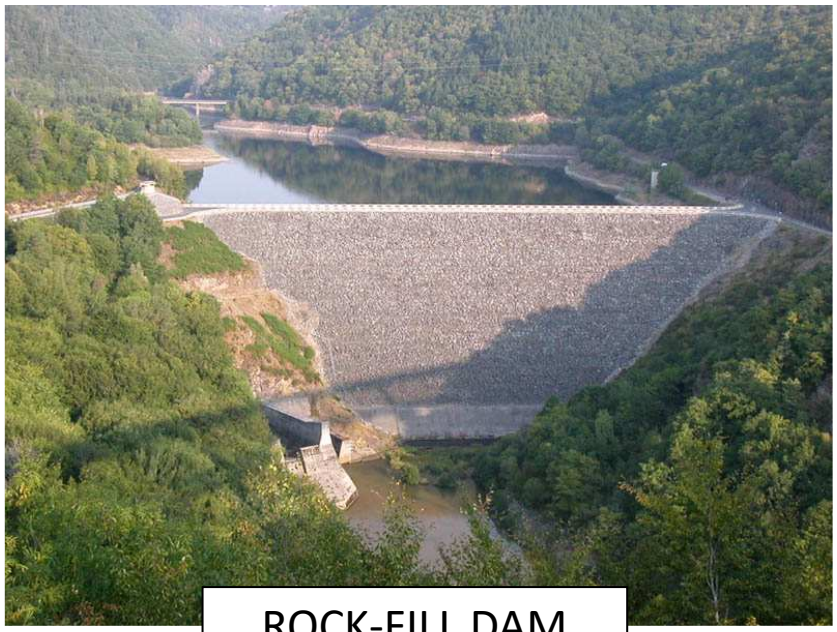
Closed and Open Loop Pumped Storages operate with an upper and lower reservoir of water that is continually pumped and drained from one reservoir to the other. The pump/turbine is used to pump water up to the upper reservoir during the low peak periods. The water drains from the upper reservoir, through the turbine, to the lower reservoir generating energy during the high peak periods. PSH facilities can operate 12 hours per day or more, depending on their reservoir sizes, producing clean reusable peak energy.



# RESERVOIR DAMS

## BOTH TYPES WILL BE EMPLOYED AT GRAVITY STORAGE LLC PROJECTS



ROCK-FILL DAM

- The dam has two main zones; the main rock fill zone and the impervious zone (the core).
- The dams are frequently constructed across steep canyons with competent rock walls and rock base.
- The dams are built at a 2:1 slope.

RCC DAM

- RCC - Roller Compacted Concrete
- The Dam's Construction relies on 250 to 300-lbs of cement per cubic-yard of fill.
- The dam is built at a 0.7:1 slope
- The dams are frequently built where the dam base cannot be wide.

# POWERHOUSE DESIGN

## 325 MW REVERSIBLE PUMP TURBINES

Our Powerhouse designs consists of Reversible Pump Turbine units or Ternary Units, with air-cooled generators. The RTE (Round Trip Efficiency) of our systems are approximately 80%. The flow of water through the turbines when producing full power is 386,000 to 675,000 gpm, project dependent. The generators will output 23 kV that is stepped up to 345 or 500 kV in the underground Transformer Hall.

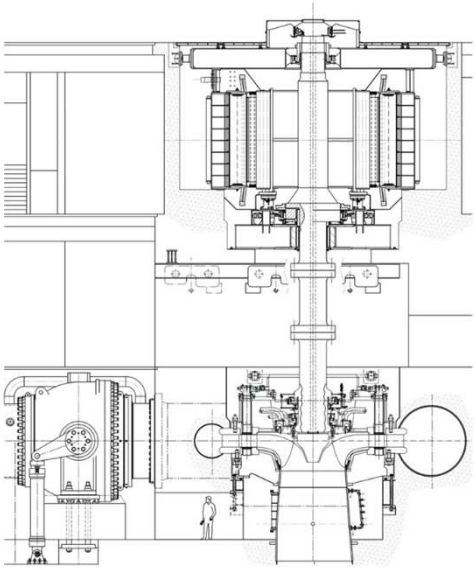


*FIGURE: Voith Reversible Pump Turbine and Generator Unit*

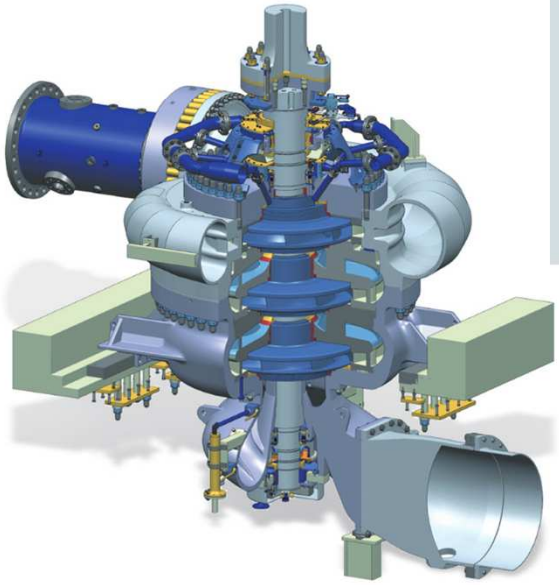


*FIGURE: Voith 150 MW Reversible Pump Turbine Unit*

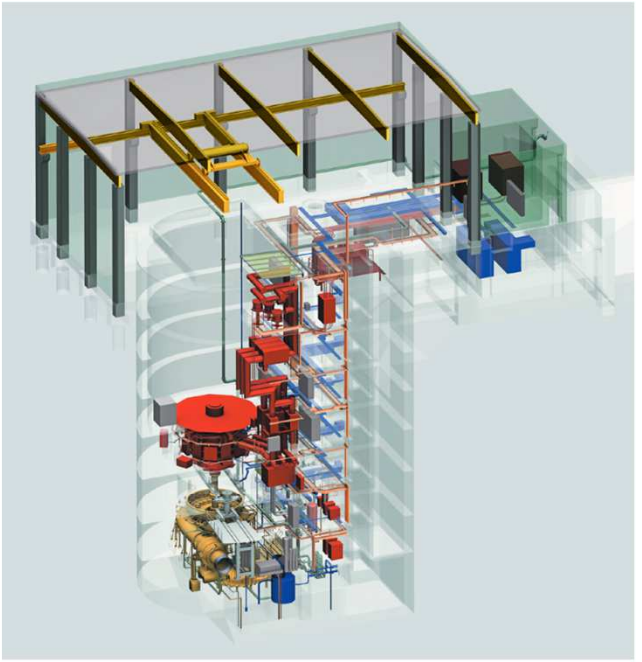


*FIGURE: Voith Reversible Pump Turbine Unit, Generator, Ancillary Equipment, and Structure*

# AC and DC TRANSMISSION LINES

## AN OPPORTUNITY TO MODERNIZE AGING TRANSMISSION LINES

AC TRANSMISSION LINES

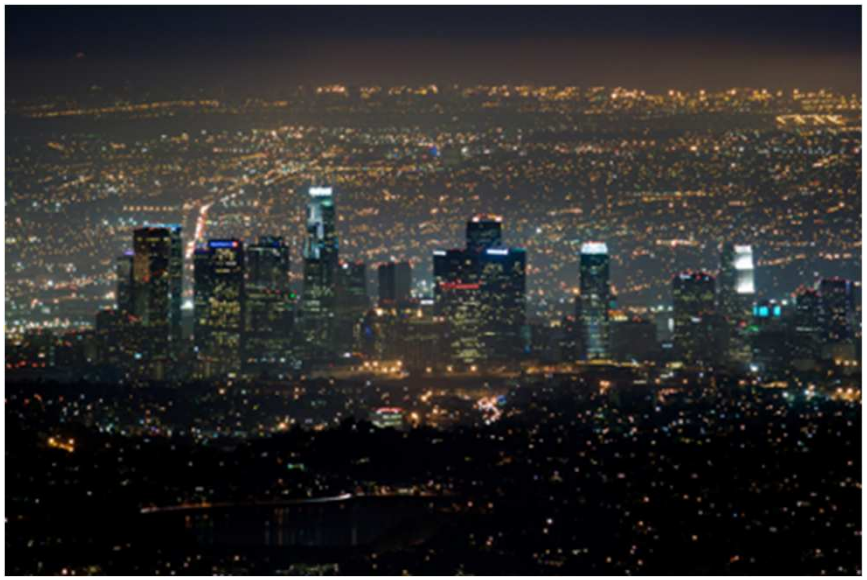
HVDC TRANSMISSION LINES

- HVDC Lines incur fewer power losses than equivalent AC lines.
- Long Distance HVDC transmission scheme generally has a lower overall investment than AC.
- Endpoint-to-endpoint long-haul bulk power transmission without intermediate taps.
- Stabilizing a predominantly AC power grid, without increasing prospective short-circuit current.
- Integration of renewable resources such as wind into the main transmission grid.
- The power transmission capability when operating with HVDC is approximately 40% higher than the capability when operating with AC.
- HVDC is much more environmentally friendly than overhead AC lines.

# BENEFITS of PUMPED STORAGE HYDRO

## PSH FACILITIES ARE PART OF THE DISTRIBUTED ENERGY STORAGE (DES) TECHNOLOGIES

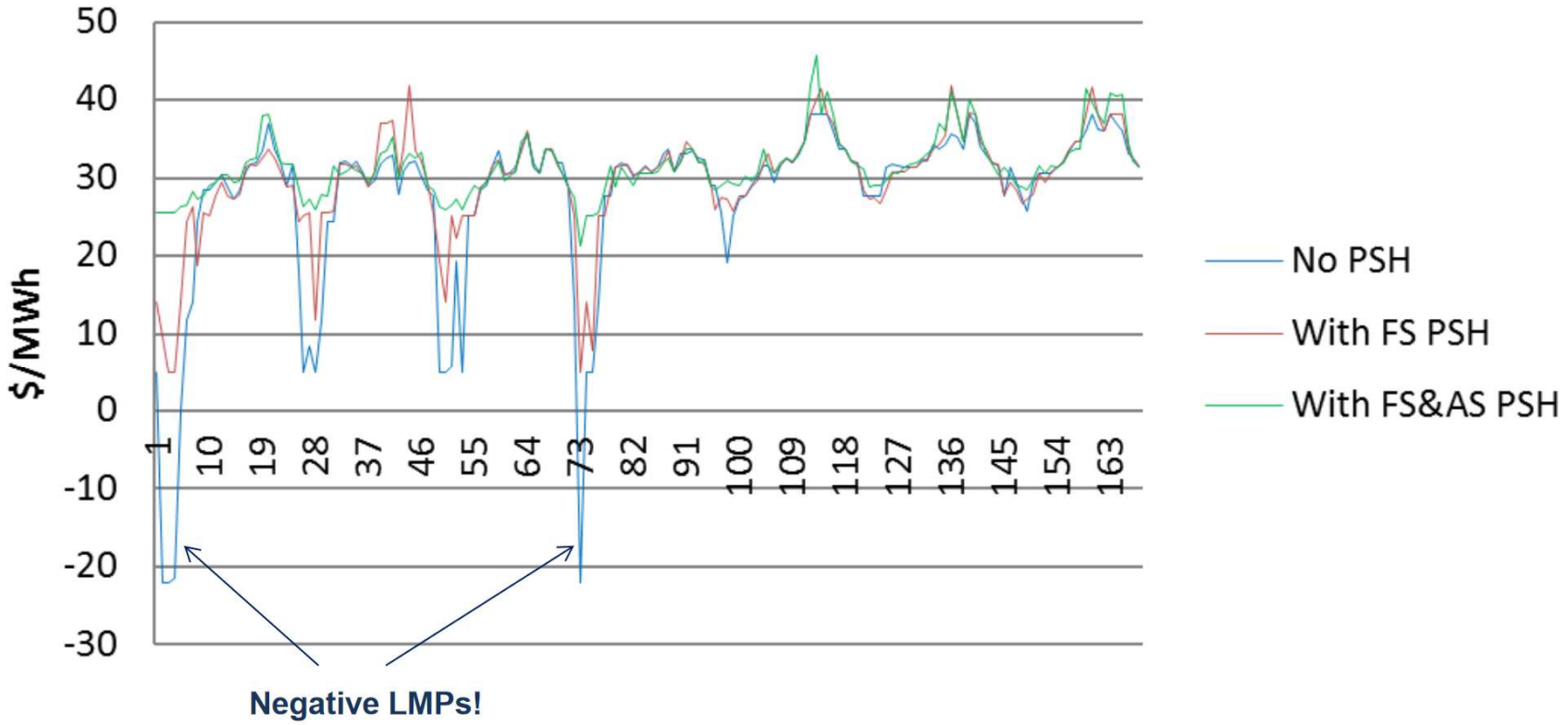
- ***Support of renewables:*** Allows sale of renewable energy at high value times.
- ***Reliability and power quality:*** Storage will allow loads to operate through outages of base load generation units.
- ***Reactive power control, power factor correction, and voltage control:*** Power electronic interfaces provide the ability to rapidly vary reactive and active power.
- ***Load leveling:*** Storage during light load periods, discharge during heavy load periods.
- ***Load following:*** Electronic interfaces can follow load changes rapidly, reducing generating units from having to follow loads.
- ***Deferral of new generating capacity:*** Fewer peaking units are needed when storage reduces peak demand.
- ***System stability***: Power and frequency oscillations can be damped by rapidly varying the real and reactive output of the storage.
- ***Automatic generation control***: Energy stored on a system can be used to minimize area control error.
- ***Reduced fuel use***: Use of less-efficient peaking units is reduced by charging the storage with energy from a more efficient base load generation unit, or renewable source.



- ***Reduced fuel use***: Use of less-efficient peaking units is reduced by charging the storage with energy from a more efficient base load generation unit, or renewable source.
- ***Environmental benefits***: Reduced fuel use results in reduced emissions.
- ***Increased availability of generating units***: During peak periods, charged energy storage added to available generation increases total system capacity

# PSH PROVIDES LOAD FOR RE GENERATION DURING OFF-PEAK HOURS

- PSH Load Reduces RE Curtailments and Negative LMPS During Off-Peak Hours
- LMPs in the Week of July 17,2022 for High-Wind Renewable Scenario

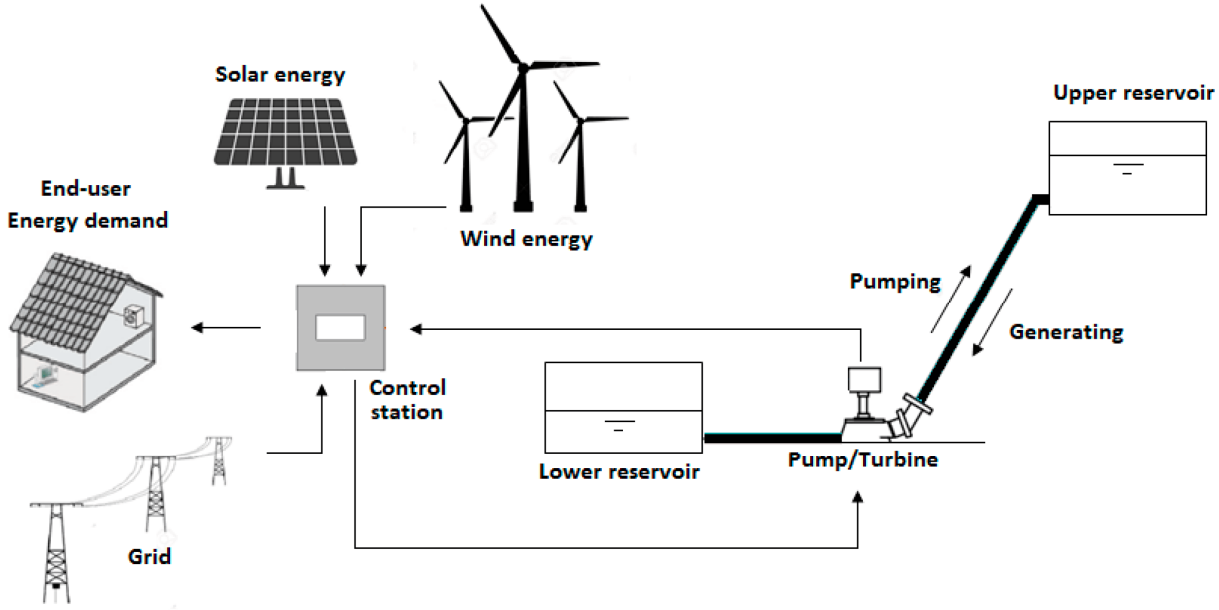



LMP: Locational Marginal Price
RE: Renewable Energy

# PSH – HYBRID SOLUTIONS

## EXPANDING THE POTENTIAL OF DECENTRALIZED PUMPED STORAGE

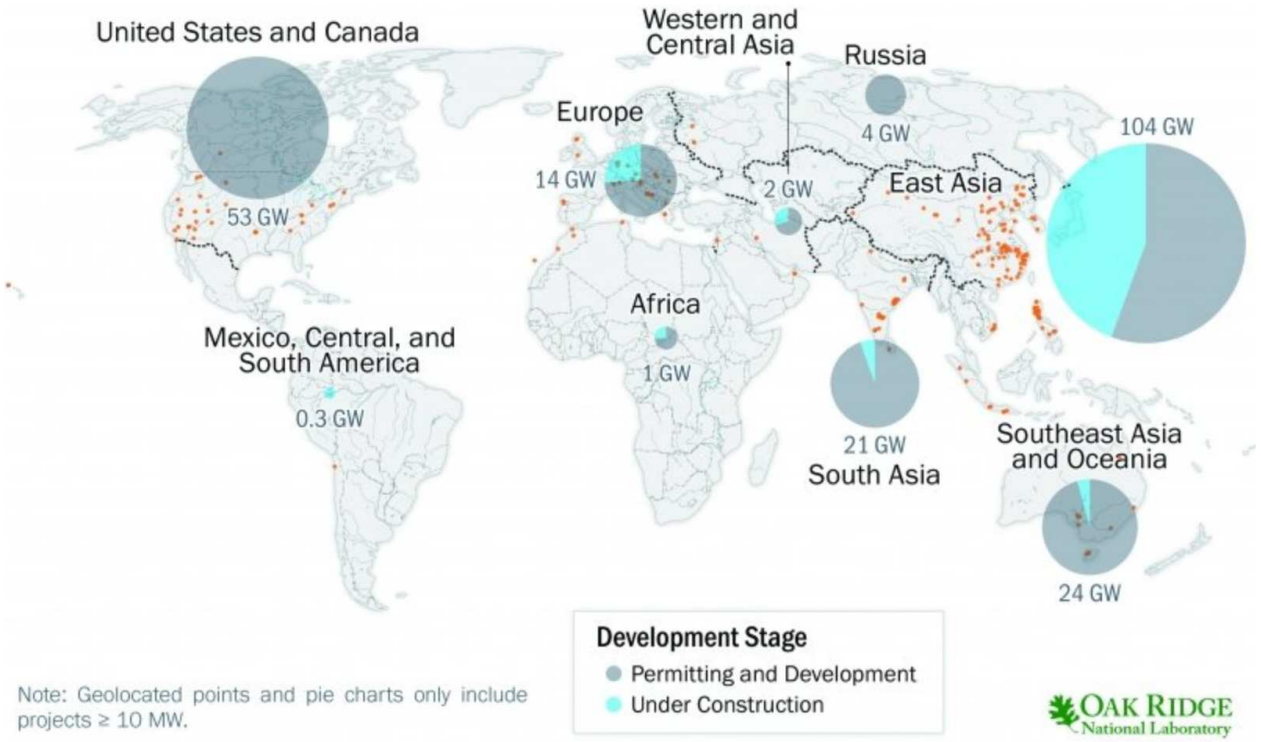
- Pumped Storage Hydro (PSH) power plants combined with wind and/or solar farms the generation and storage of clean, renewable energy, as well as in the production of drinking water.
- Combining the technologies creates new trading alternatives that are not possible in a pure wind or solar farm operation.
- Converts solar and wind (intermittent power) into dispatchable power
- **The three generation types combined can deliver 24-hour coverage to the power grid**.



# PUMPED STORAGE HYDRO

## ENERGY STORAGE AND GROWTH

- First known cases of PSH were found in Italy and Switzerland in the 1890's.
- PSH first used in the United States in 1930.
- PSH currently accounts for 96% of all utility-scale energy storage in the United States.
- 43 PSH plants currently operating in the United States.
- United States PSH facilities originally built to compliment nuclear base load power plants.

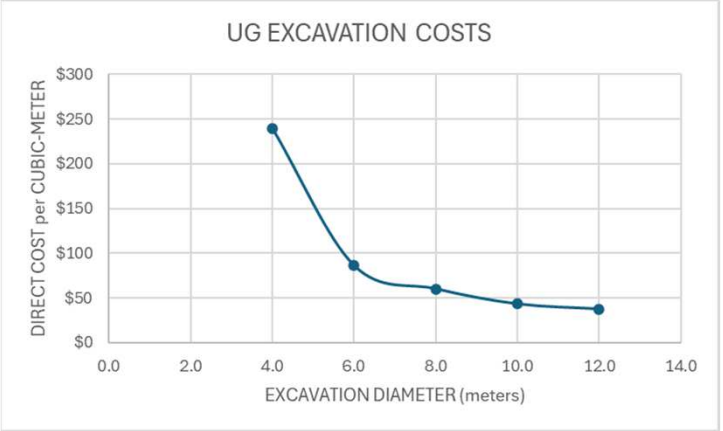


# LARGER ENERGY OUTPUT HAS ADVANTAGES

## THE ECONOMICS OF SIZE

Gravity Storages LLC pursues high-head opportunities in the 2,000MW and higher range because it makes sense when looking at the common parts and pieces that a large output PSH and small/medium output PSH share.

- Permitting: The same time and cost are associated with both project sizes; larger size has advantage.
- Project Design and Studies: Similar time and cost, larger size has advantage.
- Underground Excavation: Larger size has advantage (review graph).
- Reservoirs: The unit cost will drop with the larger projects (based on depth).
- Construction Fixed Daily Costs: Larger Size has advantage.
- High-head results in smaller reservoirs and water requirements
- Turbines, Pumps, Piping, Valving: Negligible advantage.
- Electrical Hardware: Negligible advantage.
- Capital Cost: Larger Size has advantage.
- Operating Manpower: Same, size has advantage.
- Power Line Corridor: Nearly the same.



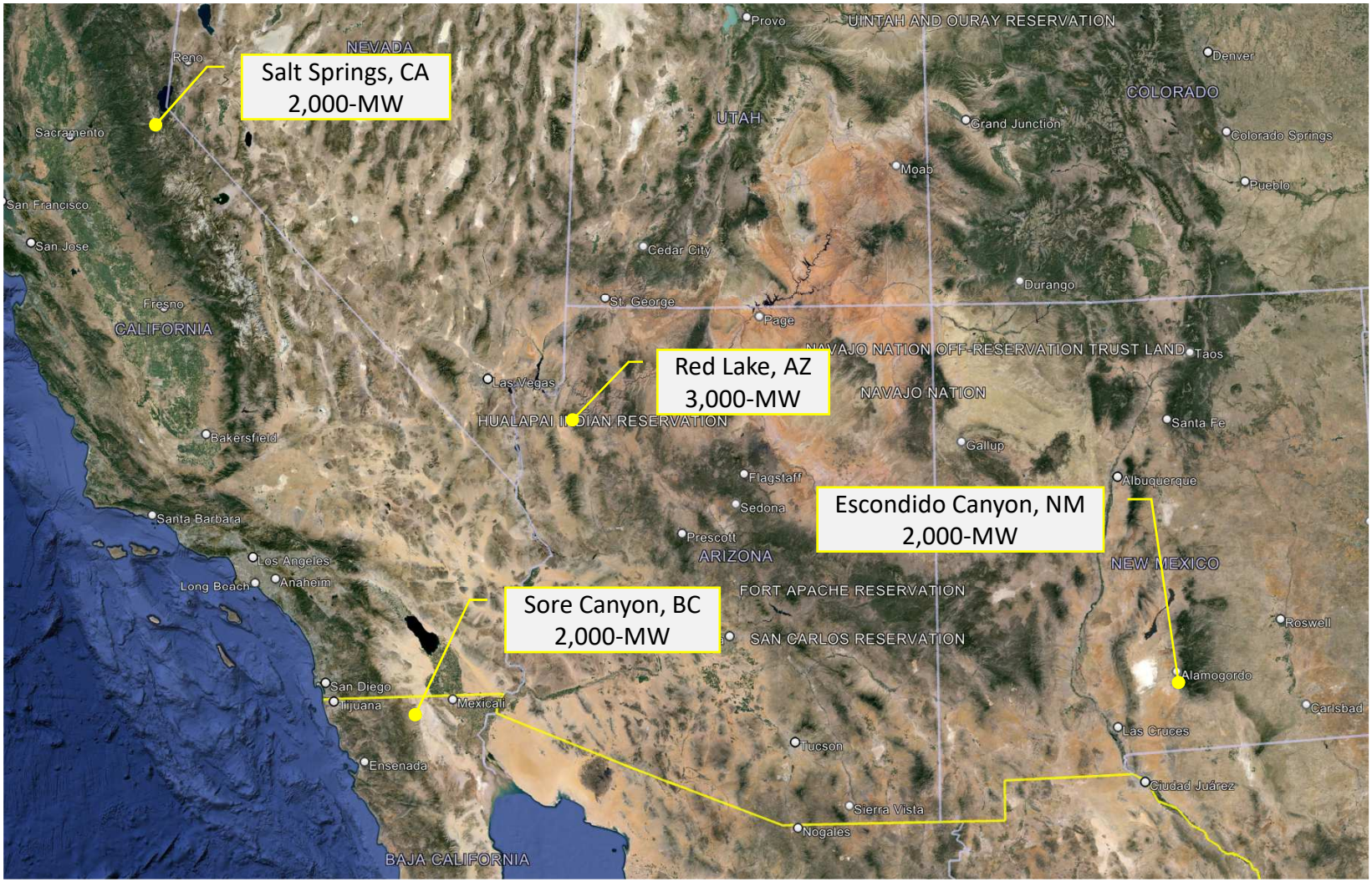
# GRAVITY STORAGE LLC

## PROJECTS and HISTORY

- Rumorosa, Baja California, MX was targeted as an ideal PSH area in 2016.
- Recursos Ecologicos Alternativos la Rumorosa (REA), a Mexican Corporation, was formed in 2017 for a vehicle for a PSH.
- A preliminary investigation of Parcel 17 being a suitable Pumped Storage Hydro location was completed in 2018.
- The project land, Parcel 17, was purchased in 2018 and is an asset in REA.
- The project land, Parcel 18, was purchased in 2020 and is an asset in REA.
- Preliminary geologic reconnaissance and structural investigation was started in 2018.
- Sore Canyon access construction and mapping are in progress.
- Sore Canyon preparation of the SEMARNAT Environmental Permit is in progress.
- Red Lake PSH FERC Preliminary Permit, application submitted 16-November-2023.
- Escondido Canyon PSH FERC Preliminary Permit, application submitted 11-January-2024.
- Salt Springs PSH FERC Preliminary Permit, application submitted 12-February-2024.
- Gravity Storage LLC created 15-November-2023 and the projects were incorporated into the LLC.

# GRAVITY STORAGE LLC

## PROJECTS MAP



# GRAVITY STORAGE LLC

## PROJECTS DESCRIPTIONS

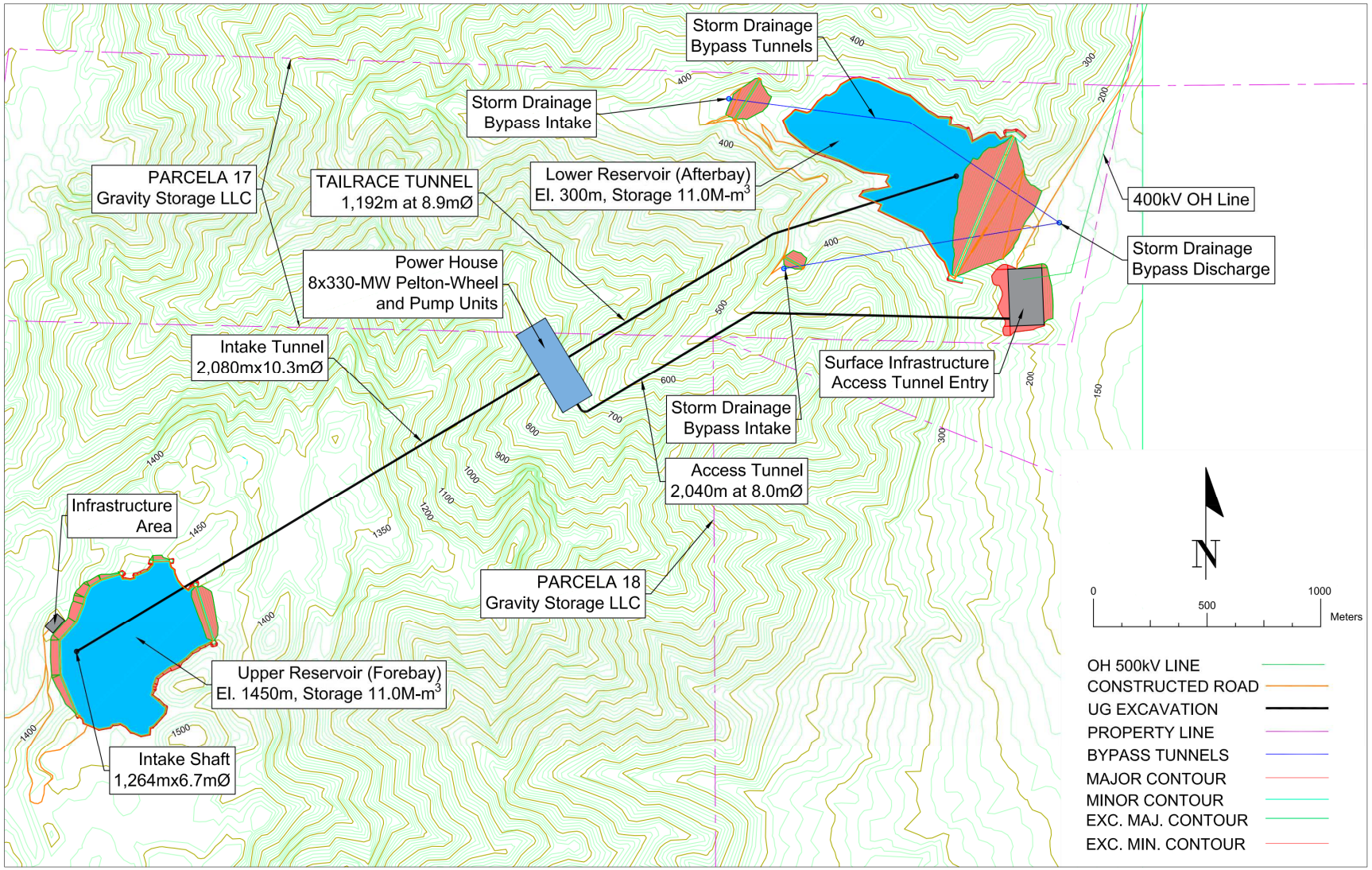
| PROJECT | No. GENERATORS @ SIZE (MW)[1] | ANNUAL PRODUCTION GWhr[4] | STATIC HEAD (meters) | RESERVOIR SEPARATION | DISTANCE TO CONNECTION (SUB or LINE) | TRANSMISSION VOLTAGE |
|---|---|---|---|---|---|---|
| Red Lake PSH, AZ | 9@333MW | 12,200 | 775 | 3.9 km | 8.7 km | 500 kV AC |
| Escondido Canyon, NM | 6@333MW | 8,600 | 1,039 | 2.7 km | 18.7 km | 345 kV AC |
| Salt Springs, CA | 6@333MW | 8,600 | 752 | 2.4 km | 99.2 km | 500 HVDC UG[2] |
| Sore Canyon, BC, MX | 6@333MW | 8,400 | 1,239 | 1.0 km | 37.0 km | 500 kV AC[3] |

Gravity Storage LLC has 9,000MW in Pumped Storage Hydro with planned projects. Our company is aggressively pushing the projects to “shovel ready”.

1. The generators/motors are sized per the requirements of delivering a maximum of 2,000MW of 12-hrs/day (Red Lake is 3,000MW).
2. The proposed DC line (buried) will replace two existing 245 kV OH lines, which reduce the risk of wildfires in the area.
3. The Sore Canyon transmission line is sized for additional PSH projects along the Rumorosa Escarpment.
4. Annual production based on maximum use of generating units and reservoir capacities, the facilities can produce less energy depending on the market demand.

# SORE CANYON PSH

## 2,000-MW PROPOSED PROJECT



# SORE CANYON PSH

## 2,000-MW PROPOSED PROJECT

**GENERATING SPECIFICATIONS:**

- Annual Energy Production: 8,300 Gigawatt hours per year. Annual production based on maximum use of generating units and reservoir capacities, the facilities can produce less energy depending on the market demand.
- 6 Each Ternary Turbine/Independent Pump units producing up to 2000MW per hour of marketable power.
- Power delivery: 500-kV New transmission Line connecting to existing substation, SDG&E

**PHYSICAL SPECIFICATIONS**

- Project Area: 340 hectares, Disturbed Area: 115 hectares
- Average Static Head: 1,239-meters
- Forebay surface area: 32.5-hectares, volume: 1,048 hectares-meters
- Afterbay surface area: 33.0-hectares, volume: 1,048 hectares-meters
- Reservoir dams' construction: Rolled compacted concrete and rockfill with concrete face
- Water flow at full generating capacity: 195 $m^3$/sec (3.09M gpm)
- Distance between reservoirs: 2.8-km
- Length of Transmission line to connecting substation: 37.0-km

# SORE CANYON PSH

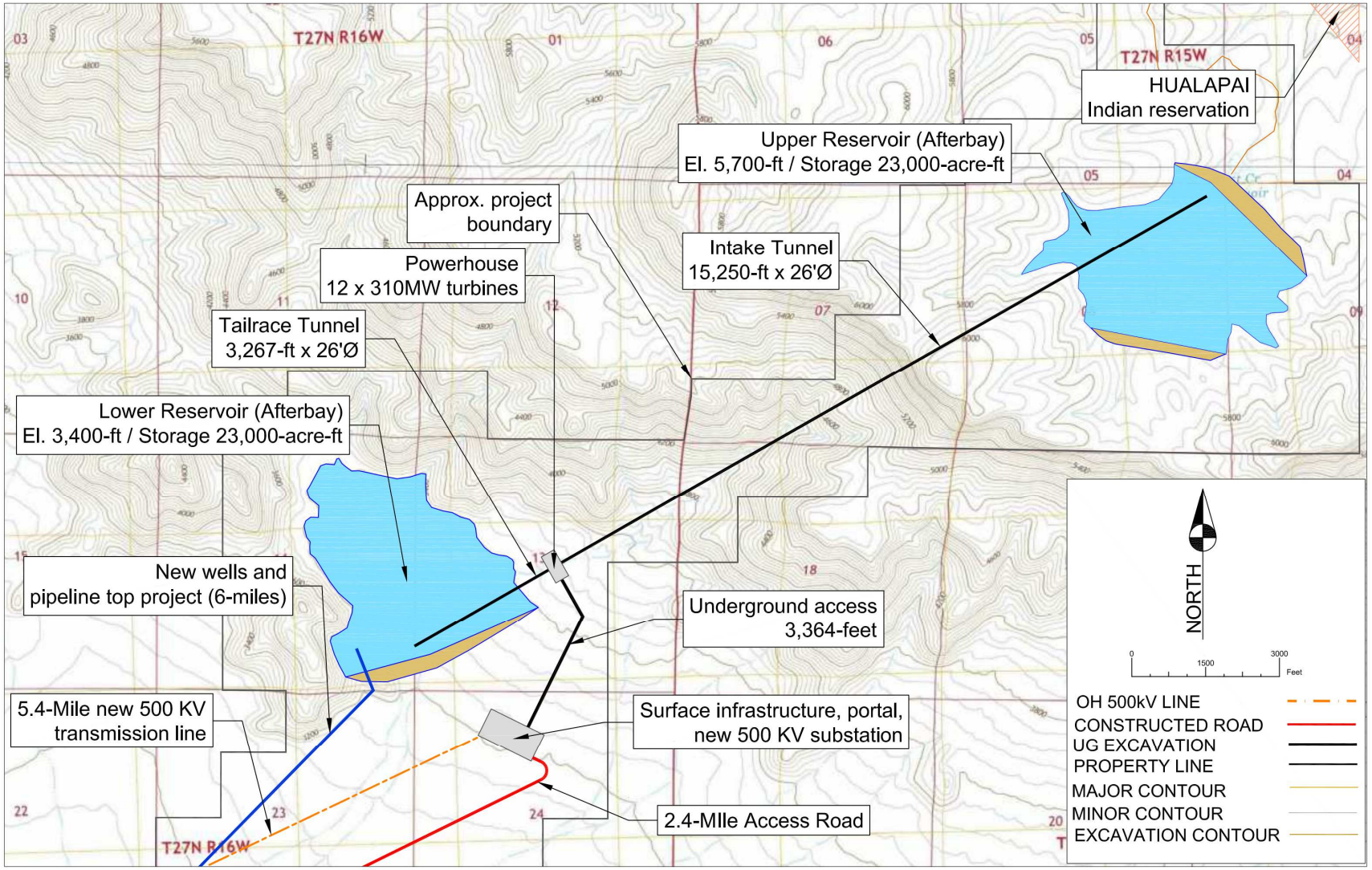
## PROJECT PROGRESS

The project has moved swiftly through the site selection and conceptual design phase. Recursos Ecologicos Alternativos la Rumorosa has completed the required land purchase from private owners. The project's major milestones, and their status, required to begin construction are:

- Land Purchase – **Complete**
- Water Permits and Agreements – Met with Conagua personnel and developing the project's requirements.
- Environmental Permit – **Started**, selected contractor and started initial investigations.
- Governmental Support – Met with the office of the Governor and constructing a MOU.
- Construction Permits – Not Started.
- Urban Construction Zoning Agreement – Not Started.
- Mexican Transmission and Connection Agreement - Met with CEA personnel and developing the project's requirements.
- California Transmission and Connection Agreement – Not Started (need transmission studies).
- Geologic Investigation – **Started**.
- Hydrology Investigation – **Started**.
- Preliminary Detailed Design and Schedule – **Started**.

# RED LAKE PSH

## 3,000-MW PROPOSED PROJECT



# RED LAKE PSH

## 3,000-MW PROPOSED PROJECT

**GENERATING SPECIFICATIONS:**

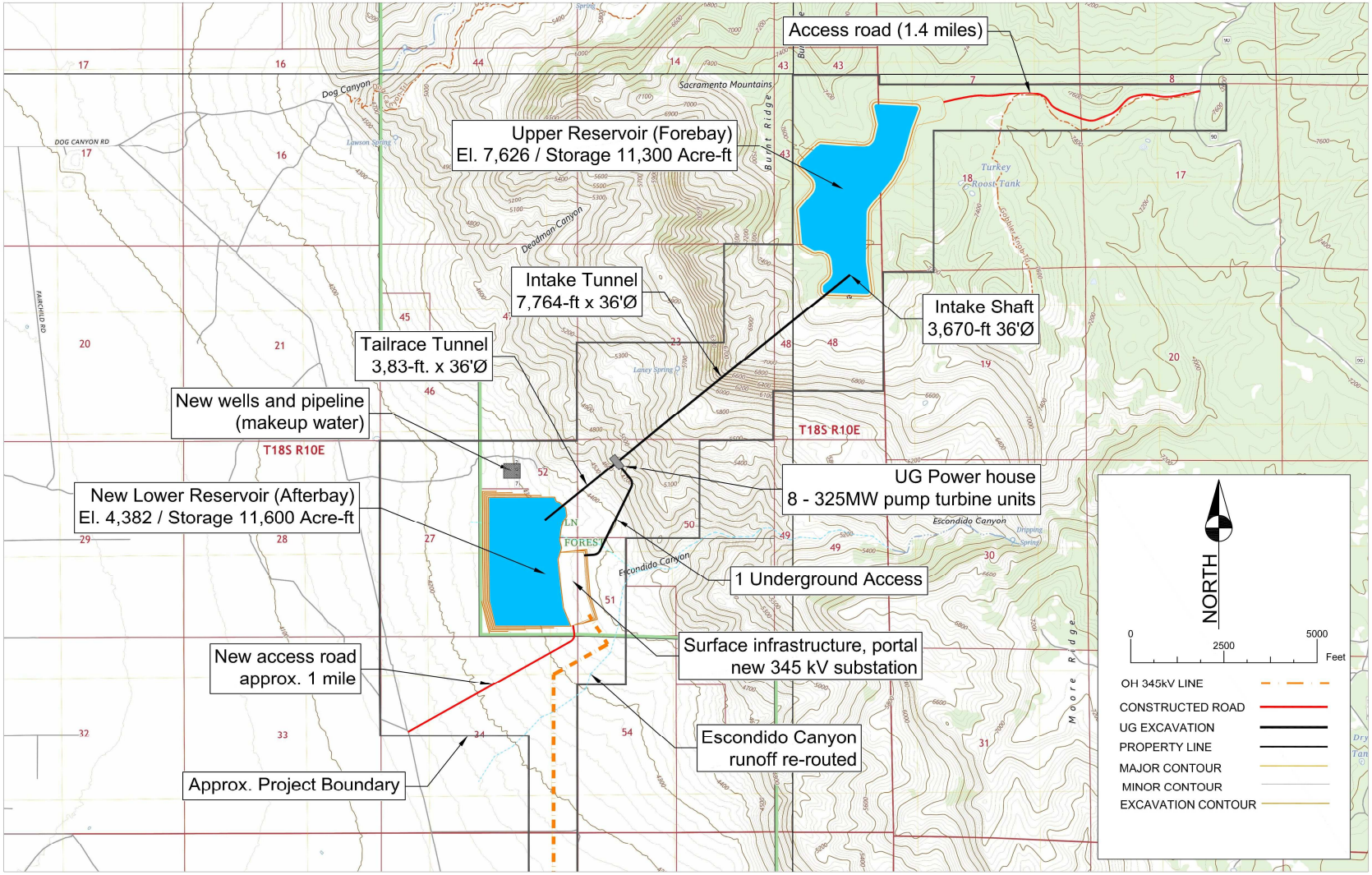
- Annual Energy Production: 12,050 Gigawatt hours per year. Annual production based on maximum use of generating units and reservoir capacities, the facilities can produce less energy depending on the market demand.
- 9 Each turbine/pump units producing up to 3000MW per hour of marketable power.
- Power delivery: 500-kV New transmission Line connecting to existing line, WAPA (owner)

**PHYSICAL SPECIFICATIONS**

- Project Area: 2,175 hectares, Disturbed Area: 216 hectares
- Average Static Head: 774-meters
- Forebay area: 111-hectares, volume: 3,465 hectares-meters
- Afterbay area: 113-hectares, volume: 2,803 hectares-meters
- Reservoir dams' construction: Roller Compacted Concrete
- Water flow at full generating capacity: 474 $m^3$/sec (7.51M gpm)
- Distance between reservoirs: 3.9-km
- Length of Transmission line to connecting substation: 8.7-km

# ESCONDIDO CANYON PSH

## 2,000-MW PROPOSED PROJECT



# ESCONDIDO CANYON PSH

## 2,000-MW PROPOSED PROJECT

**GENERATING SPECIFICATIONS:**

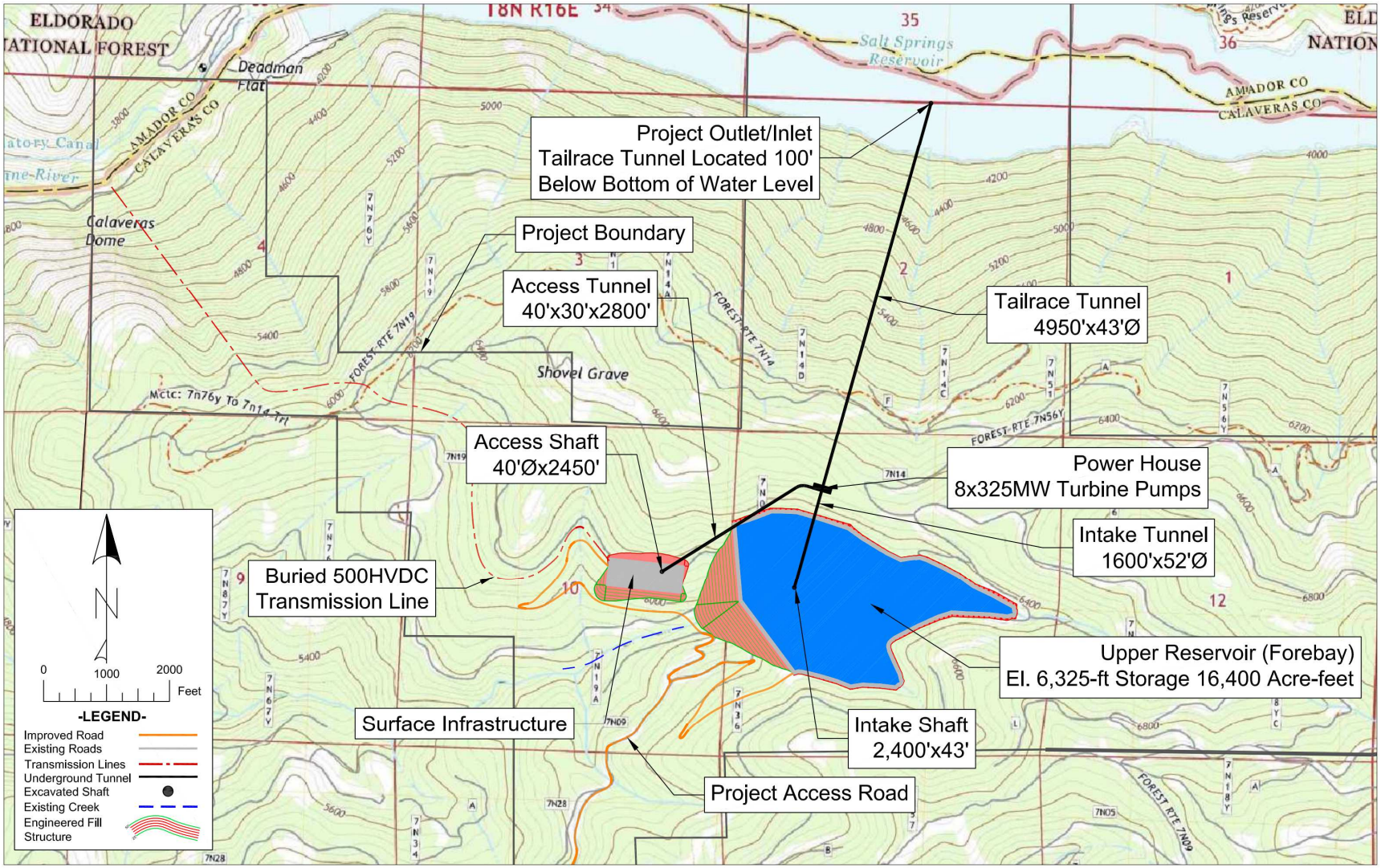
- Annual Energy Production: 8,400 Gigawatt hours per year. Annual production based on maximum use of generating units and reservoir capacities, the facilities can produce less energy depending on the market demand.
- 6 Each turbine/pump units producing up to 2000MW per hour of marketable power.
- Power delivery: 345-kV New transmission Line connecting to existing line, Public Service Company of New Mexico and El Paso Electric Company (owners).

**PHYSICAL SPECIFICATIONS**

- Project Area: 1,910 hectares, Disturbed Area: 216 hectares
- Average Static Head: 1,014-meters
- Forebay area: 71-hectares, volume: 1,392 hectares-meters
- Afterbay area: 56-hectares, Volume: 1,439 hectares-meters
- Reservoir dams' construction: Roller Compacted Concrete
- Water flow at full generating capacity: 233 $m^3$/sec (3.69M gpm)
- Distance between reservoirs: 2.7-km
- Length of Transmission line connecting to existing OH line: 48.7-km

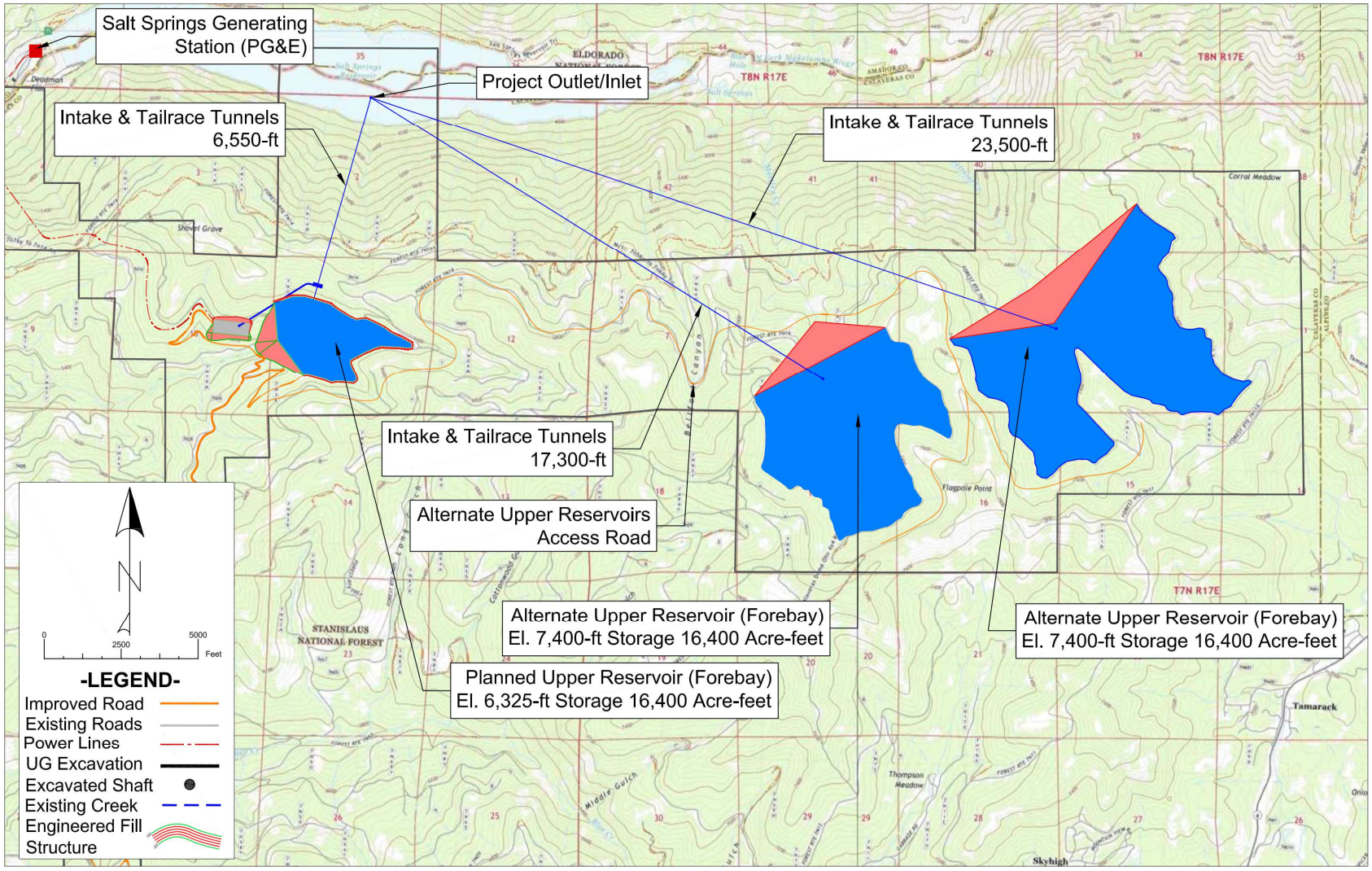
# SALT SPRINGS CANYON PSH

## 2,000-MW PROPOSED PROJECT



# SALT SPRINGS CANYON PSH

## PROJECT INCLUDING ALTERNATIVE FOREBAYS



# SALT SPRINGS PSH

## 2,000-MW PROPOSED PROJECT

**GENERATING SPECIFICATIONS:**

- Annual Energy Production: 8,380 Gigawatt hours per year. Annual production based on maximum use of generating units and reservoir capacities, the facilities can produce less energy depending on the market demand.
- 6 Each turbine/pump units producing up to 2,000MW per hour of marketable power.
- Power delivery: 500-HVDC New transmission Line connecting to existing Sub Station, PG&E

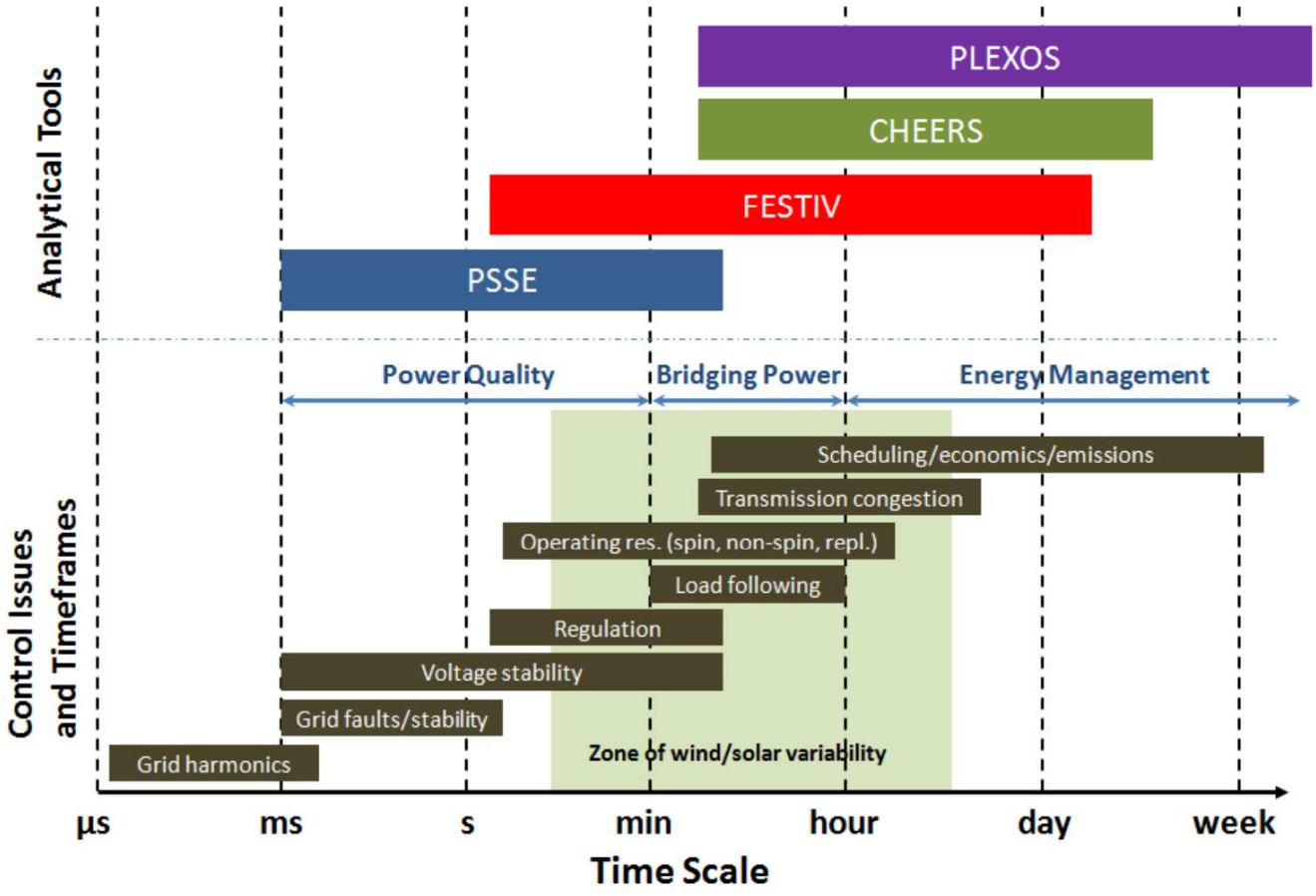
**PHYSICAL SPECIFICATIONS**

- Project Area: 4,375 hectares, Disturbed Area: 110 hectares
- Average Static Head: 753-meters
- Forebay area: 43.7-hectacres, volume: 2,022 hectares meters
- Afterbay area: Existing Salt Springs reservoir
- Reservoir dams' construction: Rockfill with Concrete Face
- Water flow at full generating capacity: 341 $m^3$/sec (5.40M gpm)
- Distance between reservoirs: 2.4-km
- Length of Transmission line to connecting substation: 99.5-km

# STUDIES AND SIMULATION

## UNDERSTANDING OF THE PROJECT'S POTENTIAL CONTRIBUTION

- Analysis aimed to capture PSH dynamic responses and operational characteristics across different timescales, from a fraction of a second to days/weeks.



# PRODUCTION COST AND REVENUE SIMULATION

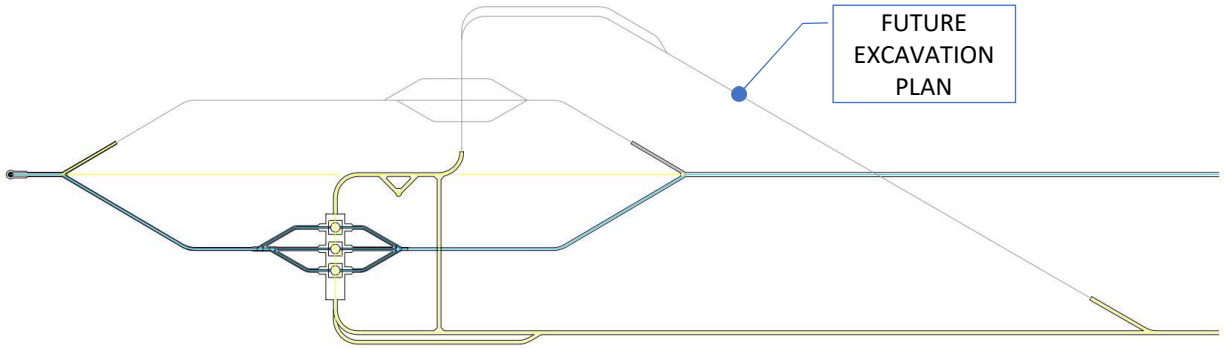
## PRE-TRANSMISSION STUDY

- The Project Group will develop a list of the PSH Project's contributions and support provided to the effected grid. (Western Interconnection, California, SMUD).
- The transmission study will rely on PLEXOS, FESTIV, PSSE, and CHEERS to simulate the PSH's operation and the associated issues threat develop during a given time period.
- The cost of production and gained revenue for the PSH by understanding the value of the services and contributions to the effected grid.

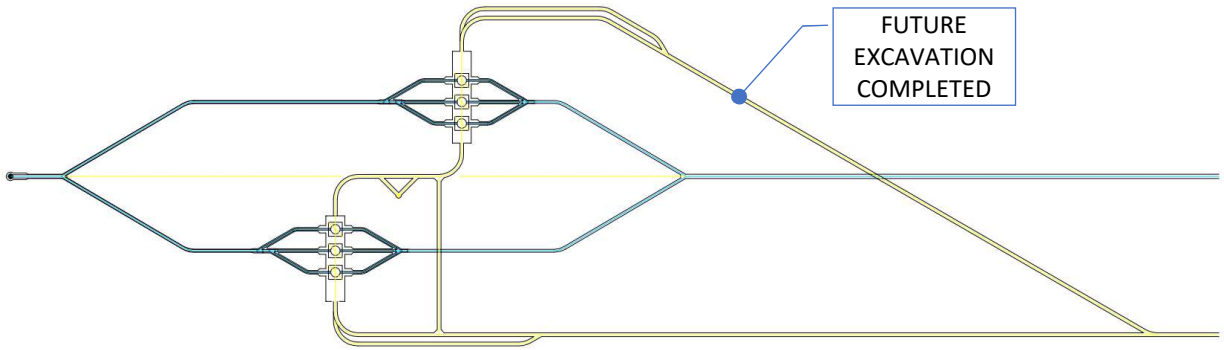
| | PSH Contribution |
|---|---|
| 1 | Inertial response |
| 2 | Governor response, frequency response, or primary frequency control |
| 3 | Frequency regulation, regulation reserve, or secondary frequency control |
| 4 | Flexibility reserve |
| 5 | Contingency spinning reserve |
| 6 | Contingency non-spinning reserve |
| 7 | Replacement/Supplemental reserve |
| 8 | Load following |
| 9 | Load leveling / Energy arbitrage |
| 10 | Generating capacity |
| 11 | Reduced environmental emissions |
| 12 | Integration of variable energy resources (VER) |
| 13 | Reduced cycling and ramping of thermal units |
| 14 | Other portfolio effects |
| 15 | Reduced transmission congestion |
| 16 | Transmission deferral |
| 17 | Voltage support |
| 18 | Improved dynamic stability |
| 19 | Black start capability |
| 20 | Energy security |

# STAGED CONSTRUCTION

## REDUCED CAPITAL WITHOUT REDUCING FUTURE CAPABILITY




STAGE 1: 333-MW TO 1000-MW INSTALLED




STAGE 2: 1333-MW TO 2000-MW INSTALLED

**STAGED CONSTRUCTION**

a) The Feasibility study will determine the best projection of future energy demand for the Sore Canyon PSH.

b) If projected demand is less than 1-GW, then build Stage 1 excavation and construction. Installing 1, 2, or 3 pump/turbine units.

c) Electrical Mechanical is 60% of the PSH capital cost; the additional excavation and infrastructure is a small investment to allow easy future expansion.

d) The stage 2 excavation will be completed with energy demand growth; bringing the project to it's full potential.

# GRAVITY STORAGE LLC PROJECTS ECONOMICS

## PUMPED STORAGE HYDRO PROJECTS ARE LONG TERM INVESTMENTS

| FINANCIAL RESULTS | ESCONDIDO CANYON | SALT SPRINGS | RED LAKE | SORE CANYON |
|---|---|---|---|---|
| Market Output (MW) | 2,000 | 2,000 | 3,000 | 2,000 |
| Project Capital (US$B) | $4.00 | $4.00 | $6.00 | $2.64 |
| Annual Production (GWhrs) | 8,405 | 8,380 | 12,810 | 8,520 |
| **California High Wind Renewable Energy Scenario PSH with FS and AS Ability (US$ per kWh)** | | | | |
| Sales Revenue | $0.150 | $0.150 | $0.150 | $0.150 |
| Additional Revenue Benefits | $0.051 | $0.051 | $0.050 | $0.051 |
| **Total Unit Revenue** | **$0.201** | **$0.201** | **$0.200** | **$0.201** |
| **Calculated Costs (US$ per kWh)** | | | | |
| Pumping Energy and Transmission Cost | $0.037 | $0.038 | $0.039 | $0.038 |
| Variable and Fixed Operating Cost | $0.002 | $0.002 | $0.002 | $0.002 |
| **Total Unit Costs** | **$0.040** | **$0.040** | **$0.041** | **$0.040** |
| **Net Revenue and Analysis (Pre-Tax)** | | | | |
| IRR Using 5 Year Const. 40 Years Op. | 21% | 21% | 21% | 28% |
| NPV @ 3% Discount Rate (US$B) | $23.1 | $23.1 | $34.4 | $24.4 |

- The United States currently gives a 30% Tax-Credit for total project costs.
- The preliminary economics are based on published data[1,2,3]. A transmission study is required for next level project economics.

1. Argonne National Lab (ANL), Modeling and Analysis of Value of Advanced Pumped Storage Hydropower in the United States, 01-Jun-2014
2. Hydro Review, NREL Includes pumped storage in 2022 electricity technology baseline report, 15-Jun-2022
3. U.S. Energy Information Administration, Cost and Performance Characteristics of New Generating Technologies, Annual Energy Outlook 2017, January 2017

# GRAVITY STORAGE LLC PROJECT WORK

## PREPARING PROJECTS FOR SHOVEL READY

Gravity Storage LLC is focused on bringing high opportunity Pumped Storage Hydro (PSH) sites to a state of “Shovel Ready”. This strategy enables large energy companies to purchase a project that can be built with the addition of construction funding. The following list will be completed in approximately two years, making the projects “Shovel Ready”.

- Federal Energy Regulatory Commission's (FERC) regulations Preliminary Permit.
- Geologic assessment of the rock units to determine the fitness for underground excavations.
- Environmental Assessment / Environmental Impact Statement under the National Environmental Policy Act (NEPA).
- Secure a Water Use Permit for initial requirement and evaporation requirements.
- Obtaining a FERC license, for any new project, typically takes a minimum of 5 years and could take much longer depending on environmental issues and regulatory authorities involved.
- **However, The American Water Infrastructure Act of 2018** directed FERC to introduce an expedited 2-year process, which developers can now request.
- Acquiring the required land package and access permissions.
- Feasibility Study with investor grade information (needed to support FERC licensing). This will include the transmission studies required to understand the Project’s contributions to a specific grid.

# REQUIRED FUNDING

## PROGRESS WITH SUFFICIENT FUNDS

Gravity Storage LLC is open to the concepts of the initial investors that will direct and guide Gravity Storage in taking the next business step. Gravity Storage requires funding to continue advancing the projects to a state of “shovel ready”.

The required funding will be used for:

A. Transmission studies.

B. Environmental assessment and impact studies.

C. Geologic assessment and studies.

D. Work at securing water use permits.

E. Development of feasibility studies, with future investor grade information.

F. Obtaining FERC licensing.

The **Sore Canyon Project** located in Mexico presents the earliest “shovel ready” opportunity; Mexico’s required typical time for permitting with approval and straightforward pre-construction process could be as little as two to three years. Additionally, the required land for the Sore Canyon facility is owned by Gravity Storage LLC. The Sore Canyon PSH is designed to work in harmony with California’s Imperial Valley’s massive solar power plants.

# INDUSTRY GROWTH AND DEVELOPMENT

## GS LLC CONTINUES TO IDENTIFY GREEN ENERGY OPPORTUNITIES

- The company is currently reviewing and developing a preliminary PSH design for a favorable site in Texas. 1,500-MW with 689-meters of static head.
- We are currently reviewing and developing a preliminary PSH design for a favorable site in California. 2,000-MW with 610-meters of static head. This site will have a proposed 500-HVDC transmission line, buried in the forest areas.
- The Salt Springs project is an open loop system. Although, the purpose of the Salt Springs reservoir is for energy generation, constructed by PG&E, the open loop could still present a difficult time in gaining a FERC license. As an alternative, we are investigating another afterbay site in place of the Salt Springs reservoir to make the project a closed loop system.
- The company is reviewing a potential PSH project with hybrid and desalination circuits. The Baja peninsula has long suffered water shortages and the hybrid desalination will help alleviate the current/future water shortage conditions.
- We are currently reviewing and developing a preliminary PSH design at a favorable site in Coahuila, Mexico. 1,000-MW with 534-meters of static head. Coahuila state and neighboring Durango state have been aggressively constructed solar installations during the last six-years and would greatly benefit with a nearby PSH project.

# GRAVITY STORAGE LLC KEY PERSONNEL

## SUCCESSFUL BUSINESS, ENGINEERING AND PROJECT LEADERSHIP

**Richard Gresham**
Technical Manager

**David Drips**
Projects Manager

**Roberto Flores**
Business Unit Manager

## GS LLC PRINCIPALS:

**Richard Gresham**: BS Mining Engineering, University of Idaho
**David Drips**: BS Mining Engineering, Colorado School of Mines
**Roberto Flores: :** Industrial Engineer, Instituto Tecnológico de Sonora (ITSON) México

## ADVISORY BOARD:

**GE Renewable Energy**: A global leader in advanced technology focusing on wind, hydro, and solar power generation services.
**Texas A&M**: Electrical Engineering Department

# FURTHER INFORMATION

## GRAVITY STORAGE LLC GROUP CONTACT INFORMATION


**RICHARD GRESHAM**
Gold Canyon, AZ
(928) 701-1689
rich@ramopps.com

**DAVID DRIPS**
Murray, UT
(385) 227-7272
dedrips@msn.com

**ROBERTO FLORES**
Mesa, AZ
(928) 200-3291
roberto@ramopps.com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