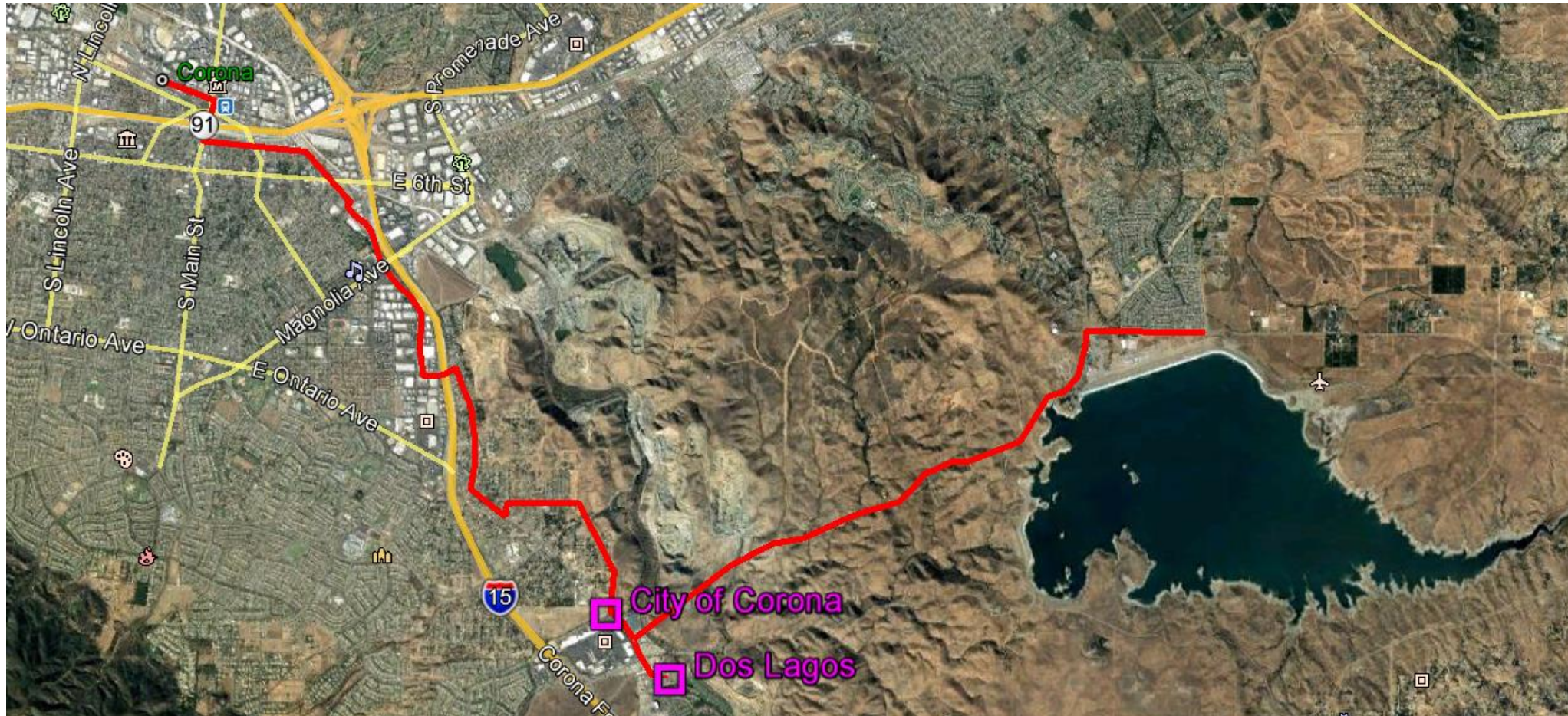


Corona Redundant Power Options

66kV or 33kV Extension

Corona Source Circuit



16+ Miles of circuitry to patrol in the event of an outage

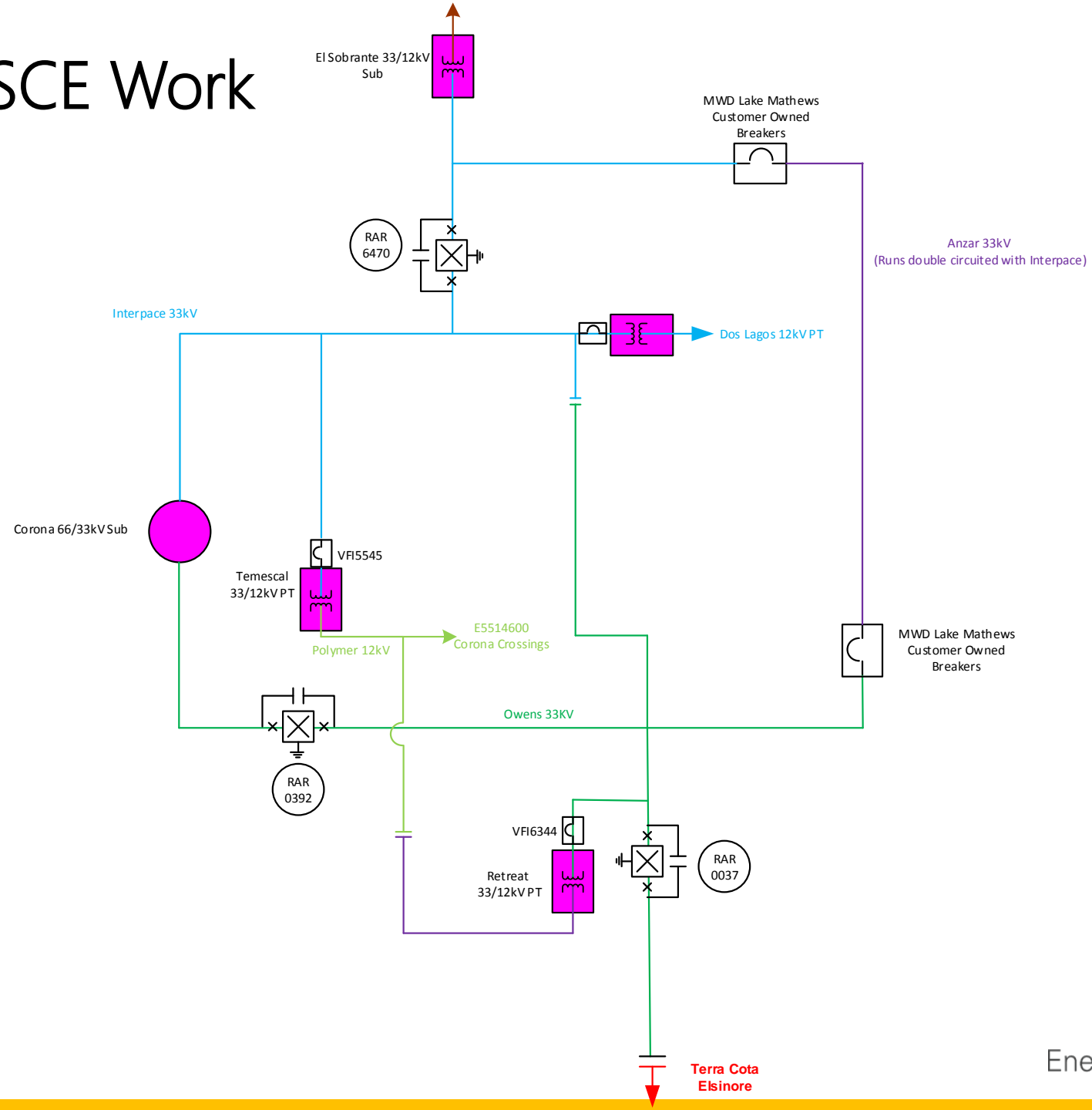
SCE Corona DWP Partnership

- SCE and Corona have been working in partnership since 2017 to improve area reliability and response to outages:
 - Improved communication during outages
 - Better coordination with planned outages
 - Reduced response time when outages occur
 - SCE system upgrade projects

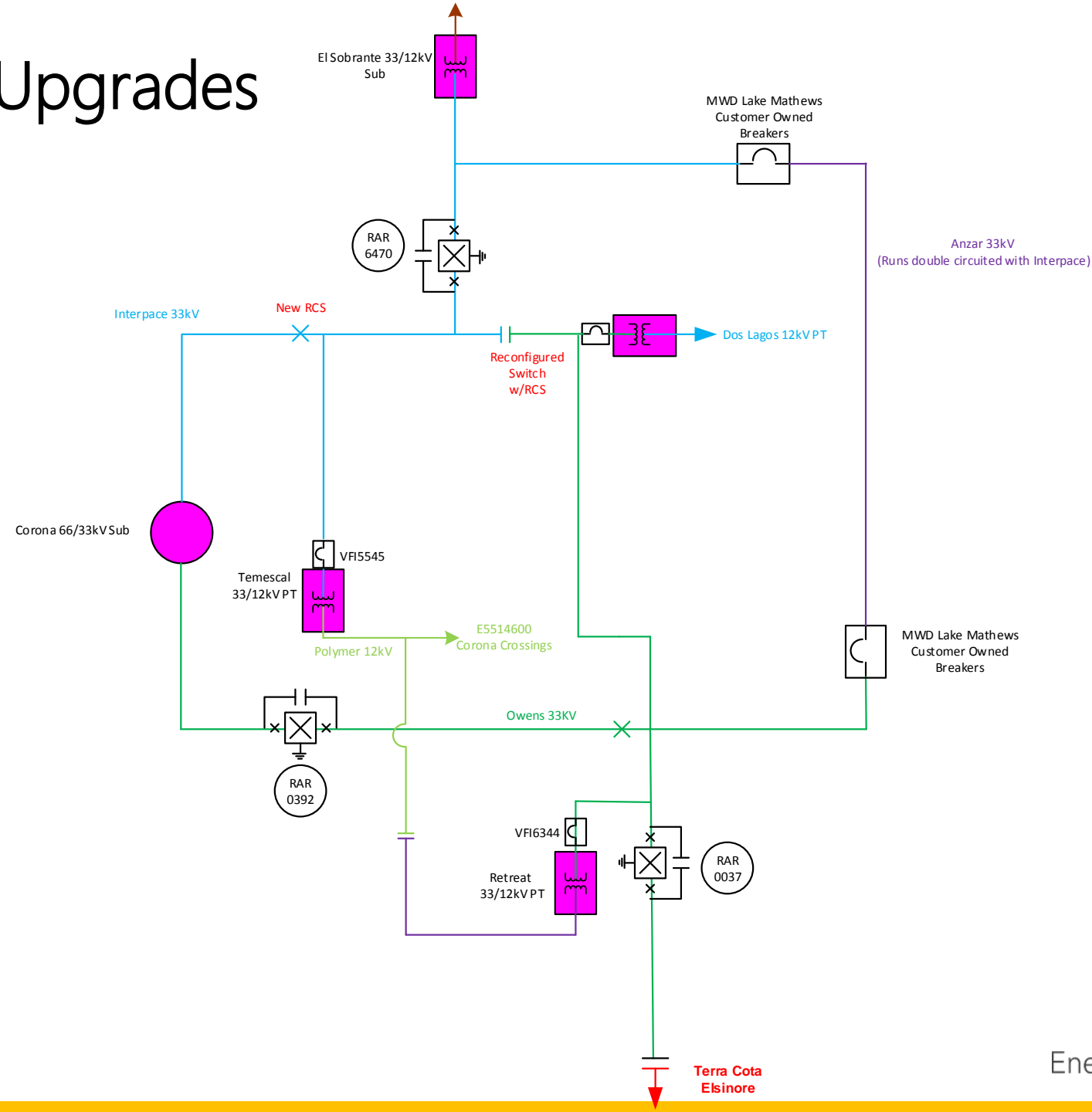
Work completed so far

- Install Mid and Tie RCS switches on Interpace, Creating a automatic tie to Owens, Move Dos Lagos to Owens circuit
 - SCE Cost of \$180K – Completed in 2018
 - Improve outage time by being able to operate switches remotely
- Replace 11,520' of UG cable on Interpace
 - Due to 6 Outages on UG cable in 2017
 - SCE Cost of \$1.8M – Mostly completed in 2018, a few sections left to do in the coming months
- Installation of Remote Fault Indicators (RFI)
 - Reduce outage time by helping to identify trouble areas remotely
- Infrared scan of OH lines to verify and repair any trouble areas
 - Replaced multiple poles and other equipment to improve reliability

Prior Any SCE Work

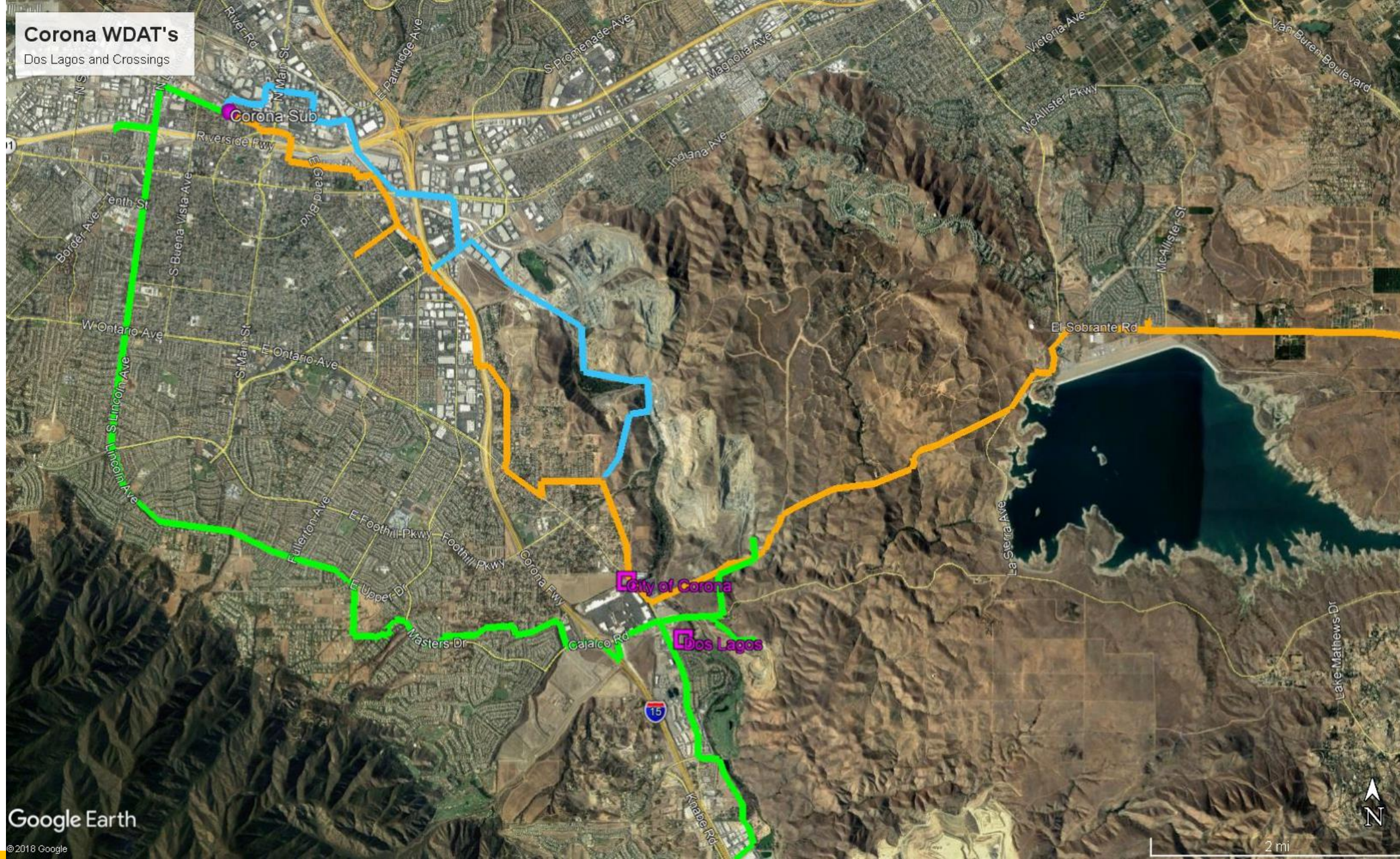


After SCE Upgrades



Corona WDAT's

Dos Lagos and Crossings



66kV Option – Best Level of Redundancy

- Two 66kV Source lines to dedicated customer substation
 - 1.7 mile Overhead (OH) extension to Corona Crossings interconnection point
 - 1.7 mile Underground (UG) extension to Corona Crossings interconnection point
 - Customer substation to feed both Dos Lagos and Corona Crossings
 - Requires an additional extension (0.75 mile) of 12kV circuitry from Corona Crossings interconnection point to Dos Lagos
- This would be similar to Cleargen Substation

66kV Option

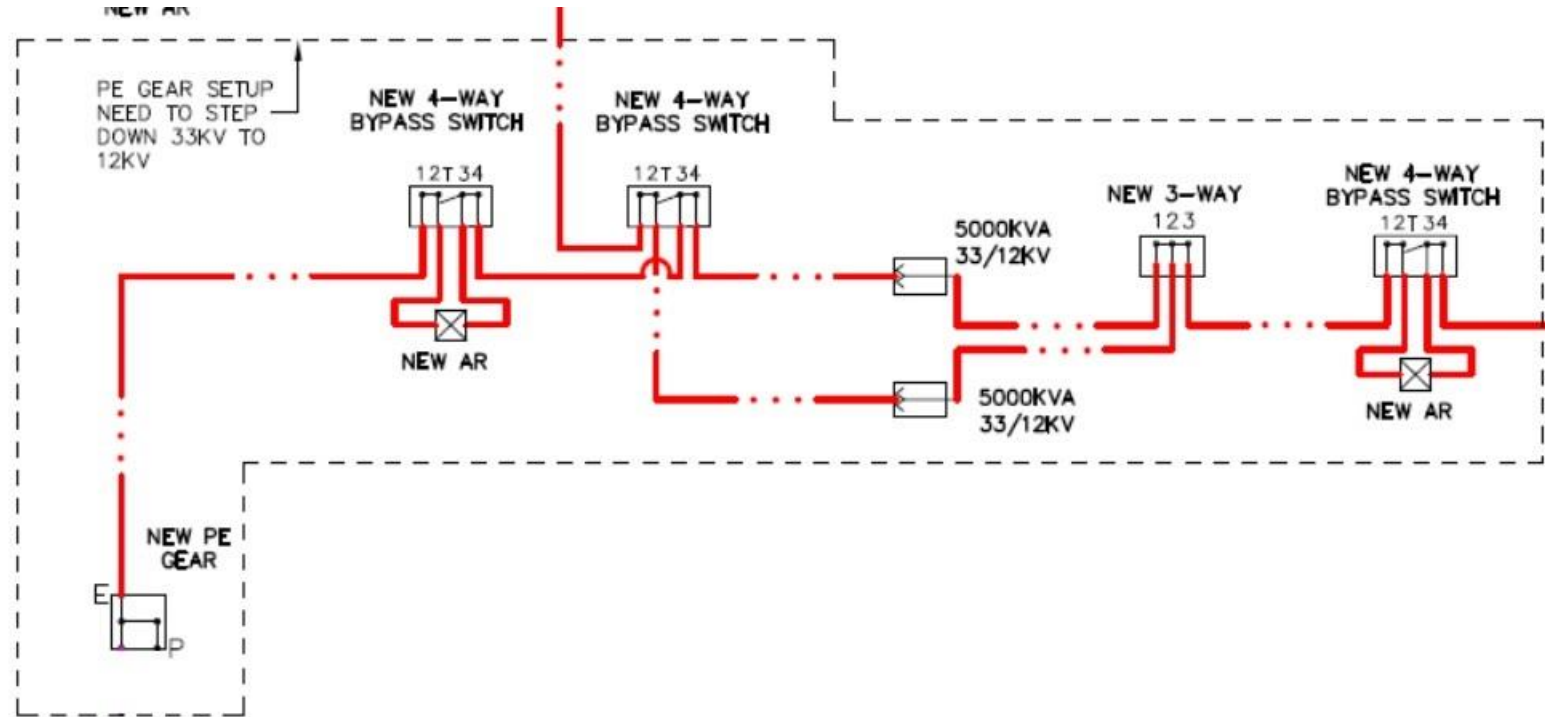


Corona 33kV Option 1

- Extension of Porphyry 33kV circuit to Crossings
 - Approximately 5000 ft of OH circuitry
 - Utilizing existing pole line, overbuilding on existing non-33kV circuits
 - Approximately 1200 ft of New Civil for UG circuitry
- Extension of Porphyry 33kV circuit from Crossings to Dos Lagos
 - Approximately 2700 ft of New Civil for UG circuitry
- Addition of 2 switches and other electrical equipment as needed
- Cost: \$1.465M – \$2.432M
 - OH Electrical: \$500K – \$750K
 - UG Electrical: \$365K – \$532K
 - UG Civil: \$600K – \$850K

Corona 33kV Option 1

- Installation of transformation at each site to step down 33kV to 12kV feed point voltage
- 8 Additional Pieces of Equipment per site
 - Would need this at Crossings and Dos Lagos
- Additional Cost:
 - \$1.12M - \$1.433M per site



Corona 33kV Option 1

- Total One Time fees:
 - \$3.705M - \$4.998M
- Monthly Charges:
 - Maintenance of additional 16 pieces of equipment for 33kV to 12kV transformation:
 - \$TBD
 - Reserve Line Capacity charge:
 - \$17,786

Corona 33kV Option 2

- Extension of Porphyry 33kV circuit to Crossings
 - Approximately 5000 ft of OH circuitry
 - Utilizing existing pole line, overbuilding on existing non-33kV circuits
 - Approximately 1200 ft of New Civil for UG circuitry
- Extension of Porphyry 33kV circuit from Crossings to Dos Lagos
 - Approximately 2700 ft of New Civil for UG circuitry
- Addition of 4 switches and other electrical equipment as needed
 - 2 RCS switches for Dos Lagos, 2 RCS Switches for Corona Crossings
- Cost: \$1.565M – \$2.232M
 - OH Electrical: \$500K – \$750K
 - UG Electrical: \$465K – \$632K
 - UG Civil: \$600K – \$850K

Corona 33kV Option 2

- Total One Time fees:
 - \$1.565M – \$2.232M
- Monthly Charges:
 - Maintenance of additional 2 RCS's:
 - \$TBD
 - Reserve Line Capacity charge :
 - \$17,786/month for full 18.5 MW
 - \$11,364 /month for partial 11.5 MW

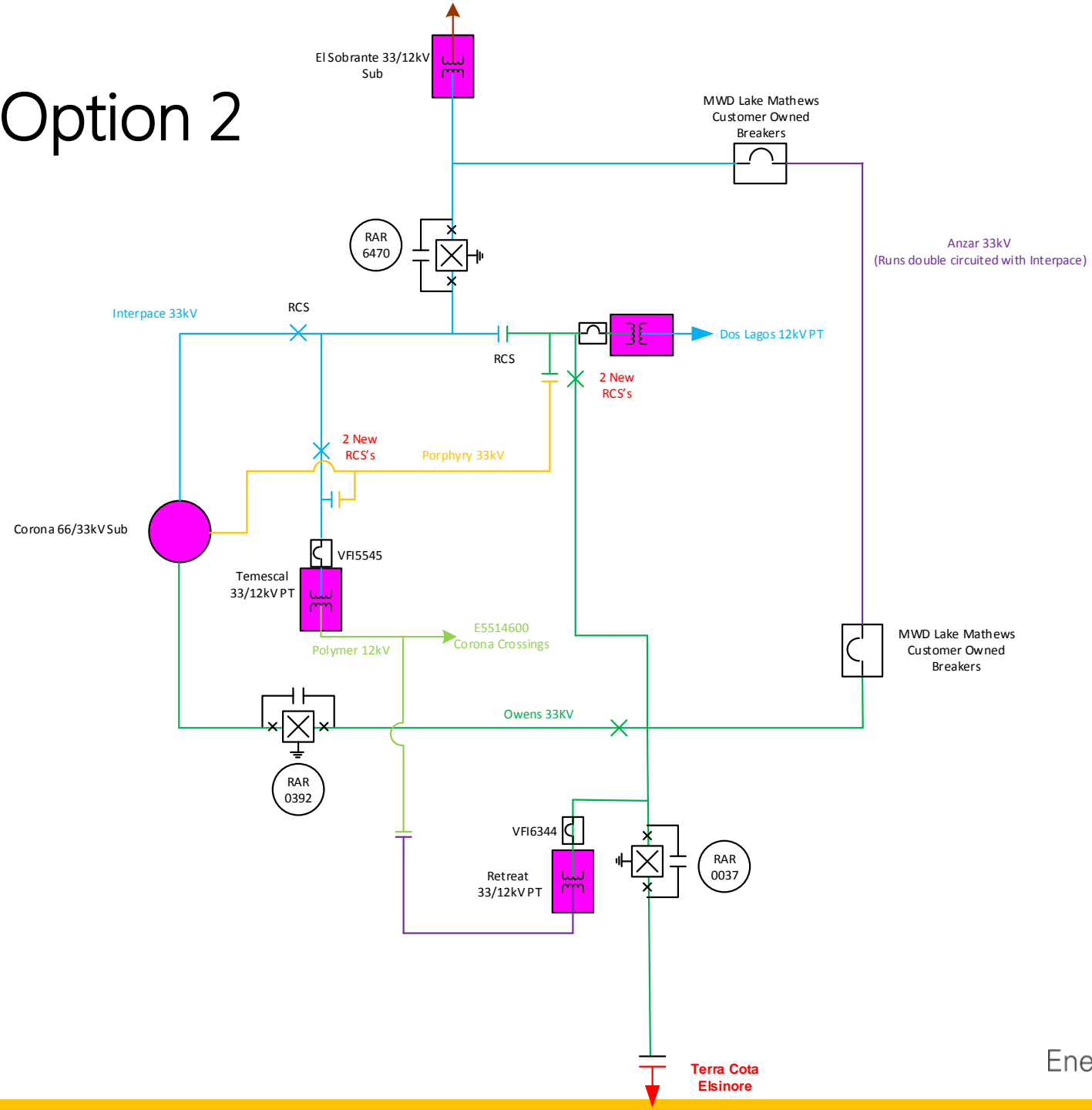
Benefits of Corona 33kV Option 2

- Same Porphyry line extension with less equipment needed
 - Much less equipment to maintain, which means lower monthly costs
- Possible to reduce reserve line capacity charge to the larger of the 2 WDAT's as both will not need to be transferred at the same time
 - Lower monthly costs

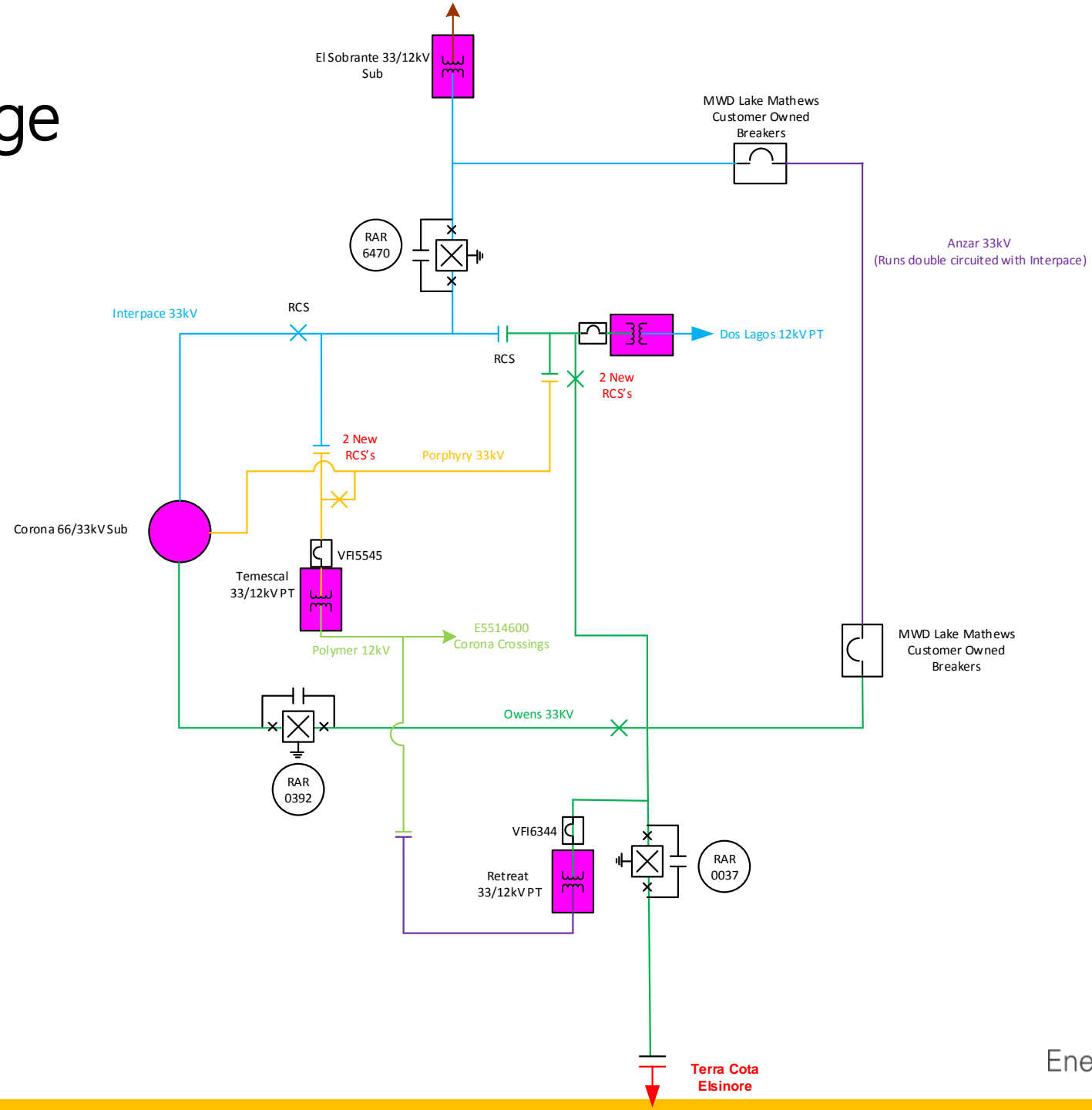
Redundant Power Options

	33kV Option 1	33kV Option 2	66kV Option
Scope	~5000 ft of OH circuitry utilizing existing pole line. ~1200 ft of new civil for UG circuitry ~2700 ft of new civil from Crossings to Dos Lagos 2 new switches 8 additional pieces of equipment per site	~5000 ft of OH circuitry Utilizing existing pole line. ~1200 ft of new civil for UG circuitry ~2700 ft of new civil from Crossings to Dos Lagos 4 new switches 2 Remote Controlled Switches (RCS)	1.7 mi OH extension to Corona Crossings 1.7 mi UG extension to Corona Crossings Customer Sub feed to both Dos Lagos and Corona Crossings ~0.75 mi of 12kV circuitry from crossings to Dos Lagos
Total One Time Fees	\$3.705M-\$4.998M	\$1.565M-\$2.232M	Over \$10M (\$150K fee to initiate study)
Reserve Line Capacity Monthly Charge	\$17,786	\$17,786	N/A
Monthly Maintenance fee	18 pieces of equipment \$XXX	2 pieces of equipment \$XXX	TBD
Switching time	5 seconds	5 mins	N/A
Construction time	18 months	18 months	3-5 years

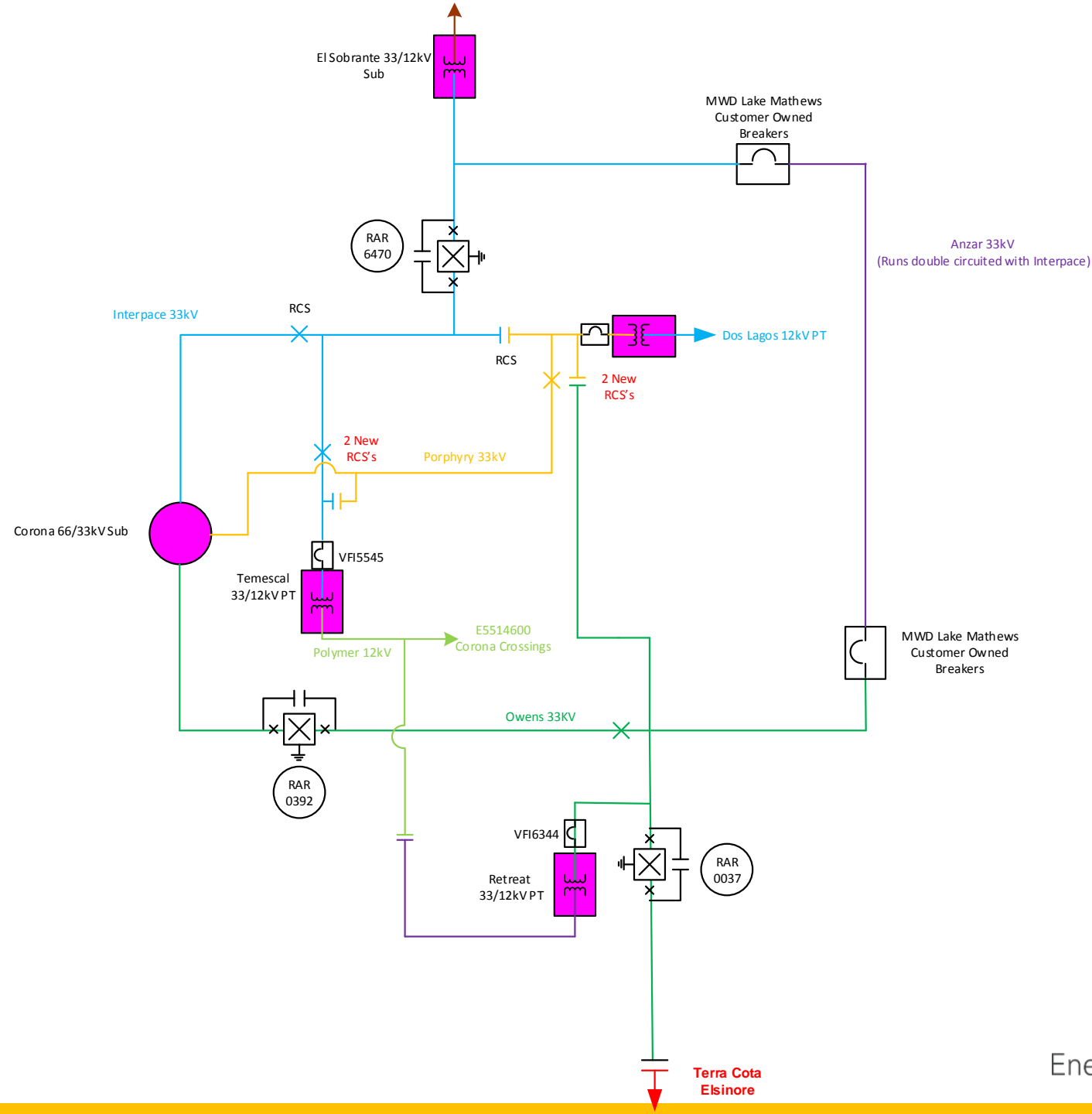
Porphyry 33kV Option 2



Interpace Outage

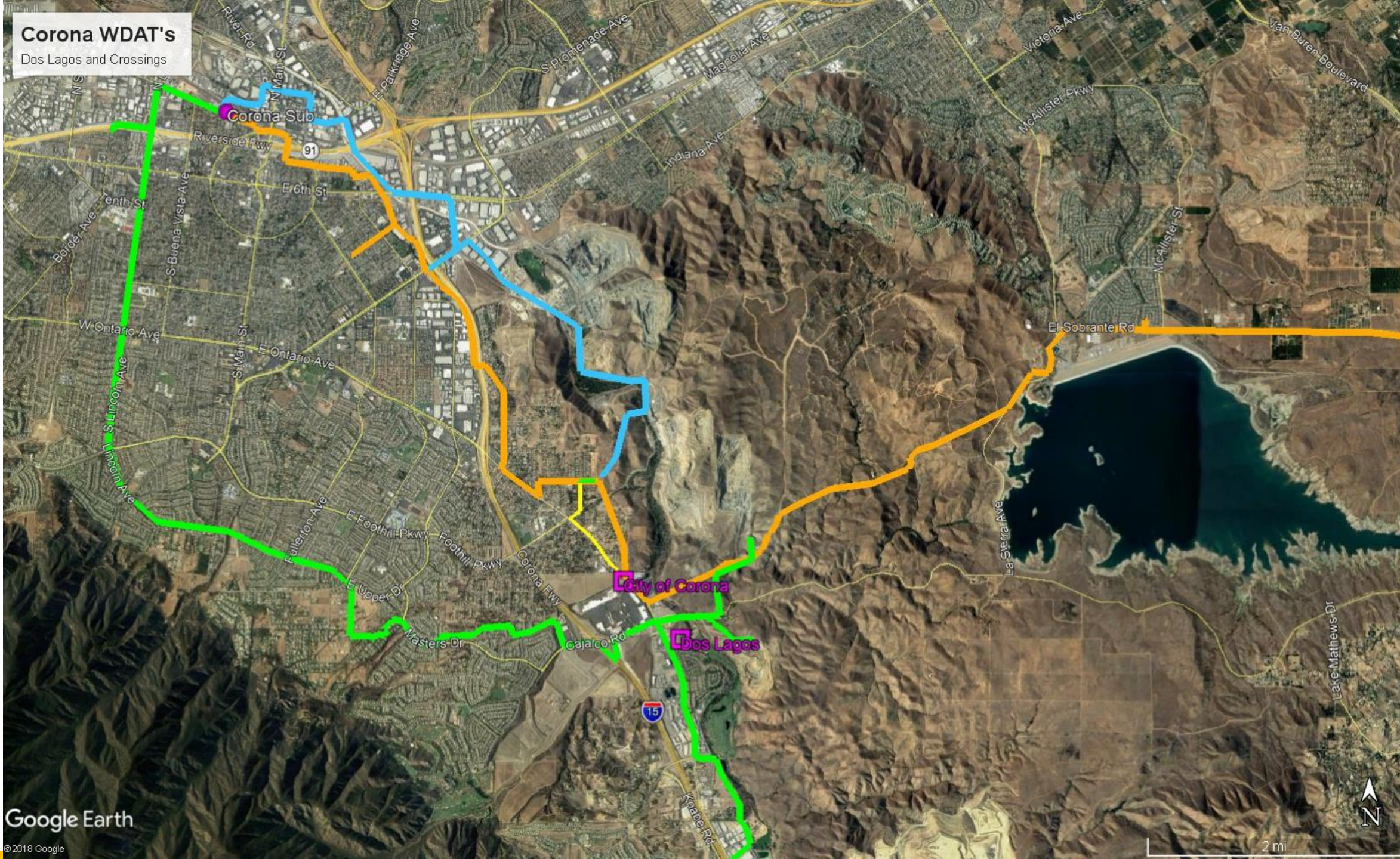


Owens Outage



Corona WDAT's

Dos Lagos and Crossings



Corona WDAT's

Dos Lagos and Crossings



Corona WDAT's

Dos Lagos and Crossings

