



PFMG SOLAR

Partners For Many Generations



Acton-Agua Dulce Unified School District Energy Engineered Solar Solutions

March 22, 2018

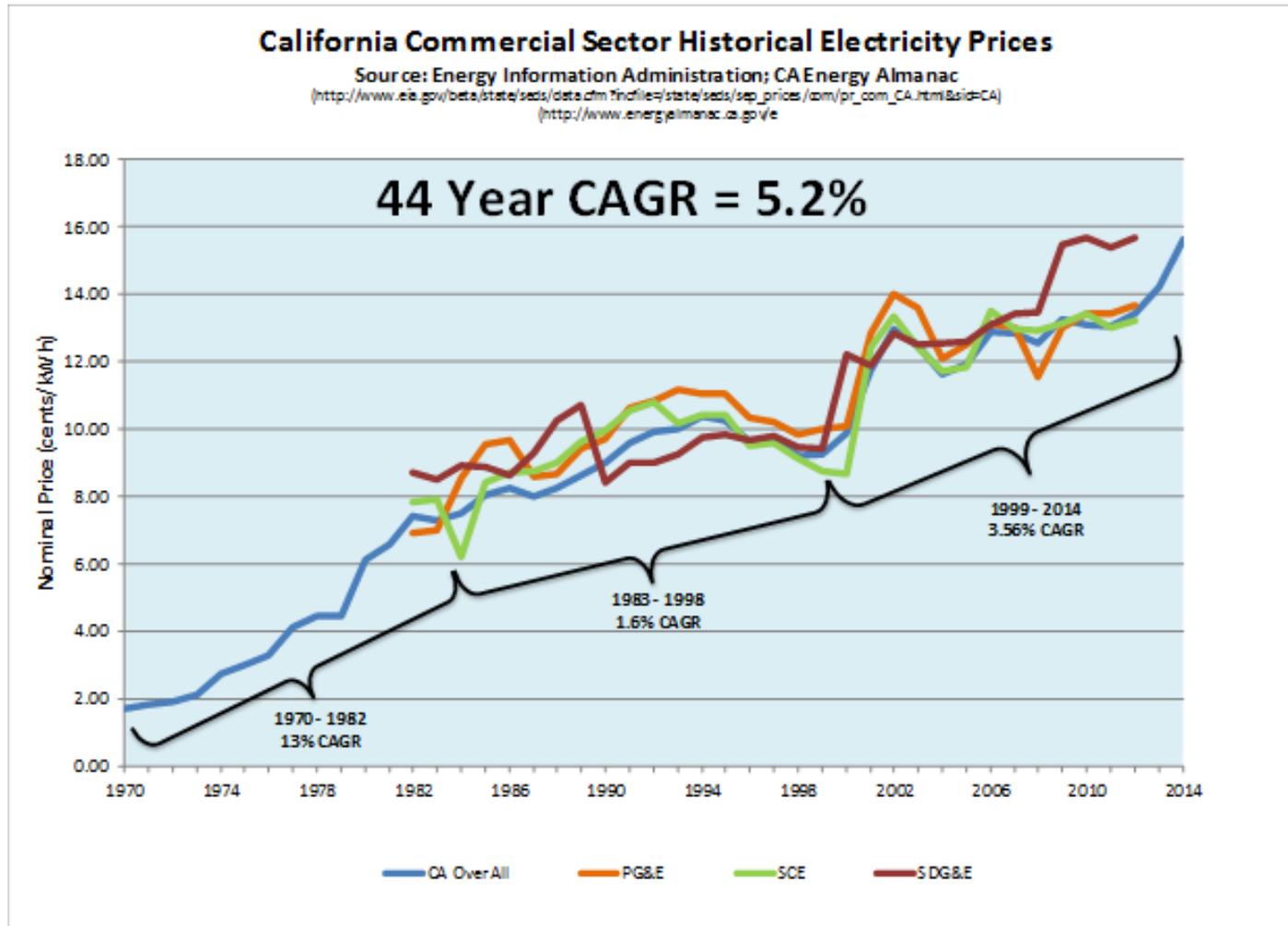


Solar Project Benefits

- **Positive Impact to General Fund**
 - \$1.5 to \$1.8 million in savings over 25 years
- **Improved Campus Security and Safety**
 - Improved lighting in parking lots for path of travel
- **Shade for Students, Cars and the Community**
- **Educational Enhancements**
 - Next Generation Science Standards Modules
- **Community Partnership**
 - Tailored support
- **Environmental and Human Health Benefits**
- **Positive PR for the District**



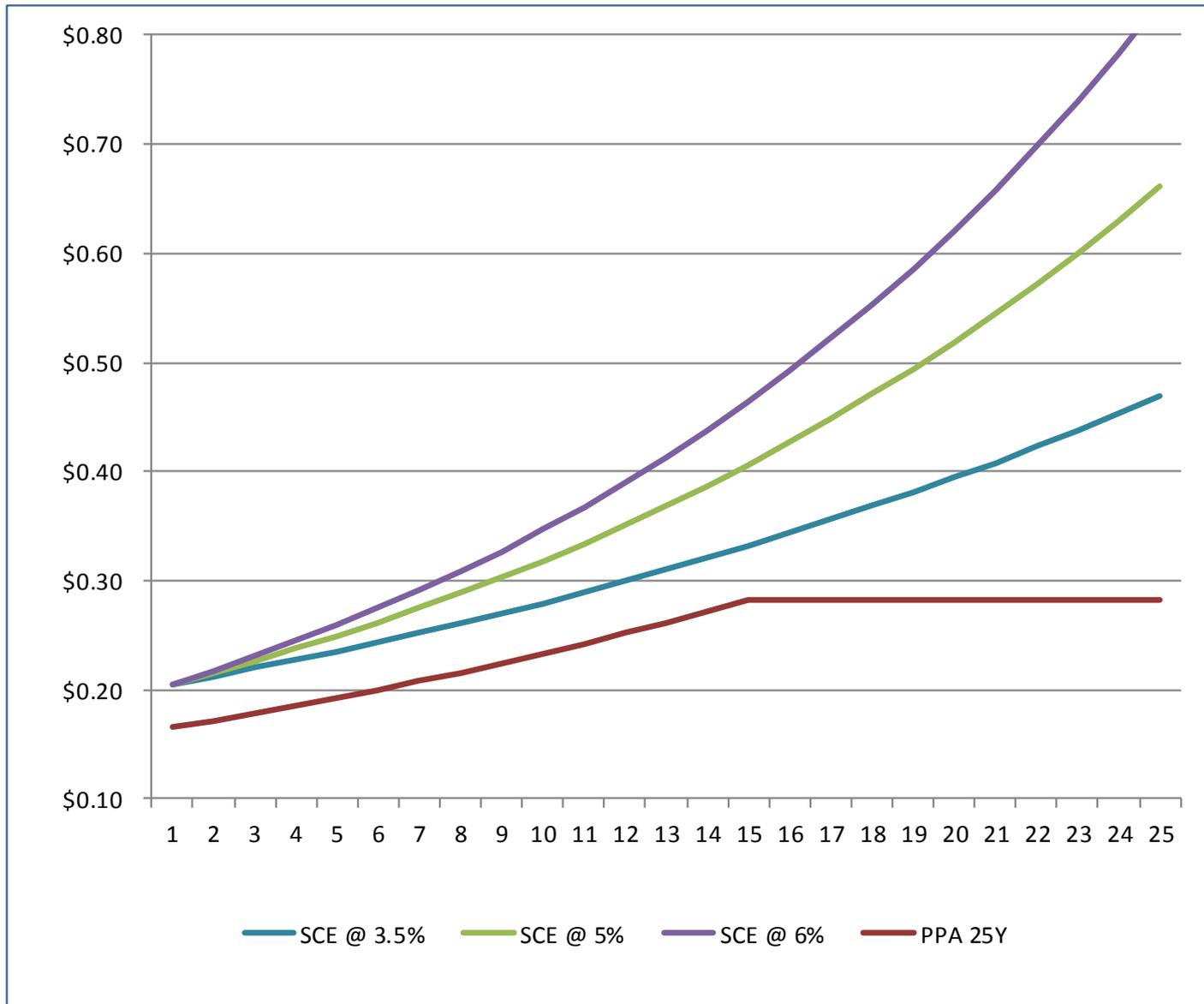
Utility Rates Continue to Rise



Savings Summary

Savings Projections	
Savings Projection Years 1-5	\$21,000 - \$26,000
Cumulative Savings Projection, Years 1-25	\$1,480,000 - \$1,830,000
Power Purchase Agreement (PPA) Terms	
Capital Costs	\$0.00
1 st year PPA rate per kWh (aggregate)	\$0.1651
PPA annual rate increase, to Year 15	3.90%
PPA annual rate increase, from Year 16 to end of term	0.00%
PPA term	25 years
Historical Consumption Data (for proposed meters)	
Total 12-month energy usage (kWh)	1,449,469
Total 12-month electricity cost during analysis period	\$238,450
Average electricity rate during analysis period	\$0.1645
Average electricity rate on current tariff	\$0.1954
Projected Utility Costs	
Average electricity rate on current tariff for 12-month period following projected solar operation date	\$0.2052
Average utility annual rate increase	5.0%
Proposed Solar System	
Mounting type	Parking Canopy and Elevated Structure
Solar system size (kW DC)	639
Number of sites	5
Projected 1st year production (kWh)	1,163,000
Solar offset of historical usage	80%

Solar vs SCE



The Look of Solar: Carports



Laguna Hills High School
Saddleback Valley USD

Chaffey High School
Chaffey JUHSD



The Look of Solar: Shade Structures



Tulita Elementary School
Redondo Beach Unified
School District



Jefferson Elementary School
Redondo Beach Unified School District

#1 Solar Partner for Education



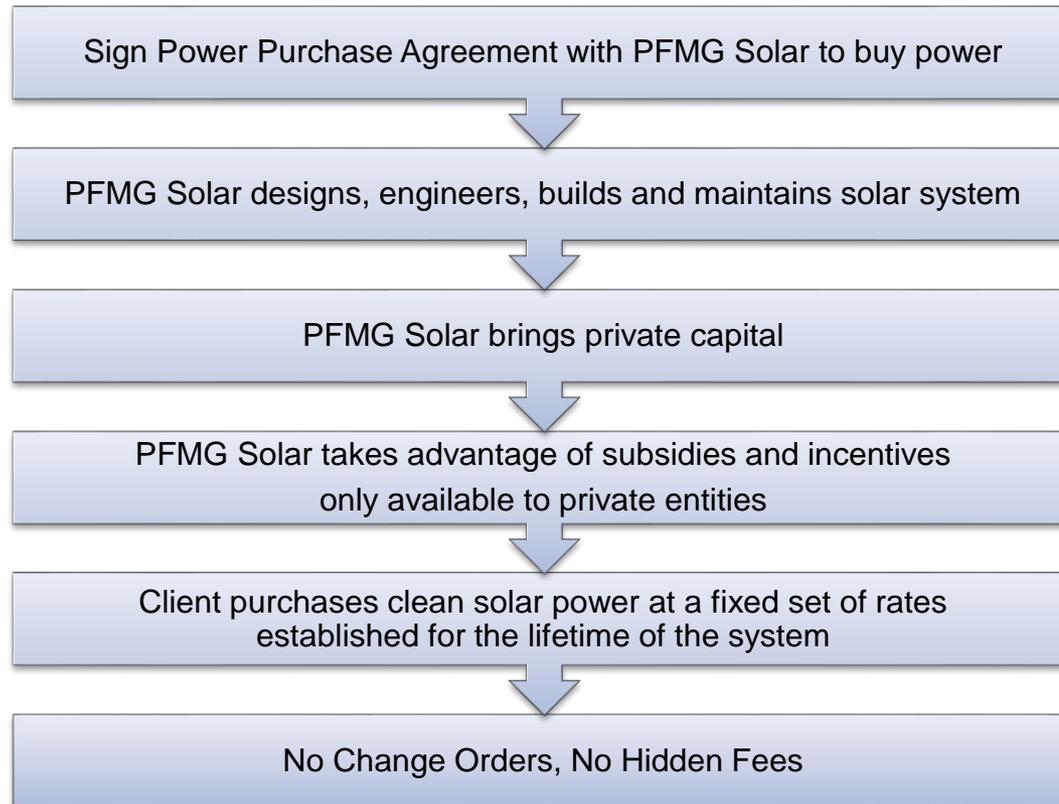
230 K-12 Schools at 28 Districts

PFMG Solar

- **The Solar Leader for Southern California Schools**
 - 230 schools at 28 school districts
 - Energy Engineered
 - No Change Orders
- **Partnership**
 - Exceptional Client References
 - Educational Enhancements (Internships, Mentoring Programs, Scholarships, SkillsUSA)
- **Construction with District Needs in Mind**
 - DSA experts- 100% close-out of DSA numbers
- **Safety**
 - Enhanced Electrical Safety Specifications



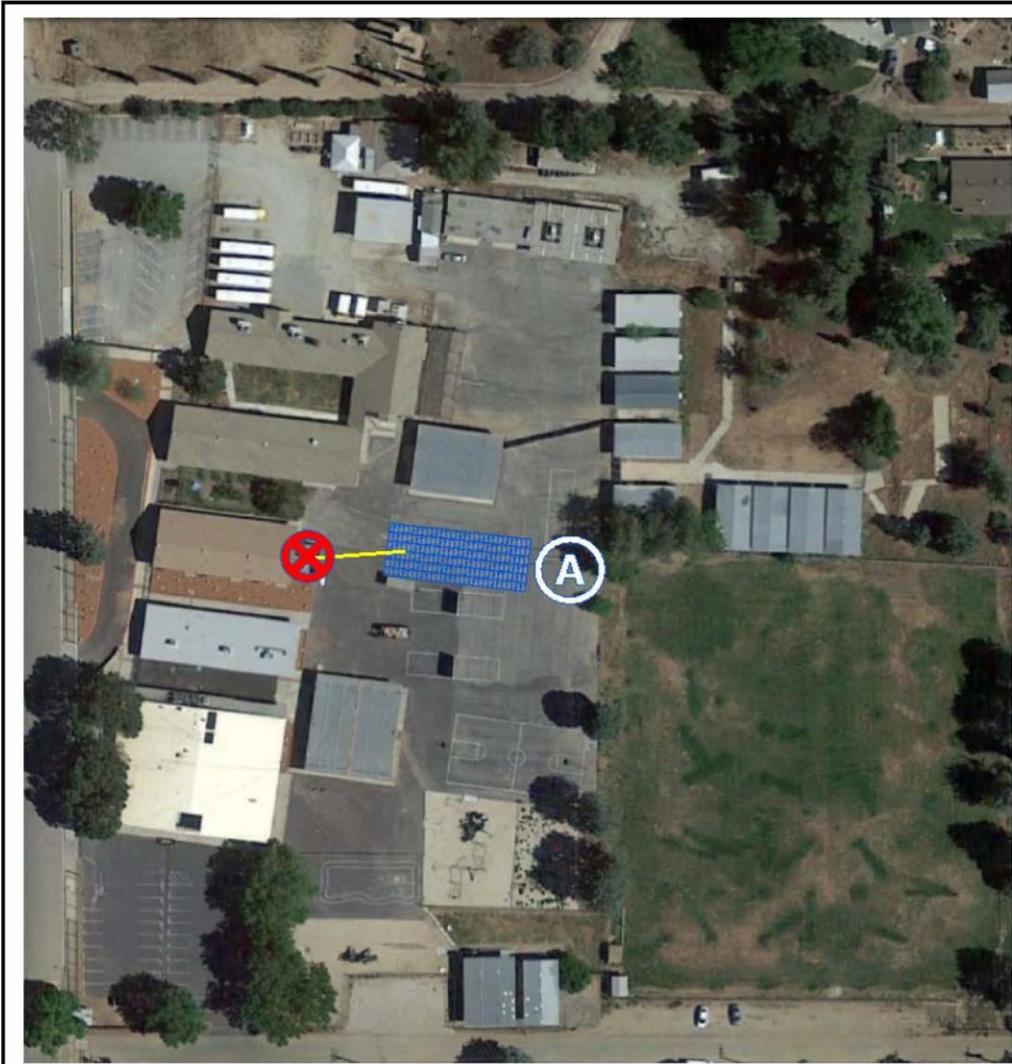
Power Purchase Agreement



California Government Code Section 4217

- **Designed to allow public agencies to take advantage of time sensitive incentives**
- **Provides flexibility and procurement for solar energy projects**

School District	Date of Approval
William S. Hart Union High School District	Board of Trustees Resolution Approval – February 16, 2011
County of Orange	Board of Supervisors Meeting Minutes – October 5, 2010
Palmdale School District	Board of Trustees Resolution Approval – April 27, 2010
Antelope Valley Union High School District	Execution of PPA - March 10, 2010
Castaic Union School District	Board of Trustees Approval – July 19, 2012
Hughes Elizabeth Lakes Union Elementary School District	Board of Trustees Resolution Approval – September 10, 2011
Keppel Union School District	Board of Trustees Approval – March 14, 2013
Wilsona School District	Board of Trustees Resolution Approval – May 19, 2011
Chaffey Joint Union High School District	Board of Trustees Approval – December 10, 2013
City of Palmdale	City Council Approval – August 1, 2012
Redondo Beach Union School District	Board of Trustees Approval – June 10, 2013
San Gabriel Unified School District	Board of Trustees Resolution Approval - August, 26, 2014
Pomona Unified School District	Board of Education Resolution Approval - November 12, 2014
Saddleback Valley Unified School District	Board of Education Resolution Approval – April 2, 2015
Alta Loma School District	Board of Trustees Approval – May 20, 2015



SCHEMATIC LAYOUT OF PROPOSED SOLAR SYSTEM

TABLE OF SOLAR ARRAYS

Location ID	Racking Type	Modules in Rise	# of Modules	Size DC kW	Azimuth	Tilt
A	Elevated	6	180	63.900	187°	7°
			180	63.900		

TABLE OF UTILITY METERS

Location ID	Meter Name	Meter Number	# of Modules	Size DC kW	Connected to Arrays
	Acton ES 1	V349R-000513	180	63.900	A

Arrays were designed assuming a crystalline silicon PV module of nominal power = 355W
 Total estimated conduit length = 70 ft

NOTES

1. Results of easement reports may affect final placement of solar arrays
2. Trees and/or other obstructions will have to be removed, trimmed or relocated
3. A detailed analysis of the effect of shade on the arrays has not been performed
4. A soil analysis has not been performed
5. It is assumed that the site is not in a designated flood plain
6. Arrays may be divided into 4,000sf sections with a 1' gap for earthquake safety

LEGEND

-  Solar Array
-  Point of Interconnection
-  Proposed Conduit Run
-  Tree to be removed. Final count may vary




PFMG SOLAR
 Partners For Many Generations
 7777 CENTER AVENUE, SUITE 200
 HUNTINGTON BEACH, CA 92647
 (714) 408-2982
 WWW.PFMGSOLAR.COM

CONFIDENTIALITY STATEMENT
 This drawing is the property of PFMG Solar LLC and is not to be disclosed to others without written consent from PFMG Solar LLC

Site Name: ACTON ELEMENTARY SCHOOL AND DISTRICT OFFICE	Project name: ACTON-AGUA DULCE UNIFIED SCHOOL DISTRICT	Site Address: 32248 CROWN VALLEY ACTON, CA 93510	Revision: S01 Date: 2/20/2018 Drawn by: SAP
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SCHEMATIC LAYOUT OF PROPOSED SOLAR SYSTEM

TABLE OF SOLAR ARRAYS

Location ID	Racking Type	Modules in Rise	# of Modules	Size DC kW	Azimuth	Tilt
A	Elevated	6	96	34.080	180°	7°
B	Elevated	6	126	44.730	150°	7°
			222	78.810		

TABLE OF UTILITY METERS

Location ID	Meter Name	Meter Number	# of Modules	Size DC kW	Connected to Arrays
	Agua Dulce ES	259000-052273	222	78.810	A,B

Arrays were designed assuming a crystalline silicon PV module of nominal power = 355W
 Total estimated conduit length = 560 ft

NOTES

1. Results of easement reports may affect final placement of solar arrays
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3. A detailed analysis of the effect of shade on the arrays has not been performed
4. A soil analysis has not been performed
5. It is assumed that the site is not in a designated flood plain
6. Arrays may be divided into 4,000sf sections with a 1' gap for earthquake safety

LEGEND

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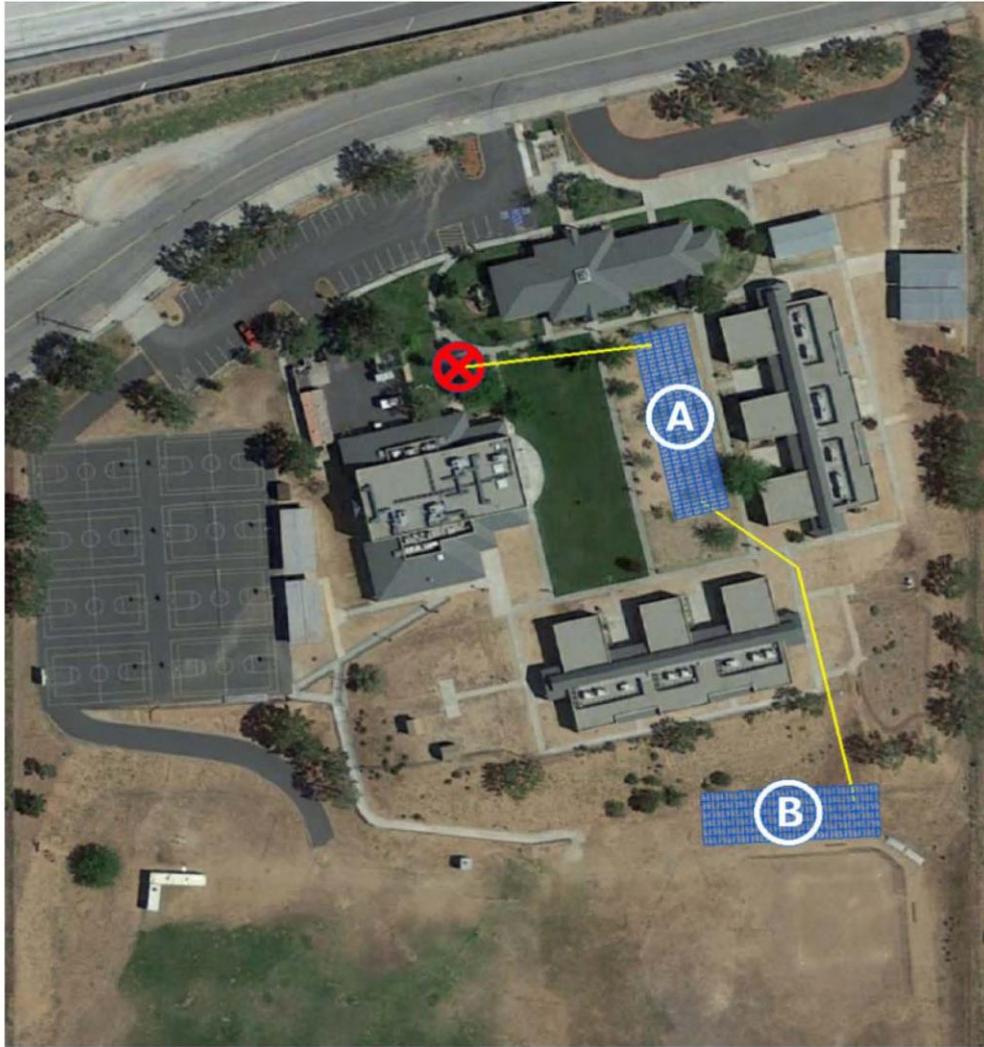
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Site Name:
 AGUA DULCE ELEMENTARY SCHOOL

Project name:
 ACTON-AGUA DULCE UNIFIED SCHOOL DISTRICT

Site Address:
 11311 FRASCATI STREET
 SANTA CLARITA, CA 91390

Revision: S01
Date: 2/20/2018
Drawn by: SAP



SCHEMATIC LAYOUT OF PROPOSED SOLAR SYSTEM

TABLE OF SOLAR ARRAYS

Location ID	Racking Type	Modules in Rise	# of Modules	Size DC kW	Azimuth	Tilt
A	Elevated	6	252	89.460	257°	7°
B	Elevated	6	228	80.940	177°	7°
			480	170.400		

TABLE OF UTILITY METERS

Location ID	Meter Name	Meter Number	# of Modules	Size DC kW	Connected to Arrays
	High Desert MS	259000-058477	480	170.400	A,B

Arrays were designed assuming a crystalline silicon PV module of nominal power = 355W
 Total estimated conduit length = 402 ft

NOTES

1. Results of easement reports may affect final placement of solar arrays
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3. A detailed analysis of the effect of shade on the arrays has not been performed
4. A soil analysis has not been performed
5. It is assumed that the site is not in a designated flood plain
6. Arrays may be divided into 4,000sf sections with a 1' gap for earthquake safety

LEGEND

-  Solar Array
-  Point of Interconnection
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-  Tree to be removed. Final count may vary




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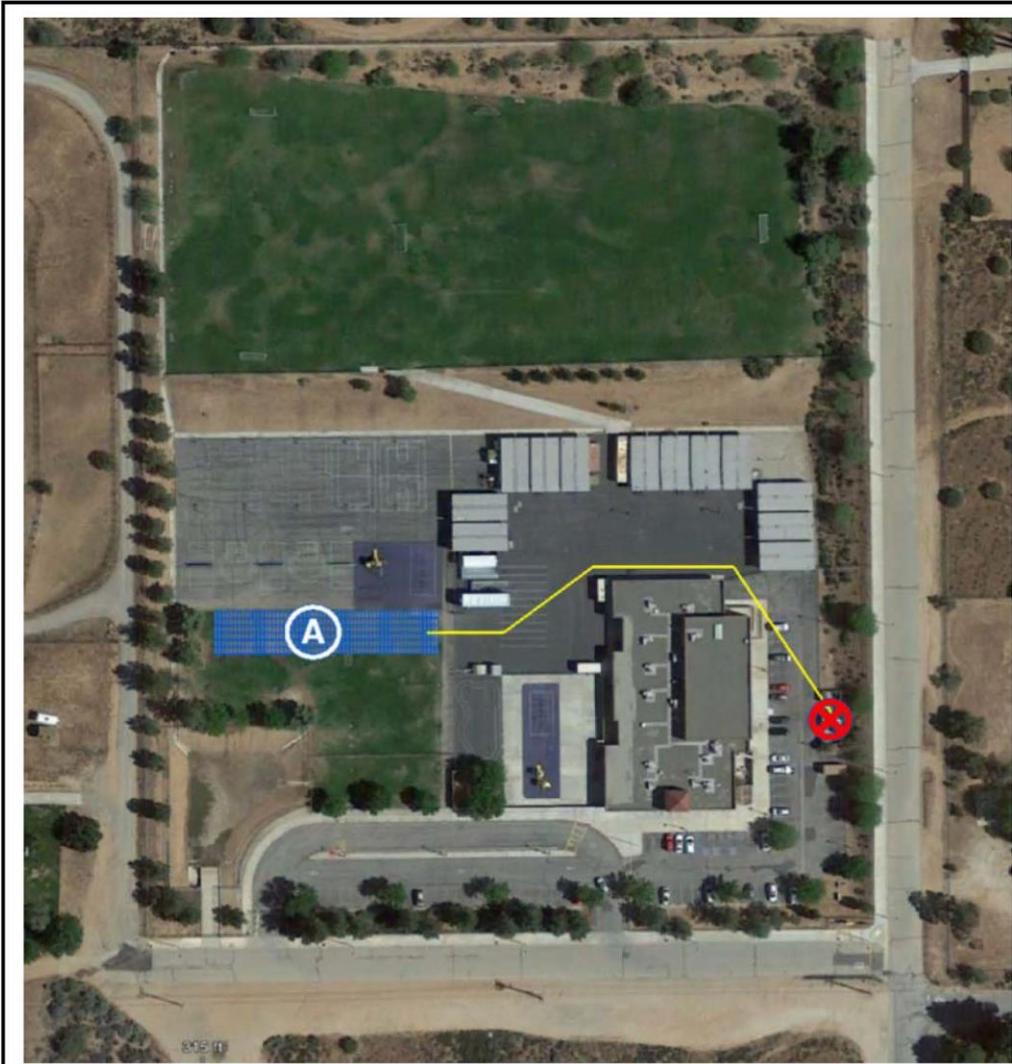
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Site Name:
HIGH DESERT MIDDLE SCHOOL

Project name:
ACTON-AGUA DULCE UNIFIED SCHOOL DISTRICT

Site Address:
3620 ANTELOPE WOODS
ACTON, CA 93510

Revision: S01
Date: 2/20/2018
Drawn by: SAP



SCHEMATIC LAYOUT OF PROPOSED SOLAR SYSTEM

TABLE OF SOLAR ARRAYS

Location ID	Racking Type	Modules in Rise	# of Modules	Size DC kW	Azimuth	Tilt
A	Elevated	6	348	123,540	180°	7°
			348	123,540		

TABLE OF UTILITY METERS

Location ID	Meter Name	Meter Number	# of Modules	Size DC kW	Connected to Arrays
	Meadowlark ES	259000-054018	348	123,540	A

Arrays were designed assuming a crystalline silicon PV module of nominal power = 355W
 Total estimated conduit length = 444 ft

NOTES

1. Results of easement reports may affect final placement of solar arrays
2. Trees and/or other obstructions will have to be removed, trimmed or relocated
3. A detailed analysis of the effect of shade on the arrays has not been performed
4. A soil analysis has not been performed
5. It is assumed that the site is not in a designated flood plain
6. Arrays may be divided into 4,000sf sections with a 1' gap for earthquake safety

LEGEND

-  Solar Array
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Site Name: MEADOWLARK ELEMENTARY SCHOOL	Project name: ACTON-AGUA DULCE UNIFIED SCHOOL DISTRICT	Site Address: 3015 SACRAMENTO AVE ACTON, CA 93510	Revision: S01 Date: 2/20/2018 Drawn by: SAP
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SCHEMATIC LAYOUT OF PROPOSED SOLAR SYSTEM

TABLE OF SOLAR ARRAYS

Location ID	Racking Type	Modules in Rise	# of Modules	Size DC kW	Azimuth	Tilt
A	Carport	6	174	61.770	140°	7°
B	Carport	6	198	70.290	140°	7°
C	Carport	6	198	70.290	140°	7°
			570	202.350		

TABLE OF UTILITY METERS

Location ID	Meter Name	Meter Number	# of Modules	Size DC kW	Connected to Arrays
	Vasquez HS	V349R-000304	570	202.350	A,B,C

Arrays were designed assuming a crystalline silicon PV module of nominal power = 355W
 Total estimated conduit length = 990 ft

NOTES

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LEGEND

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Site Name: VASQUEZ HIGH SCHOOL	Project name: ACTON-AGUA DULCE UNIFIED SCHOOL DISTRICT	Site Address: 33630 RED ROVER MINE ACTON, CA 93510	Revision: S01 Date: 2/20/2018 Drawn by: SAP
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Partners for Many Generations Providing value to the Communities we serve

