



Pasadena Unified School District Solar Project

January 13, 2020



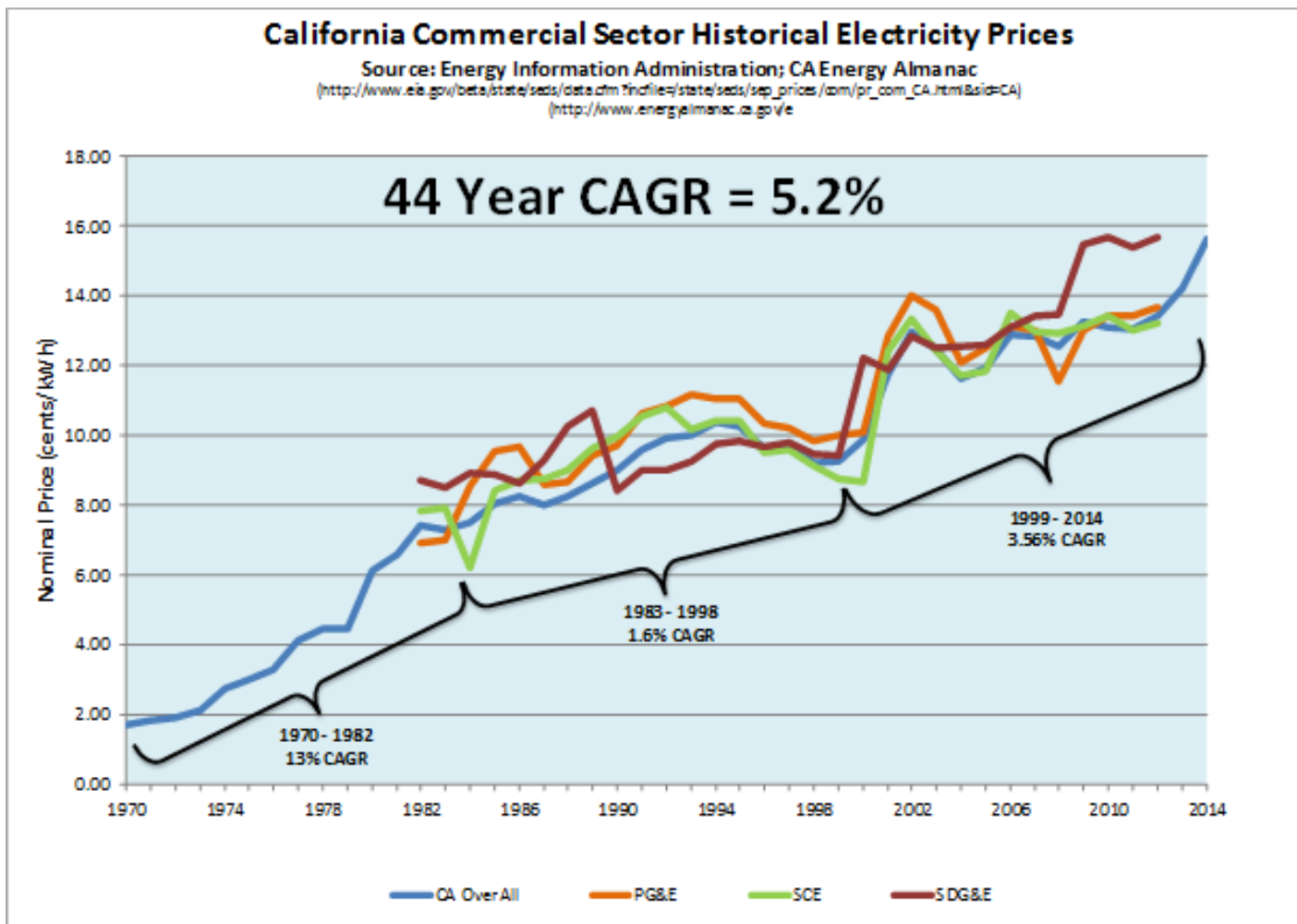


Solar Project Benefits

- **Positive Impact to General Fund**
 - More than \$17,000,000 over 25 years (savings)
 - No cost to the District, including Design, DSA Permits, Demo/Construction and Maintenance
- **Improved Campus Security and Safety**
 - Improved lighting in parking lots for path of travel
- **Shade for Students, Cars and the Community**
 - Unshaded blacktop is typically 55° hotter than the ambient air temperature
 - Foursquare, tetherball and hopscotch courts benefit from the shade
- **Next Generation Science Standards Solar Curriculum**
- **Local Job Creation**
- **Environmental and Human Health Benefits**
 - Zero Emissions
 - Over 60% of PUSD electricity will come from solar



Utility Rates Continue to Rise





Solar Project Timeline

Milestone	Dates
PPA Executed	July 2018
PPA Amendment Executed	June 2019
Interconnection Applications Approved with Preliminary Drawings (all sites)	August 2019
Interconnection Applications Approved with DSA Finalized Drawings (Phase 1)	December 2019
Phase 1 DSA Permits Acquired	November 2019
Phase 2 DSA Permits Acquired	January 2020
Phase 3 DSA Permitting Dates	Scheduled February 2020
Phase 4 DSA Permitting Dates	Scheduled March 2020
CGS Review/Approval	3 sites approved (Blair, Willard, Wilson) San Rafael is still pending



Construction Phasing Plan

Construction Phase 1 (7 sites)		
District Service Center, Coombs ES, John Muir HS, Cleveland ES, Don Benito FS, Hamilton ES, McKinley	Start	Finish
Mobilize	1/7/2020	2/27/2020
Construction	1/7/2020	5/6/2020
Utility PTO System Operational	3/11/2020	5/15/2020
Final Completion	3/31/2020	5/30/2020
DSA Closeout	4/15/2020	6/30/2020

Note: by direction on 1/14/2020, DSC will be moved to Phase 4. Place a hold on Phase 1 projects.

Construction Phase 2 (7 sites)		
Field ES, Washington STEAM, Sierra Madre MS, Madison ES, Longfellow ES, Jackson STEM, Burbank ES	Start	Finish
Mobilize	2/5/2020	3/5/2020
Construction	2/5/2020	6/11/2020
Utility PTO System Operational	4/15/2020	6/30/2020
Final Completion	5/1/2020	7/15/2020
DSA Closeout	6/1/2020	8/15/2020

Construction Phase 3 (6 sites)		
Pasadena HS, Marshall Fund, Webster ES, Sierra Madre ES, Alma Fuerte, Altadena	Start	Finish
Mobilize	3/9/2020	4/9/2020
Construction	3/9/2020	7/13/2020
Utility PTO System Operational	7/6/2020	8/15/2020
Final Completion	7/30/2020	8/31/2020
DSA Closeout	8/30/2020	9/30/2020

Construction Phase 4 (8 sites)		
Pasadena Rosebud, Franklin ES, Elliot Arts, Jefferson ES, Willard, Wilson, Blair HS, San Rafael	Start	Finish
Mobilize	4/9/2020	5/9/2020
Construction	4/9/2020	9/30/2020
Utility PTO System Operational	7/15/2020	10/15/2020
Final Completion	8/15/2020	11/15/2020
DSA Closeout	9/15/2020	12/31/2020



Division of State Architecture (DSA)

- **Permits for Public School District Projects Must Be Attained through the California DSA**
- **The Safety Requirements for DSA Go Above and Beyond Local Permitting Agencies**
 - Especially regarding seismic requirements
- **DSA Has Requirements for Solar Projects**
 - Canopies must be 20 feet from existing structures
 - ADA (wheel chair access) is required
 - Canopies can not encroach upon fire lanes and safety dispersal zones
 - DSA IR 16-8 Solar Photovoltaic and Thermal Systems Review and Approval Requirements – available at PUSD Web Page and also the DSA Webpage for all interested to review.





The Look of Solar: Shade Structures



Tulita Elementary School
Redondo Beach Unified
School District



Jefferson Elementary School
Redondo Beach Unified School District



The Look of Solar: Carports



Laguna Hills High School
Saddleback Valley USD



Chaffey High School
Chaffey JUHSD





PFMG Solar- #1 Solar Provider for Southern California School Districts





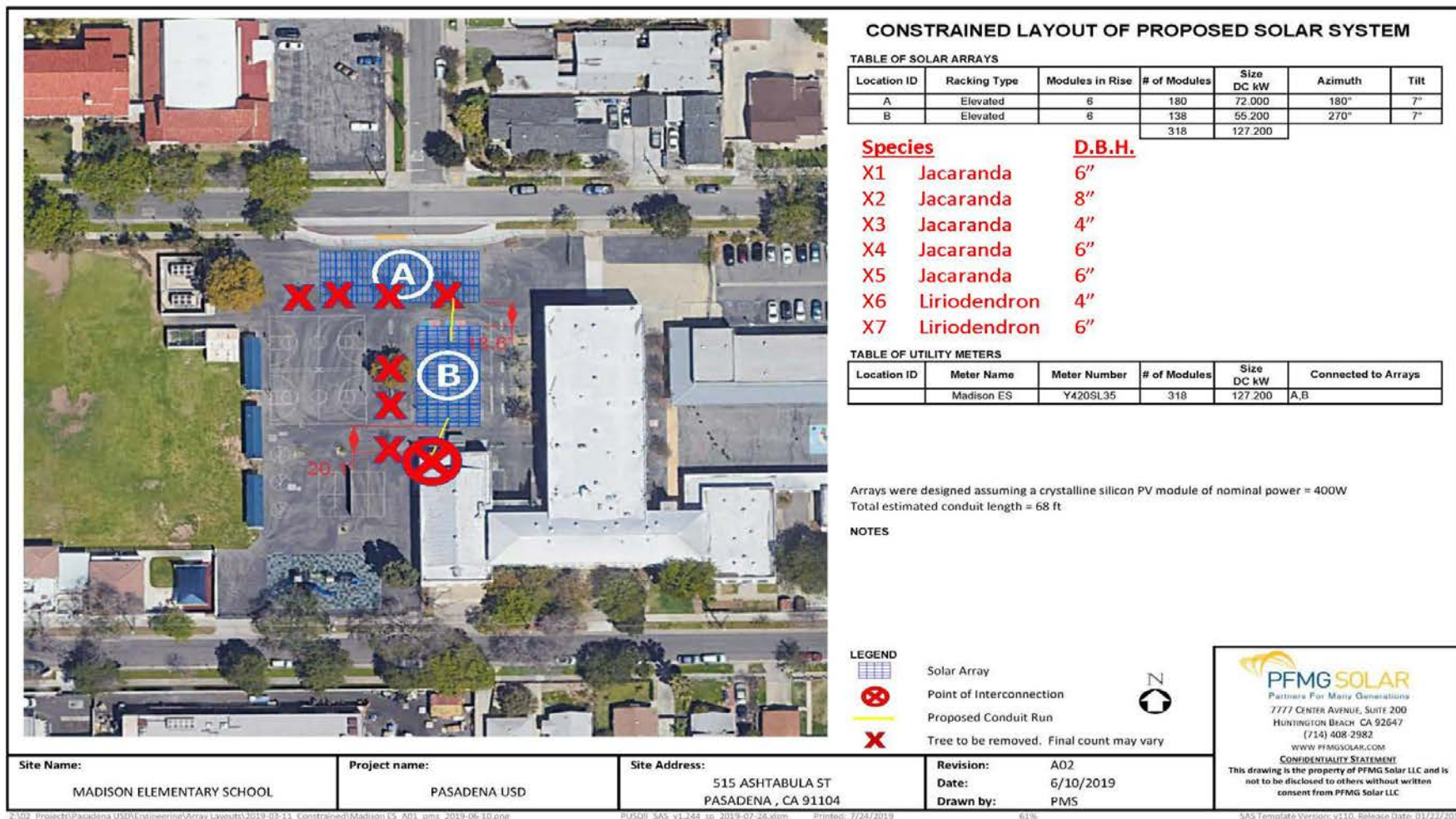
Proposed Tree Removal

School Site	Under Array	Outside Array	Notes
Alma Fuerte Public School	0	0	
Altadena Elementary School	1	0	1 Chinese Elm
Blair High School	0	0	
Burbank Elementary School	1	6	3 Liquidambar; 1 Mulberry; 3 Jacarandas
Cleveland Elementary School	0	1	1 Quercus Pilustris
District Service Center	0	0	
Don Benito Fundamental School	0	4	All on slope and all volunteers; 1 Canary palm; 2 Ash; 1 Olive
Eliot Arts Magnet Academy	0	0	
Field Elementary School	0	0	
Franklin Elementary School	0	0	
Hamilton Elementary School	8	2	2 Jacaranda; 4 Ginko; 2 Tulip Trees(dead)
Jackson STEM Academy	2	3	4 Pink Trumpet; 1 Live Oak
Jefferson Elementary School	0	4	4 tulip trees, 1 dead; 2 - 50% dead, 1 good condition
John Muir High School	4	0	4 Pink Trumpet
Longfellow Elementary School	4	4	2 Albizia Julibrissin; 1 Holly Oak, 1 Liquidambar; 4 citrus
Madison Elementary School	3	4	4 Jacaranda; 3 Tulip tree
Marshall Fundamental School	0	9	9 camphor trees, most dying, 2 dead
McKinley School	0	0	
Nora Coombs Elementary School	0	0	
Pasadena High School	0	0	
Pasadena Rosebud Academy	0	0	
San Rafael Elementary School	1	1	1 Virginia Oak, serious lean; 1 live oak, smaller tree
Sierra Madre Elementary School	1	1	1 Jacaranda with serious trunk defect, uplifting pavement
Sierra Madre Middle School	6	4	3 Young Virginia oaks in West lot; 4 chinese elm & 3 Ash in lower lot(roots all cut)
Washington STEAM Academy	2	4	6 Eucalyptus, branches dropping, hazard trees
Webster Elementary School	1	0	1 Chinese Elm, history of branches dropping
Willard Elementary School	0	0	
Wilson Middle School	0	0	



Site Map of Madison with Proposed Tree Removals

Note: Complete site plans are available for review at the district's Web-page.



This is a sample site page identifying the tree removal – for the Madison Site.



Examples: Madison and Sierra Madre Middle School

1 Madison



(1) Jacaranda trees, planted in the asphalt playground, to create shade. Trees shown with some dying branches and growth stunted. These trees were planted in 2004. They have been in the ground for 15 years.

(2) SMMS One of 3 Ash trees, at the base of the field, roots were cut on all trees, for construction of a concrete culvert, a strong wind could topple them making them hazard trees. This Ash also has included bark, creating a future failure (hazard tree).



2



3

(3) SMMS Includes 2 young Oaks, recently planted as part of the new Construction of campus, completed 2015. Young, smaller trees, no real loss of canopy. Will replace with new trees somewhere on campus.



Mobilization has started prior to the "Work Stop Order" – 1/14/2020



Mobilization/Staging/Laydown Equipment and Materials



Cleveland Staff lot
Mobilization Construction
Fencing



John Muir High School Student Lot
Laydown/Storage/Office trailer



NCES Demobilization of
Drilling equipment





Questions and/or comments with web site link

- **Questions and/or Comments?**
- **This presentation along with other information regarding the Solar project can be found on the Pasadena USD Web page.**
- **<https://www.pusd.us/Page/8248>**