



Solar Array Proposal for Whisman Sports Center and Mountain View Sports Pavilion

April 18, 2024

TBD



Background

Background



- The **Mountain View Sports Pavilion** and **Whisman Sports Center** gymnasiums are maintained and operated jointly by the Mountain View Whisman School District and the City of Mountain View
- Provides recreational activities to students and the community during non-school hours



Background: District and City climate goals



- District adopted a Climate Change and Green Schoolyards resolution that includes developing an Environmental Sustainability Plan that would support decarbonization and climate resiliency (February 2023)
- Mountain View is developing a Climate Strategy to decarbonize its operations and enhance resiliency by 2035
 - Senior Center resilience hub (solar and battery storage, cooling, electric heat pumps)
 - Community Center resilience hub (battery storage, cooling)
 - Fleet electrification



Funding opportunities for gymnasiums



- CA Net Energy Metering (NEM) 2.0 program provides highest solar incentives over a 20-year timeframe with estimated **\$4 million in operational savings**
 - Additional incentives cover upfront costs (**\$400K to \$700K**)
 - Projects must be complete by April 2026
- Applying for Environmental Protection Agency (EPA) grant opportunity to fund battery storage and replace gas-fired heating system to electric heat pumps (**up to \$15 million**)



Overall vision for gymnasiums



1. Maintain or reduce operational costs by installing high-efficiency equipment and producing onsite energy
2. Replace fossil fuel gas-fired equipment with electric heat pumps
 - Space heating systems need replacement soon
 - Water heating systems
 - Would use clean electricity!
3. Enhance climate resiliency by adding air conditioning and battery storage
4. Apply for funding opportunities to cover costs





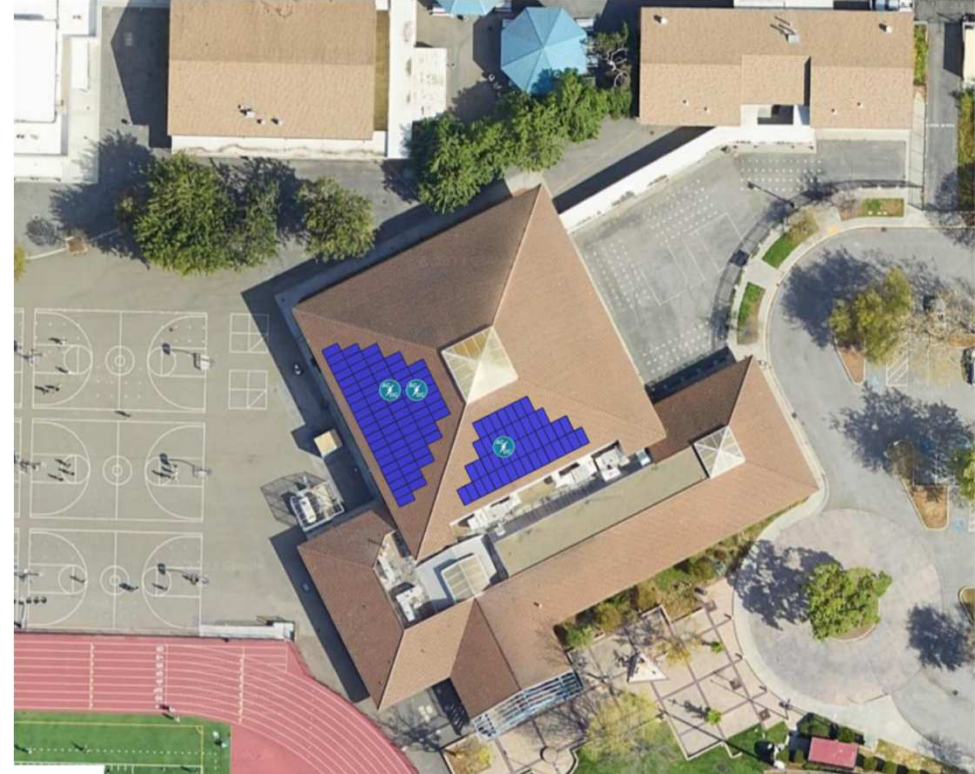
Solar Array Proposal



Whisman solar array proposal



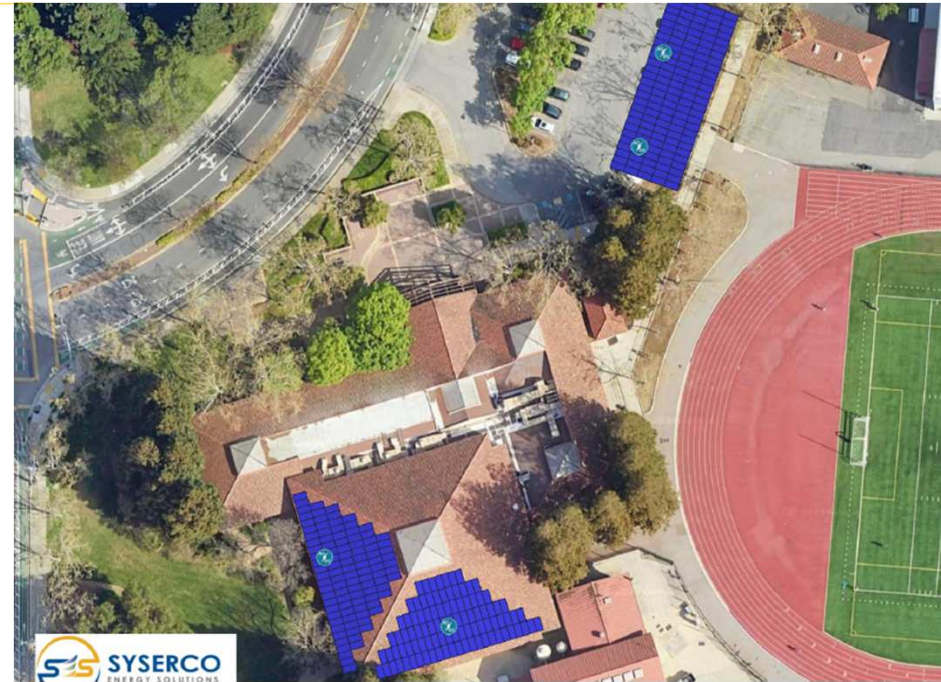
- Rooftop installation
- Whisman Sports Center's operational and maintenance costs are funded equally (50/50) between the City and the District.
- 8-year return on investment for a 25 to 30-year energy system
- Estimated project price: up to \$500K
 - After direct incentives: up to \$327K
 - **School district cost: up to \$163K**
- Estimated life cycle net savings over 30 years up to \$1.4 million
 - **School district life cycle savings up to \$700K**



Graham solar array proposal



- Rooftop and carport installation
 - Loss of 1 parking space to create required ADA parking
 - Removal of 3 mature trees and two 20-gallon sized trees
 - Can work with district to replace trees
- Mountain View Sports Pavilion's operational and maintenance costs are funded entirely by the City of Mountain View
- 12-year return on investment
- Estimated project cost: up to \$1.4 million
 - After direct incentives up to \$970K
 - **School district cost \$0**
- Life cycle net savings over 30 years: up to \$2.6 million



Ongoing maintenance for solar array



- The Joint Use Agreement between the City and the School District includes terms for the operations and maintenance of the Gymnasiums:
 - Mountain View Sports Pavilion would be covered entirely by the city
 - Whisman Sports Center would be a 50/50 cost share
- Maintenance generally involves:
 - Cleaning the panels twice a year
 - Inspecting for any broken panels
 - Monitor the efficiency of the panels
 - Replacement of solar batteries and inverters after 10-12 years
 - Resolving warranty issues





Next Steps

Projected timeline to install solar array by April 2026 (NEM 2.0 deadline)



- **April to May:** Draft contract
- **June:** Public hearing and contract execution
- **July 2025:** Design and permitting complete (including DSA review)
- **Late 2025:** Construction 6-8 weeks
 - Some flexibility may be afforded if DSA permit is obtained by July 2025
- **April 2026:** Operation of solar arrays

- Staff will return to the Board to discuss battery storage and space heating feasibility and any subsequent decisions needed for funding opportunities



Recommended Action



Recommended Action



- Approve the location of solar arrays at the Mountain View Sports Pavilion and Whisman Sports Center and direct District Staff to work with the City of Mountain View to negotiate an agreement to install the solar array
- If approved to proceed, the vendor agreement to install solar array would be brought to the Board for a final decision in June



Thank you

What is NEM 2.0?



- Allows city and school district to earn monetary credits for excess electricity their solar array system provides to the grid
- Excess energy produced during the day is then used to offset energy consumption after 4pm
- This incentive lasts for 20 years!
- Given increasing electricity (kWh) rates at high demand times between 4 pm and 9 pm, it can provide significant operational savings and pave a path to replace fossil fuel gas-fired building equipment (water heaters and HVAC) with clean electricity heat pumps

