



# **Solar Photovoltaic (PV) Feasibility Update**

## **San Mateo Union High School District**

Board of Trustees Meeting  
May 2022



# AGENDA

1. Progress Since Last Update
2. Project Costs and Savings
3. Site-by-Site Financial Analysis
4. Site Layouts
5. Next Steps

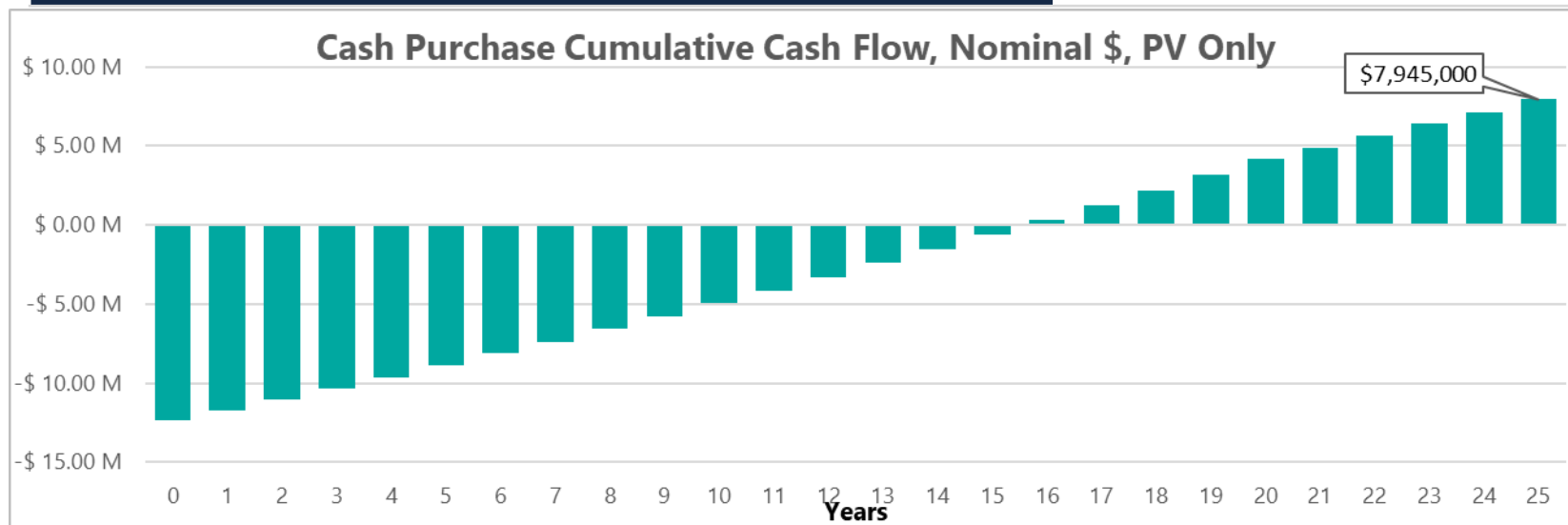


# PROGRESS SINCE LAST UPDATE

1. Filed Interconnection Applications (IA) with PG&E to secure NEM 2 grandfathering
2. Updated solar PV pricing to reflect current market conditions
3. Updated solar PV savings to reflect current utility tariffs
4. Gathered “Site Details” packet of information with relevant site-specific details and cash flows

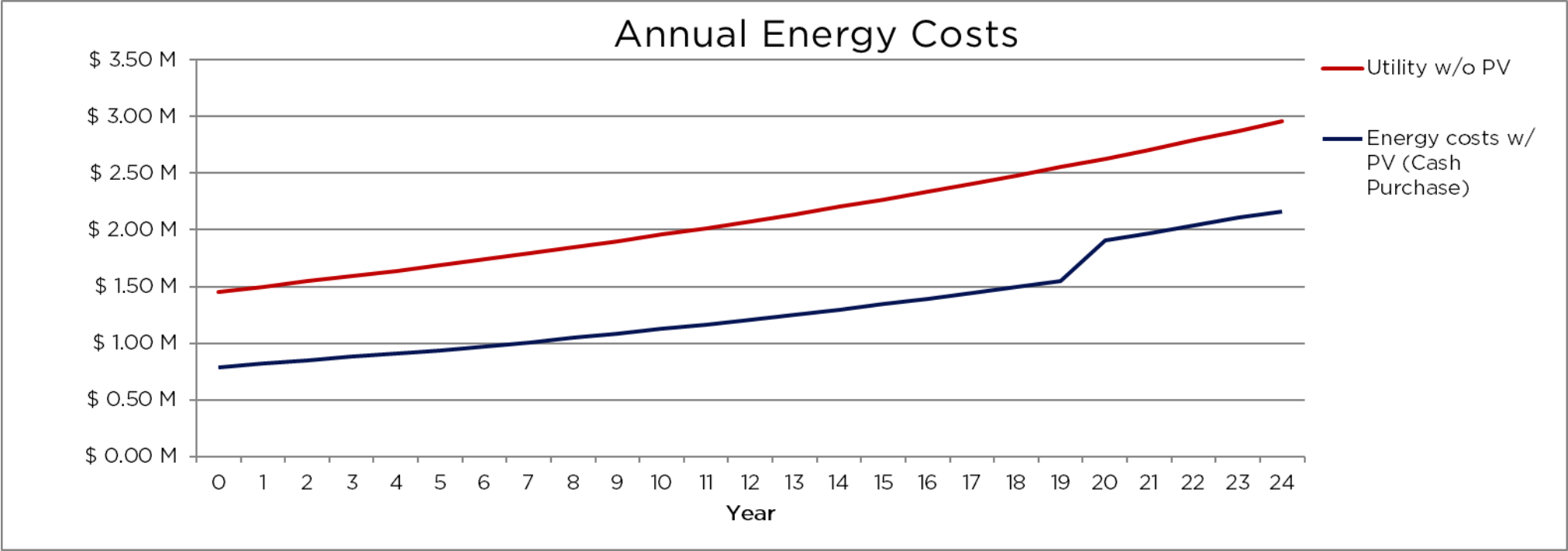
# PROJECT COSTS AND SAVINGS

	Cash Purchase (\$4.59/W)
Approximate Project Size	2.32 MW
Project Capital Costs	\$10.66M
Project Development Costs	\$1.71M
25-Year Nominal Savings	\$7.94M
25-Year NPV Savings, 2.0% Discount Rate	\$3.36M



# PROJECT ANNUAL ENERGY COST SAVINGS

	Cash Purchase
Year 1 Energy Savings vs Utility, Nominal \$	\$668k
25-Year Energy Savings vs Utility, Nominal \$	\$20.3M



# SITE-BY-SITE FINANCIAL ANALYSIS

Site	System Size (kWp)	Estimated Capital Cost <sup>1,2</sup> (\$)	Energy Consumption Offset <sup>3</sup> (Yr 1)	Utility Bill Offset <sup>3</sup> (Yr 1)	Lifetime Nominal Savings <sup>1</sup> (\$)	Lifetime NPV Savings <sup>1</sup> (\$, 2023)
Aragon HS	395	\$2,062,000	89%	72%	\$875,000	\$212,000
Burlingame HS	255	\$1,361,000	70%	56%	\$693,000	\$228,000
Capuchino HS	385	\$2,049,000	83%	77%	\$1,809,000	\$936,000
Hillsdale HS	320	\$1,681,000	87%	60%	\$609,000	\$93,000
Mills HS	435	\$2,260,000	89%	85%	\$2,114,000	\$1,125,000
San Mateo HS	285	\$1,565,000	96%	91%	\$1,123,000	\$514,000
District Office	155	\$804,000	84%	56%	\$226,000	(\$8,000)
Peninsula HS	60	\$389,000	91%	87%	\$270,000	\$118,000
Maintenance	30	\$198,000	87%	83%	\$148,000	\$68,000
<b>TOTAL<sup>4</sup></b>	<b>2,320</b>	<b>\$12,368,000</b>	<b>87%</b>	<b>74%</b>	<b>\$7,945,000</b>	<b>\$3,358,000</b>

<sup>1</sup> Individual costs and savings assume portfolio pricing and may not be achievable on each individual site basis

<sup>2</sup> Costs include an estimated 16% soft costs, including 10% contingency

<sup>3</sup> Offset percentages include existing solar PV

<sup>4</sup> Because of some fixed fees, not all of the total costs/savings are the same as the sum of each individual site



A large radio telescope dish is silhouetted against a dark, starry night sky. The dish is positioned on the left side of the frame, with its base and support structure visible. In the background, other smaller telescope dishes are visible on distant hills. A bright yellow-green rectangular overlay covers the center of the image, containing the title text in white. The overall scene is a night-time astronomical observation site.

# SOLAR PV LAYOUTS



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# Aragon HS

900 Alameda De Las Pulgas, San Mateo, CA 94402

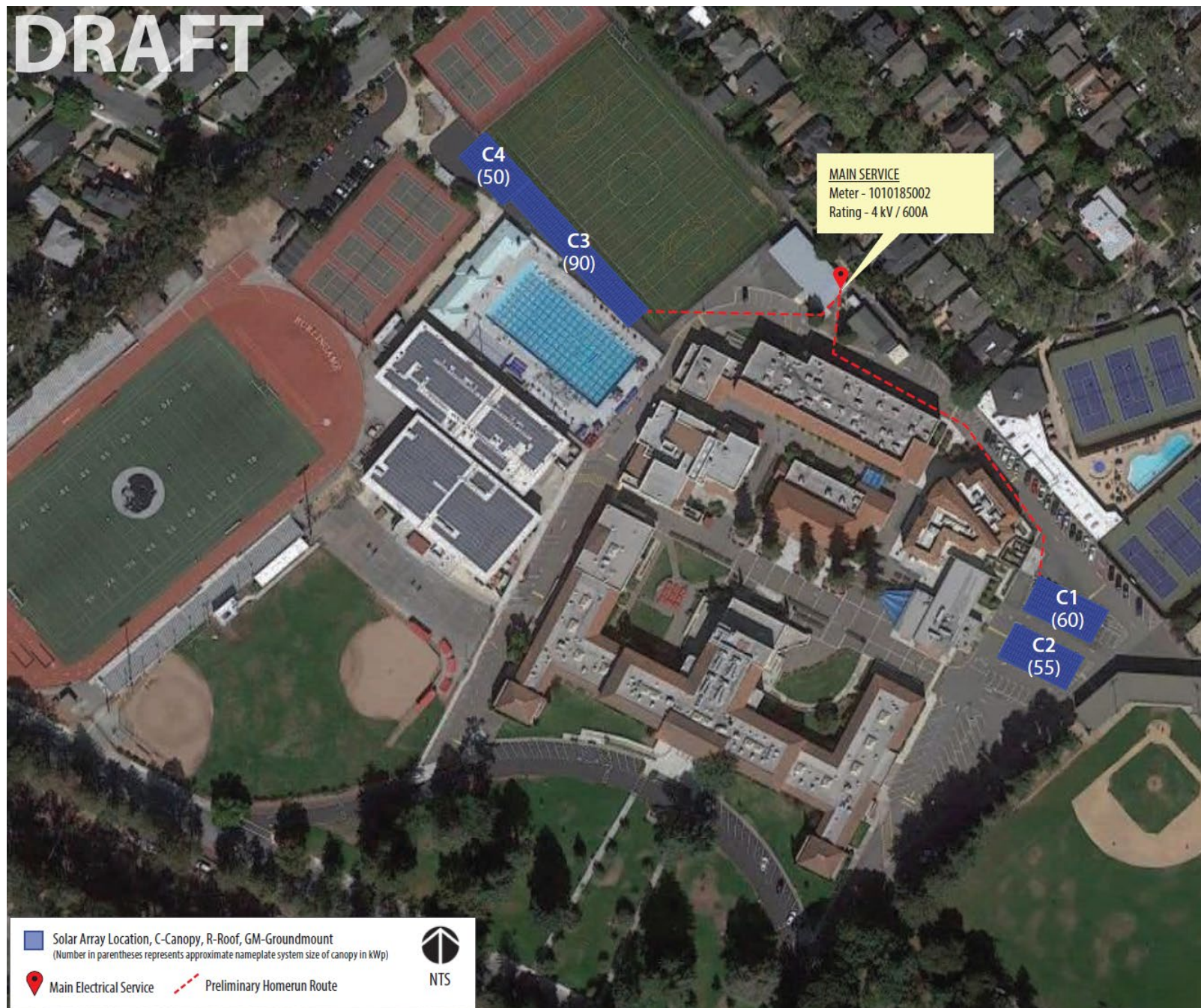


SMUHSD Solar, Preliminary Siting  
3/21/2022

**SAGE**  
ENERGY CONSULTING  
an NVIS company



# DRAFT



## Burlingame HS

1 Mangini Way, Burlingame, CA 94010

**Note:** Layout may be updated when details of new gym project are available.

SMUHSD Solar, Preliminary Siting  
3/21/2022

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# DRAFT

Capuchino HS  
1501 Magnolia Ave, San Bruno, CA 94066



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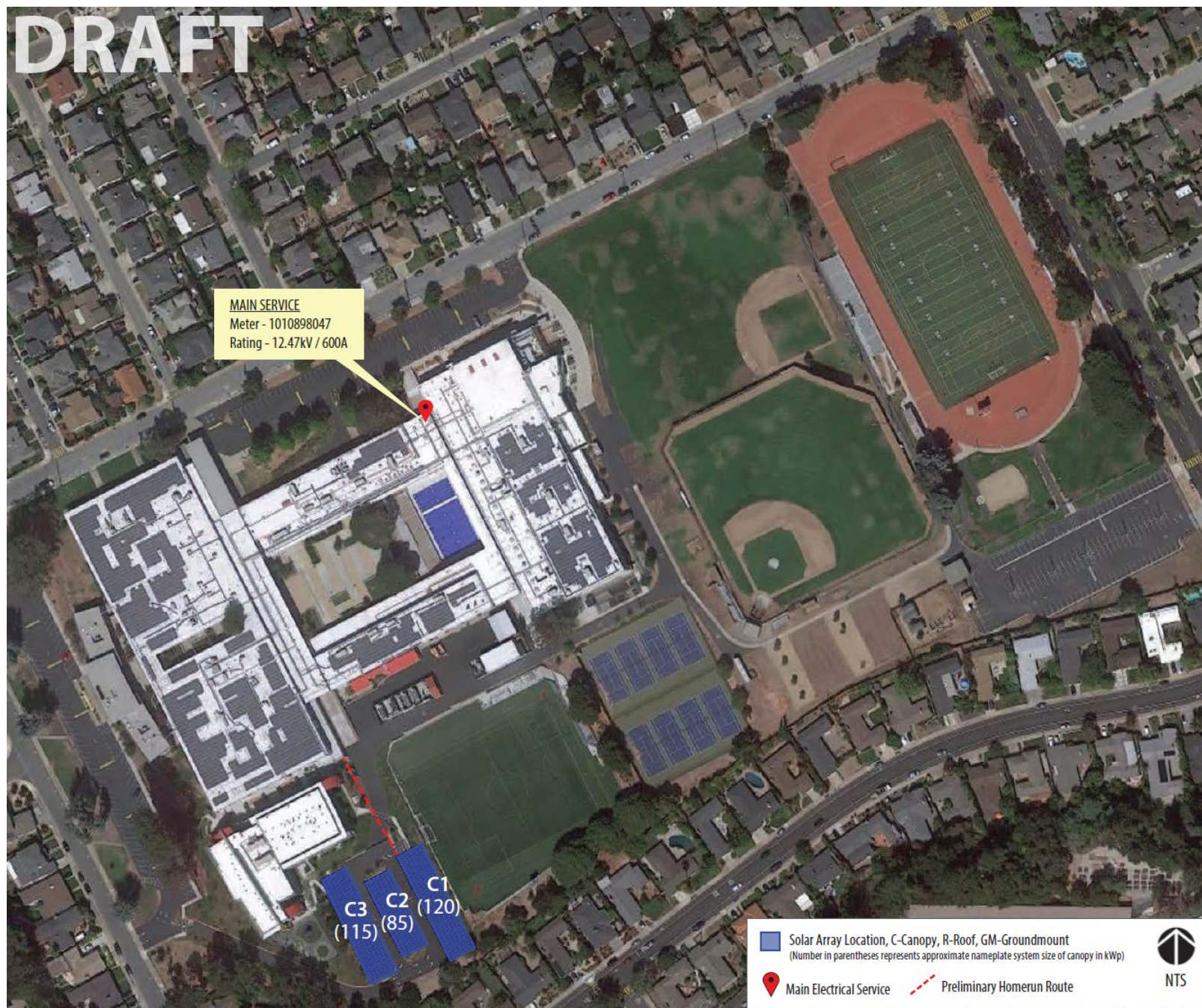
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# Hillsdale HS

31St Ave & Del Monte, San Mateo, CA 94403



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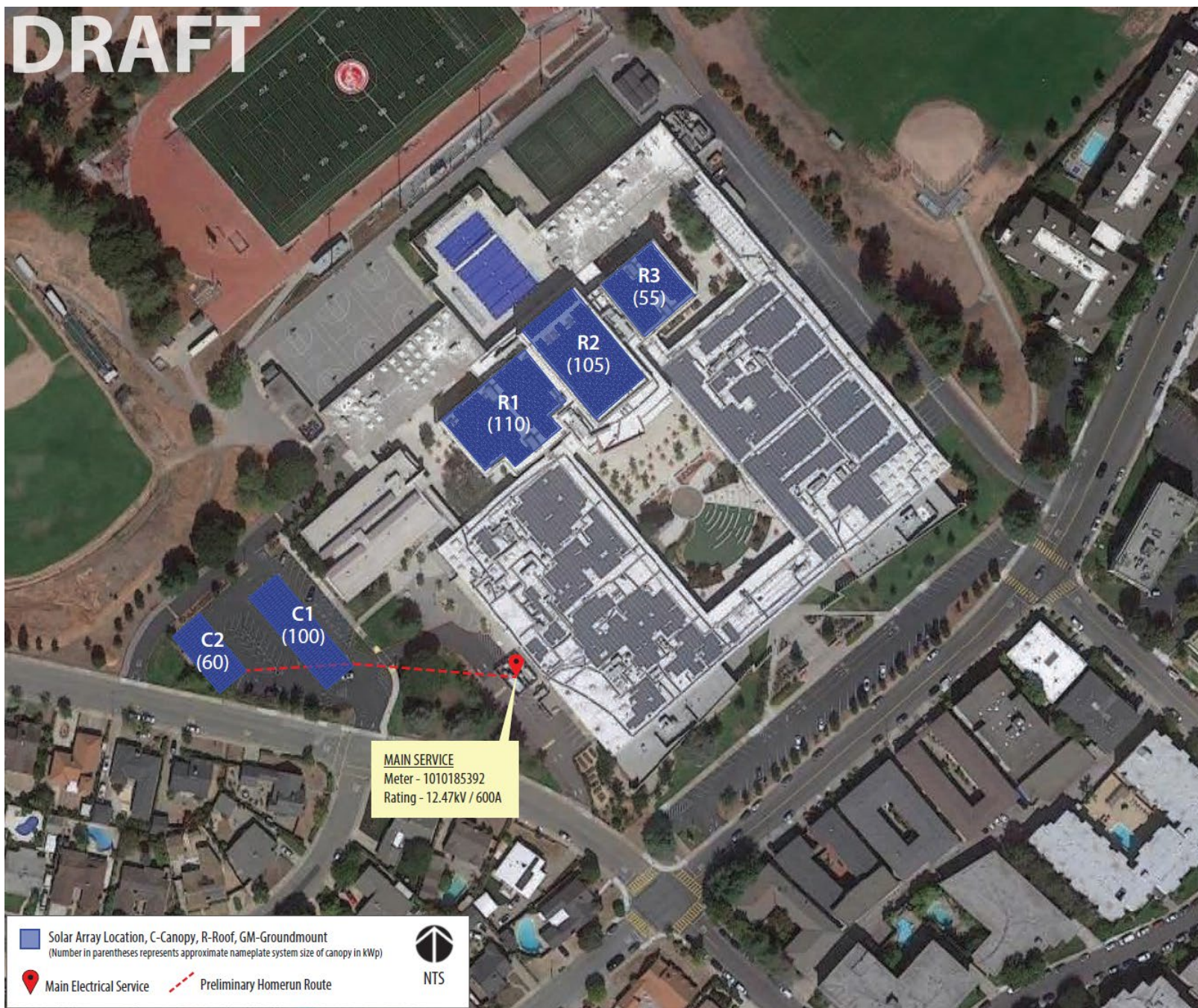
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# DRAFT

## Mills HS

400 Murchison Dr, Millbrae, CA 94030



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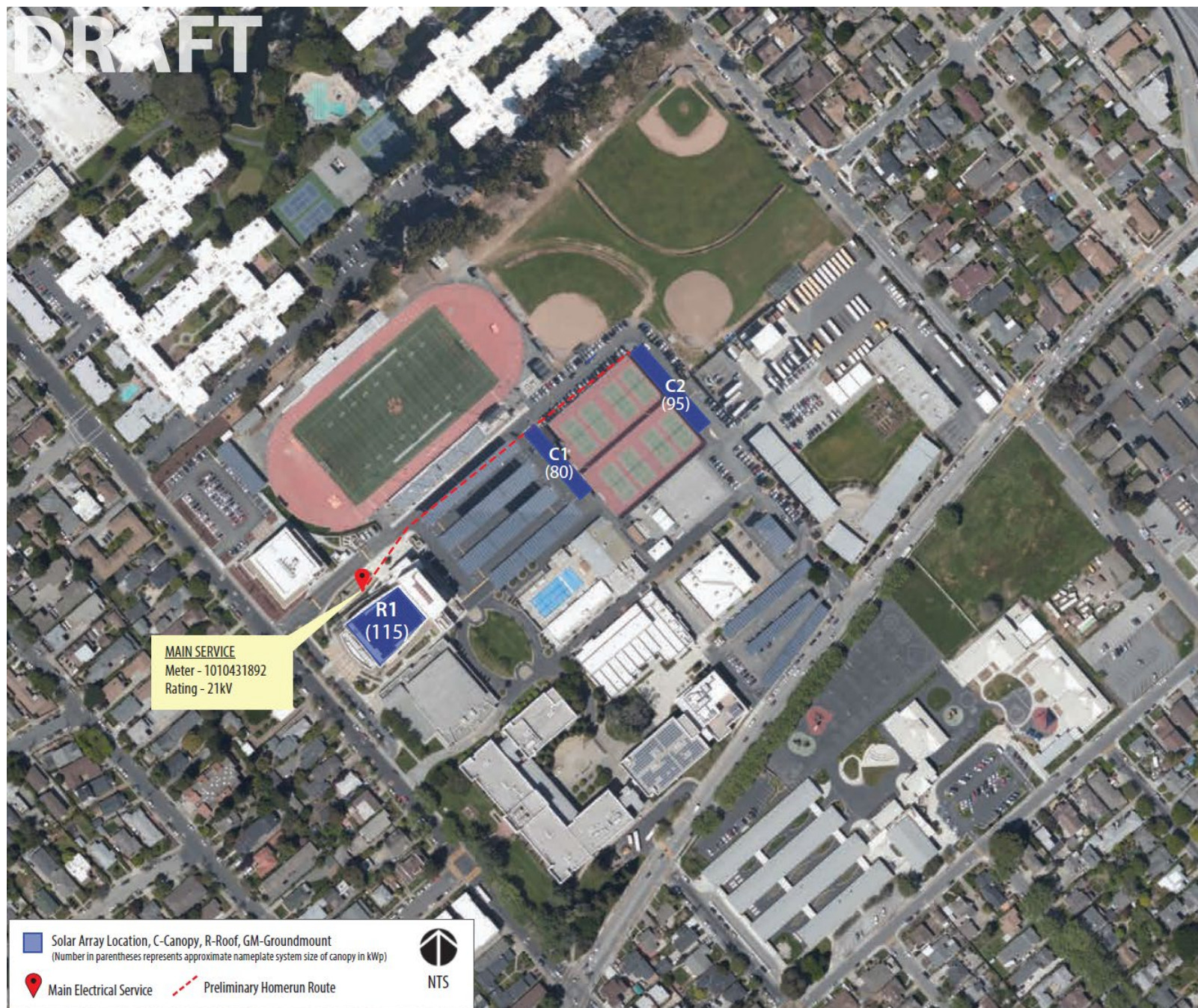


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## San Mateo HS

506 N Delaware St, San Mateo, CA 94401

**Note:** Layout may be updated when details of new gym project are available.



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District Office  
506 N Delaware St, San Mateo, CA 94401



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# Peninsula HS

860 Hinckley Rd, Burlingame, CA 94010



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# Maintenance Yard

839 Hinckley Rd, Burlingame, CA 94010



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# EXISTING SYSTEM PERFORMANCE

July 2020 to 2021 Performance						
Site	System Size (kWp)	Production (kWh)	Weather Adjusted Performance <sup>1</sup> (%)	Nominal Savings (\$)	Energy Consumption Offset	Utility Bill Offset
Aragon HS	745	922,000	95%	\$175,000	53%	52%
Burlingame HS	260	297,000	80%	\$37,000	24%	18%
Capuchino HS	660	887,000	108%	\$209,000	60%	62%
Hillsdale HS	770	864,000	91%	\$181,000	59%	53%
Mills HS	485	695,000	93%	\$161,000	64%	70%
San Mateo HS	840	1,060,000	83%	\$270,000	68%	76%
<b>TOTAL</b>	<b>3,760</b>	<b>4,725,000</b>	<b>92%</b>	<b>\$1,033,000</b>	<b>55%</b>	<b>57%</b>

<sup>1</sup> Weather adjusted performance is the ratio of actual PV production relative to what was expected based on modeling, system age, and weather

**Note:** Existing PV systems are billed under NEM 1, while new PV systems would be billed under NEM 2. This means that exported energy from the existing systems is valued ~10% higher than for the new systems.



# NEXT STEPS

1. District review of Site Details and Board direction\*
2. Determine project milestone schedule
3. Solicit competitive proposals through RFP under CA GC 4217
4. Evaluate proposals and rank vendors\*
5. Contract negotiations with top-ranked vendor\*
6. Design, construction, and commissioning

*\* Go/no-go decision points*





## Q&A

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