



Pocantico Hills Central School District  
Energy Performance Contract, Security, and Capital Project review  
September 24, 2020

Day  
Automation

# Agenda

## Review activities to date

- Security
- Roof Discussion
- Energy Performance Contract

## Next Steps



## **Recent projects**

- Exterior door access
- Lockdown
- Exterior blue light strobes
- PA system integration

## **Upcoming projects**

- Exterior camera upgrades
- Bus loop cameras
- Interior door access
- Tennis court access



# Roof option 1 – Use existing roof

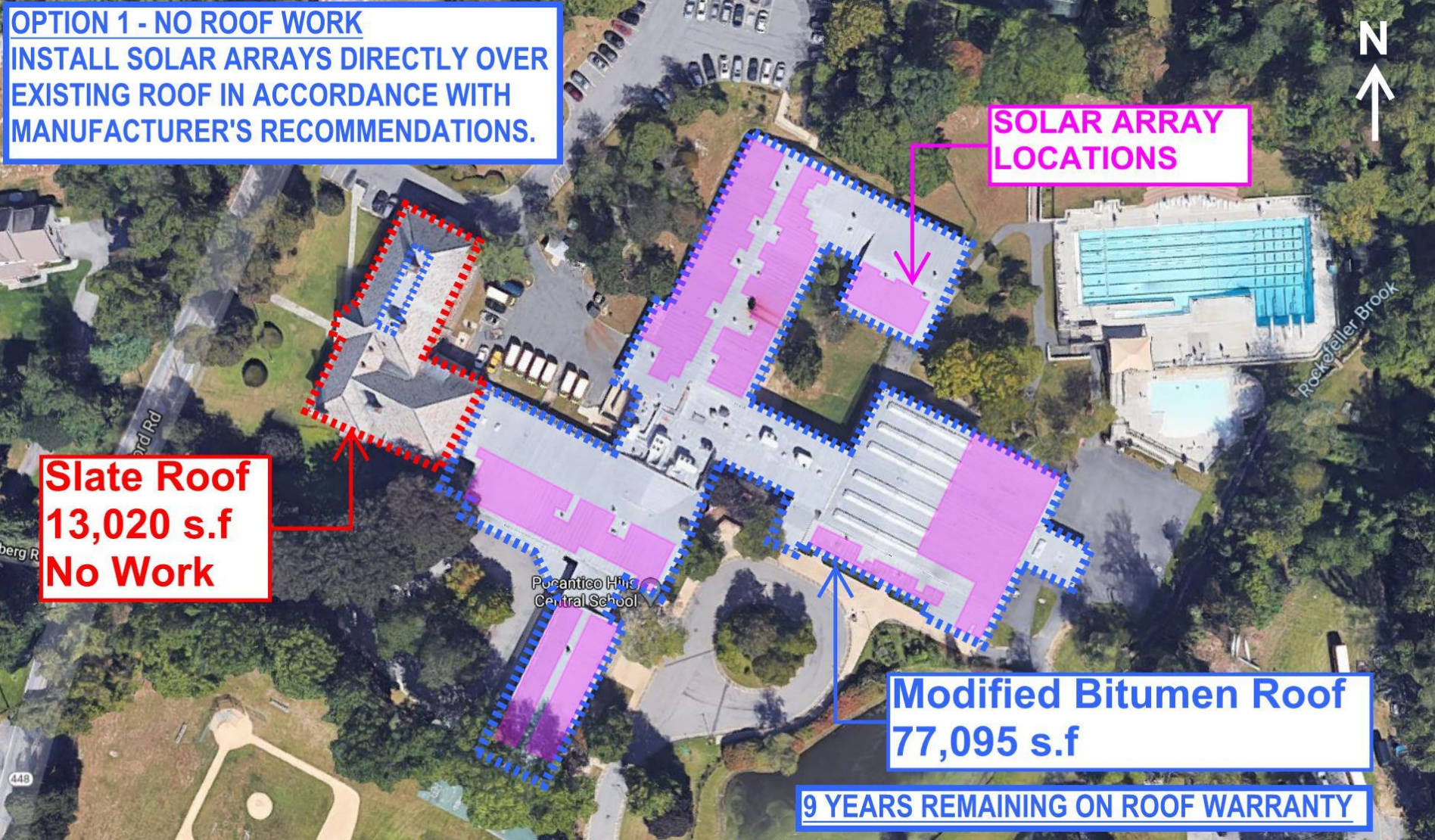
**OPTION 1 - NO ROOF WORK**  
INSTALL SOLAR ARRAYS DIRECTLY OVER EXISTING ROOF IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

**SOLAR ARRAY LOCATIONS**

**Slate Roof**  
**13,020 s.f**  
**No Work**

**Modified Bitumen Roof**  
**77,095 s.f**

**9 YEARS REMAINING ON ROOF WARRANTY**

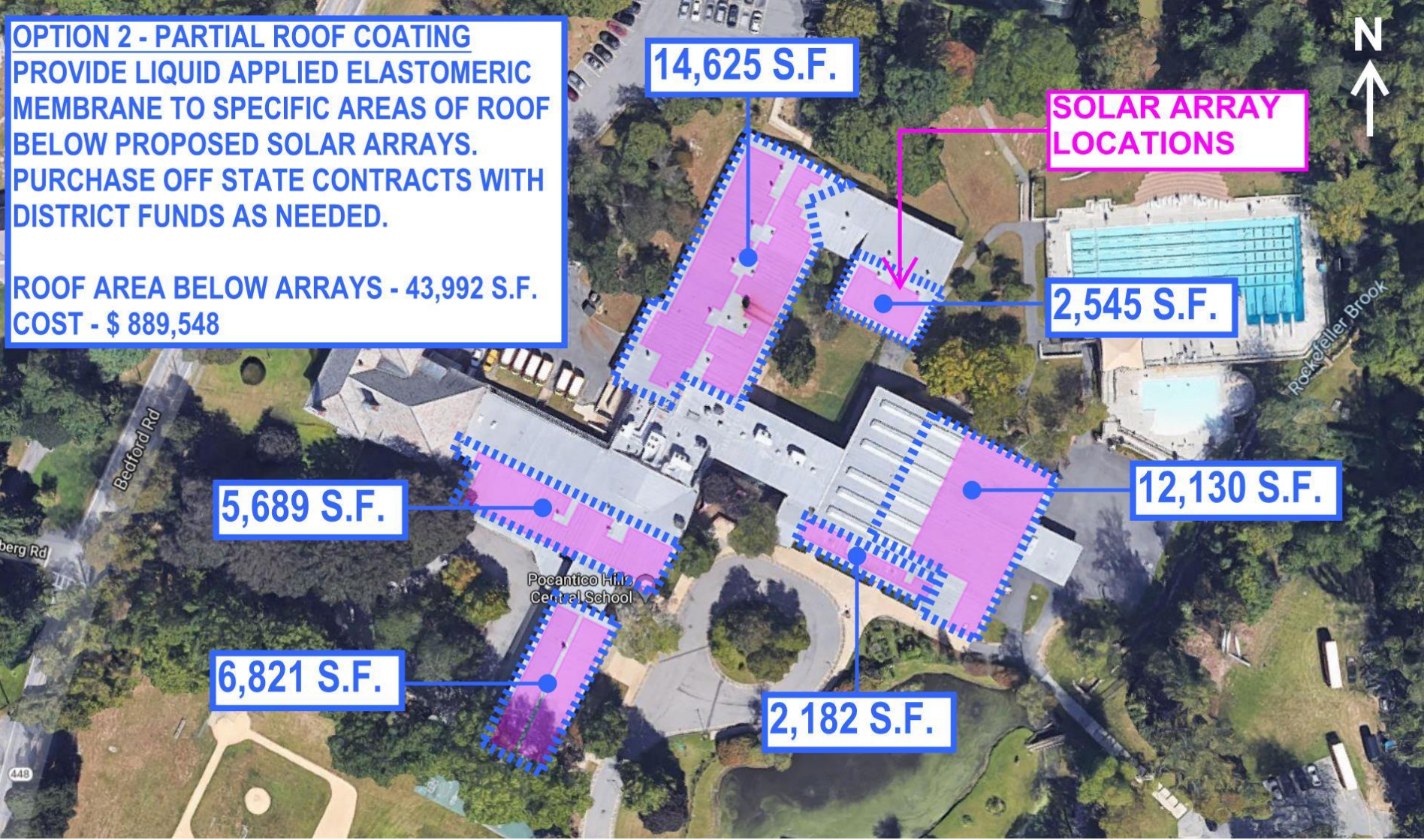




# Roof option 2 – Partial roof coating

**OPTION 2 - PARTIAL ROOF COATING**  
PROVIDE LIQUID APPLIED ELASTOMERIC MEMBRANE TO SPECIFIC AREAS OF ROOF BELOW PROPOSED SOLAR ARRAYS. PURCHASE OFF STATE CONTRACTS WITH DISTRICT FUNDS AS NEEDED.

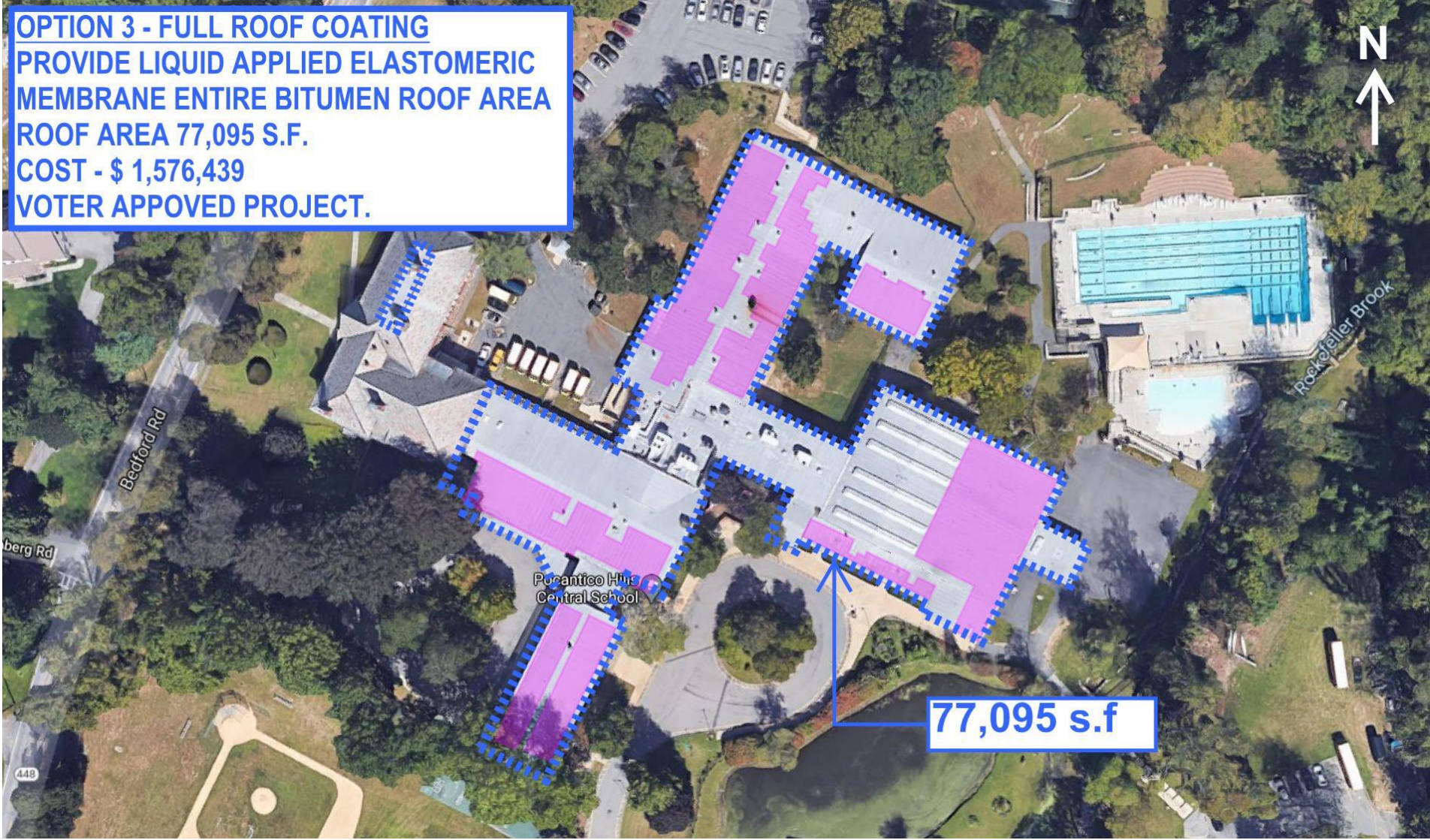
ROOF AREA BELOW ARRAYS - 43,992 S.F.  
COST - \$ 889,548





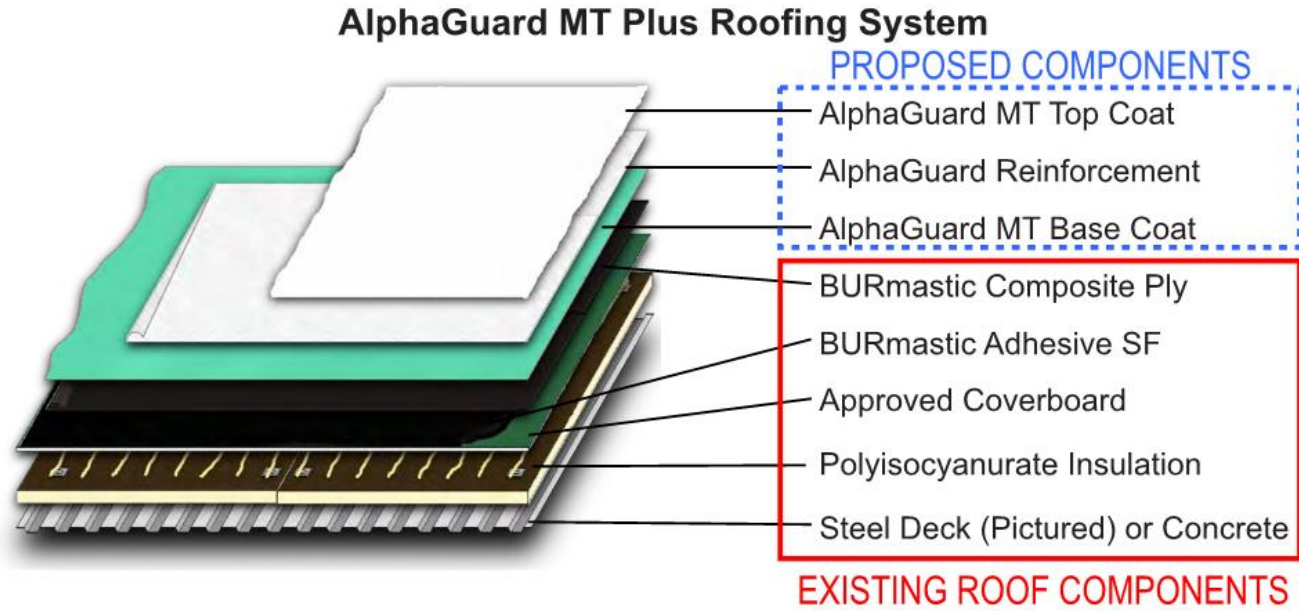
# Roof option 3 – Full roof coating

**OPTION 3 - FULL ROOF COATING**  
**PROVIDE LIQUID APPLIED ELASTOMERIC**  
**MEMBRANE ENTIRE BITUMEN ROOF AREA**  
**ROOF AREA 77,095 S.F.**  
**COST - \$ 1,576,439**  
**VOTER APPROVED PROJECT.**





# Roof coating system (Options 2 & 3)

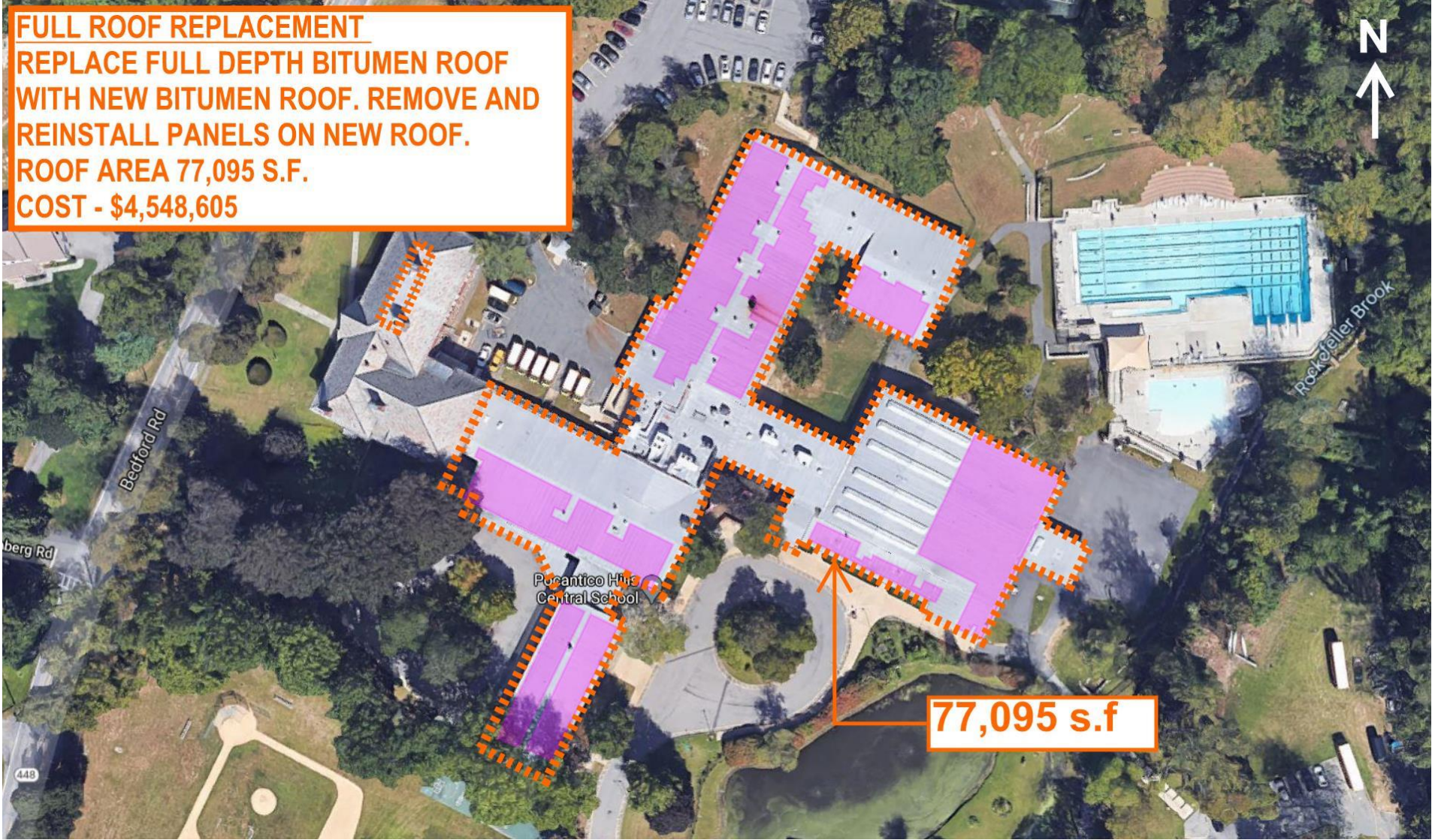


- Roof Infrared Scan required to determine areas of moisture in insulation for removal prior to new coating.
- Extends warranty of existing full roof system for an additional 20 years on top of remaining warranty lifetime.
- Warranty can be per roof area or for entire roof depending on extend of new coating provided.



# New roof costs

**FULL ROOF REPLACEMENT**  
REPLACE FULL DEPTH BITUMEN ROOF  
WITH NEW BITUMEN ROOF. REMOVE AND  
REINSTALL PANELS ON NEW ROOF.  
ROOF AREA 77,095 S.F.  
COST - \$4,548,605





# EPC Update - Financial Highlights



## Energy Performance Contract

\$2.7  
Million

\$148,977  
Annual Savings  
56% Energy Savings

\$270,795  
Building Aid

\$100,000+  
Energy Incentives

17  
Year Payback



# EPC Update – Breakdown of Project



Energy Conservation Measure	Measure Cost (\$) (Including all associated costs and mark ups)	Electric Savings (kWhr)	Fuel Savings (gallons)	Maintenance Savings (\$)	Energy Savings (\$)	ECM Simple Payback (years)
LED Lighting Upgrade	\$391,205	166,544	-1,299	\$4,851	\$20,774	15.3
Controls Upgrade	\$877,139	5,068	15,993	\$4,500	\$34,621	22.4
<i>Controls Upgrade - Exhaust Fan Control</i>	-	2,360	4,344	-	\$9,543	-
<i>Controls Upgrade - Optimum Start Stop</i>	-	2,708	2,254	-	\$5,162	-
<i>Controls Upgrade - Occupancy-based Damper Control</i>	-	-	9,395	-	\$19,916	-
Building Envelope Improvements	\$111,944	-	5,571	-	\$11,810	9.5
Solar (PV) Installation (505.1 kW)	\$1,327,668	578,830	-	-	\$81,772	16.2
<b>Totals</b>	<b>\$2,707,956</b>	<b>750,442</b>	<b>20,265</b>	<b>\$9,351</b>	<b>\$148,977</b>	<b>17.1</b>



# EPC Update - Cashflow



## Pocantico Hills Central School

Energy Performance Contracting

### Project Data

#### Pocantico Hills Central School Energy Performance Contract

Utility Information		Financial Information		Project Summary	
Electric Costs	\$119,572	Interest Rate (not used)	3.5%	Project Cost	\$2,707,956
Natural Gas Costs	\$0	Number of Payments	1	Guaranteed Annual Savings	\$158,328
Other fuels + Water	\$143,287	Building Aid Rate	10.0%	Simple Payback	17.10
Water	\$0	Energy Escalation	3%		
<b>Total Utility Cost</b>	<b>\$262,859</b>	M&V and Service Escalation	2%	Years of Service	3
Savings %	56.68%	NYSED Interest	2.00%	Years of M&V	3

Energy Expense	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	18 Year Totals
Project Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Annual Energy Costs	\$262,859	\$270,745	\$278,867	\$287,233	\$295,850	\$304,726	\$313,867	\$323,283	\$332,982	\$342,971	\$353,261	\$363,858	\$374,774	\$386,017	\$397,598	\$409,526	\$421,812	\$434,466	\$6,154,695

Assets	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	18 Year Totals
Annual Project Energy Savings	\$148,977	\$153,446	\$158,049	\$162,791	\$167,675	\$172,705	\$177,886	\$183,222	\$188,719	\$194,381	\$200,212	\$206,219	\$212,405	\$218,777	\$225,341	\$232,101	\$239,064	\$246,236	\$3,488,204
Annual Maintenance or Other	\$9,351	\$9,538	\$9,729	\$9,923	\$10,122	\$10,324	\$10,531	\$10,741	\$10,956	\$11,175	\$11,399	\$11,627	\$11,859	\$12,097	\$12,338	\$12,585	\$12,837	\$13,094	\$200,227
Utility Incentives or Other Grants	\$0	\$640																	\$640
NYSED Building Aid	\$0	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$18,053	\$0	\$0	\$270,795
<b>Total Annual Benefit</b>	<b>\$158,328</b>	<b>\$181,677</b>	<b>\$185,831</b>	<b>\$190,767</b>	<b>\$195,849</b>	<b>\$201,082</b>	<b>\$206,470</b>	<b>\$212,017</b>	<b>\$217,728</b>	<b>\$223,609</b>	<b>\$229,664</b>	<b>\$235,898</b>	<b>\$242,317</b>	<b>\$248,927</b>	<b>\$255,732</b>	<b>\$262,739</b>	<b>\$251,901</b>	<b>\$259,329</b>	<b>\$3,959,866</b>

Net Annual Benefit (= Benefit -Cost)	\$158,328	\$181,677	\$185,831	\$190,767	\$195,849	\$201,082	\$206,470	\$212,017	\$217,728	\$223,609	\$229,664	\$235,898	\$242,317	\$248,927	\$255,732	\$262,739	\$251,901	\$259,329	\$3,959,866
Cumulative Cashflow	\$158,328	\$340,005	\$525,836	\$716,603	\$912,452	\$1,113,534	\$1,320,004	\$1,532,021	\$1,749,749	\$1,973,358	\$2,203,022	\$2,438,920	\$2,681,238	\$2,930,165	\$3,185,897	\$3,448,636	\$3,700,536	\$3,959,866	

Net Project Cost Benefit	
Project Cost	(\$2,707,956)
Total Benefit	\$1,251,910





- **Determine any needed information**
- **Set priorities for ECM's**
  - Roof upgrade/repair in preparation for solar installation
- **Develop contracts for signing**
- **Submit to SED (October 15, 2020)**