

# 2023 Sustainability Presentation

## Los Rios Community College District

April 12, 2023

Presented by: Pablo Manzo and Nat Martin

# Agenda:

- ▶ Los Rio CCD Sustainability Program Policies and BOG 2020 Framework Goals
- ▶ Summary of Programs/Initiatives
  - ▶ STARS
  - ▶ Energy usage and Green House Gas reduction trend
  - ▶ New Construction
    - ▶ LEED
    - ▶ Electric Vehicle Charging Stations
- ▶ Water Conservation
- ▶ Future Efforts

# Los Rios Sustainability Program Policies and Goals

## ▶ Policies

### ▶ State of California

#### ▶ Assembly Bills

▶ AB-32

▶ AB-802

#### ▶ Executive Orders

▶ S-12-04

▶ B-18-12

# Los Rios Sustainability Program: BOG Stepwise Approach



# STARS:

“The Sustainability Tracking, Assessment & Rating System™ (STARS®) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance.

STARS is intended to engage and recognize the full spectrum of higher education institutions, from community colleges to research universities.

The framework encompasses long-term sustainability goals for already high-achieving institutions, as well as entry points of recognition for institutions that are taking first steps toward sustainability.”

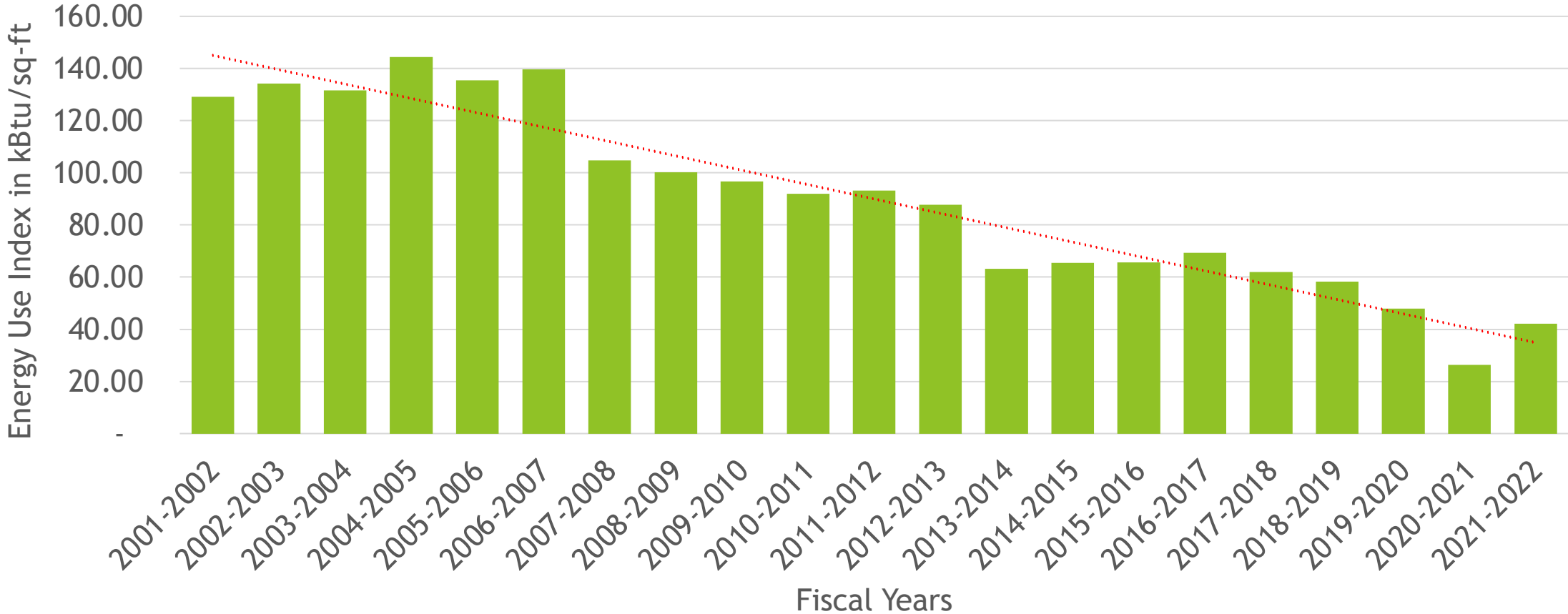
<https://stars.aashe.org/>

# STARS has four main Categories:

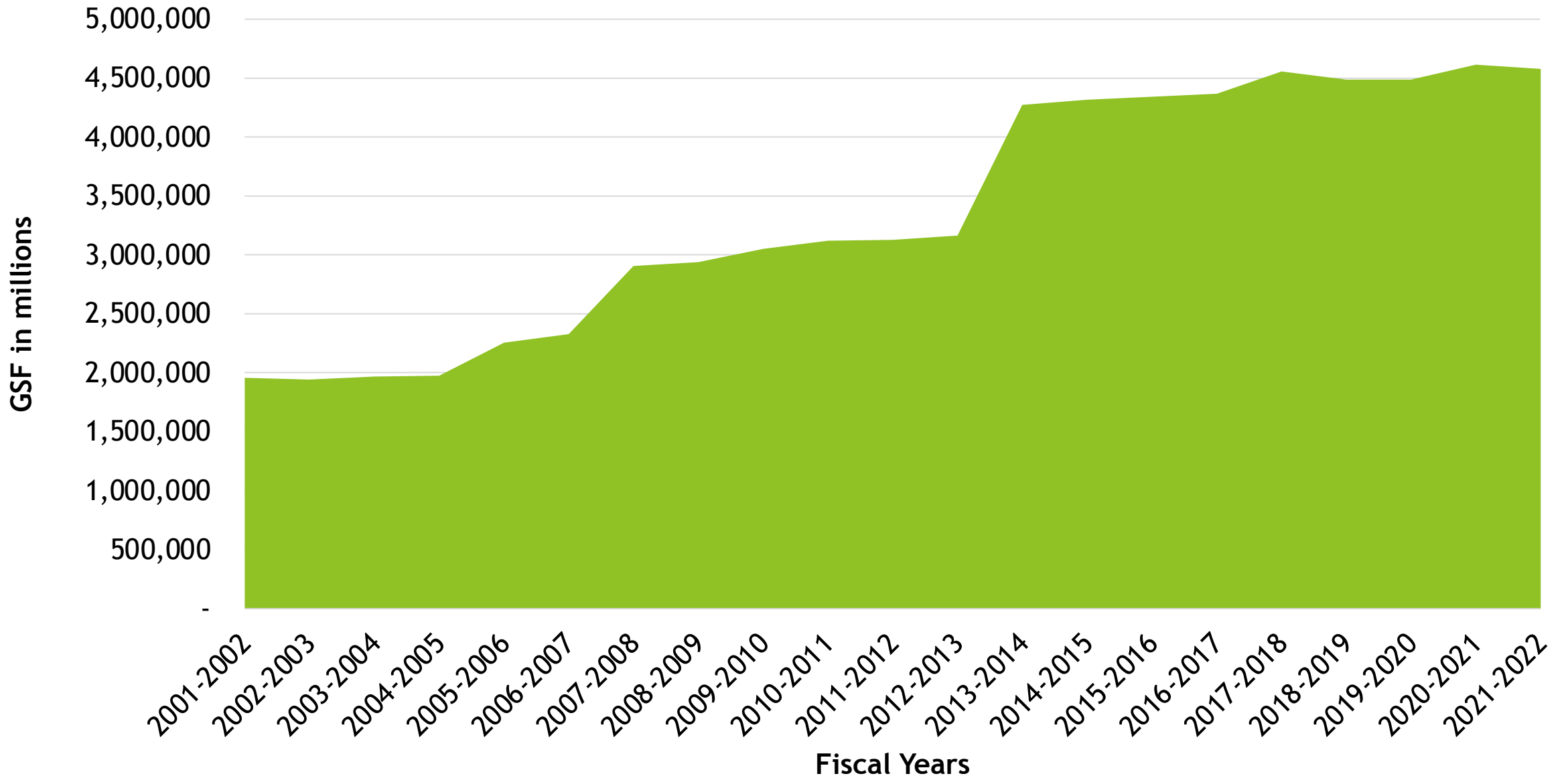
Academics	Operations	Engagement	Planning & Administration
<ul style="list-style-type: none"><li>• Curriculum</li><li>• Research</li></ul>	<ul style="list-style-type: none"><li>• Air &amp; Climate</li><li>• Buildings</li><li>• Energy</li><li>• Food &amp; Drink</li><li>• Grounds</li><li>• Purchasing</li><li>• Transportation</li><li>• Waste</li><li>• Water</li></ul>	<ul style="list-style-type: none"><li>• Campus Engagement</li><li>• Public Engagement</li></ul>	<ul style="list-style-type: none"><li>• Diversity &amp; Affordability</li><li>• Investment &amp; Finance</li><li>• Wellbeing &amp; Work</li></ul>

# Energy Reduction Graph

Energy Use Index in (kBtu/sq-ft) for  
ARC, CRC, FLC, and SCC

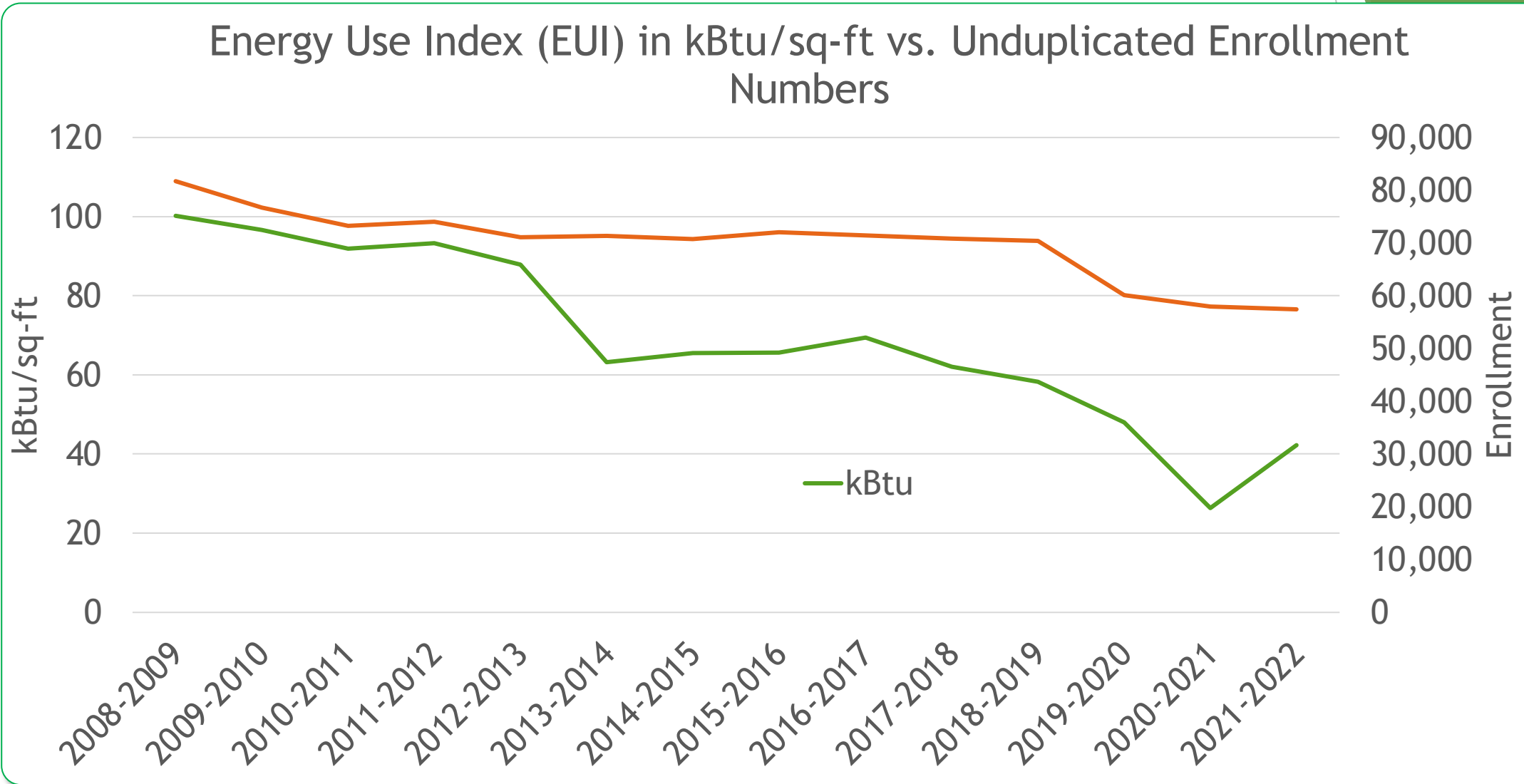


## DW Total GSF From Space Inventory





# Energy vs. Enrollment

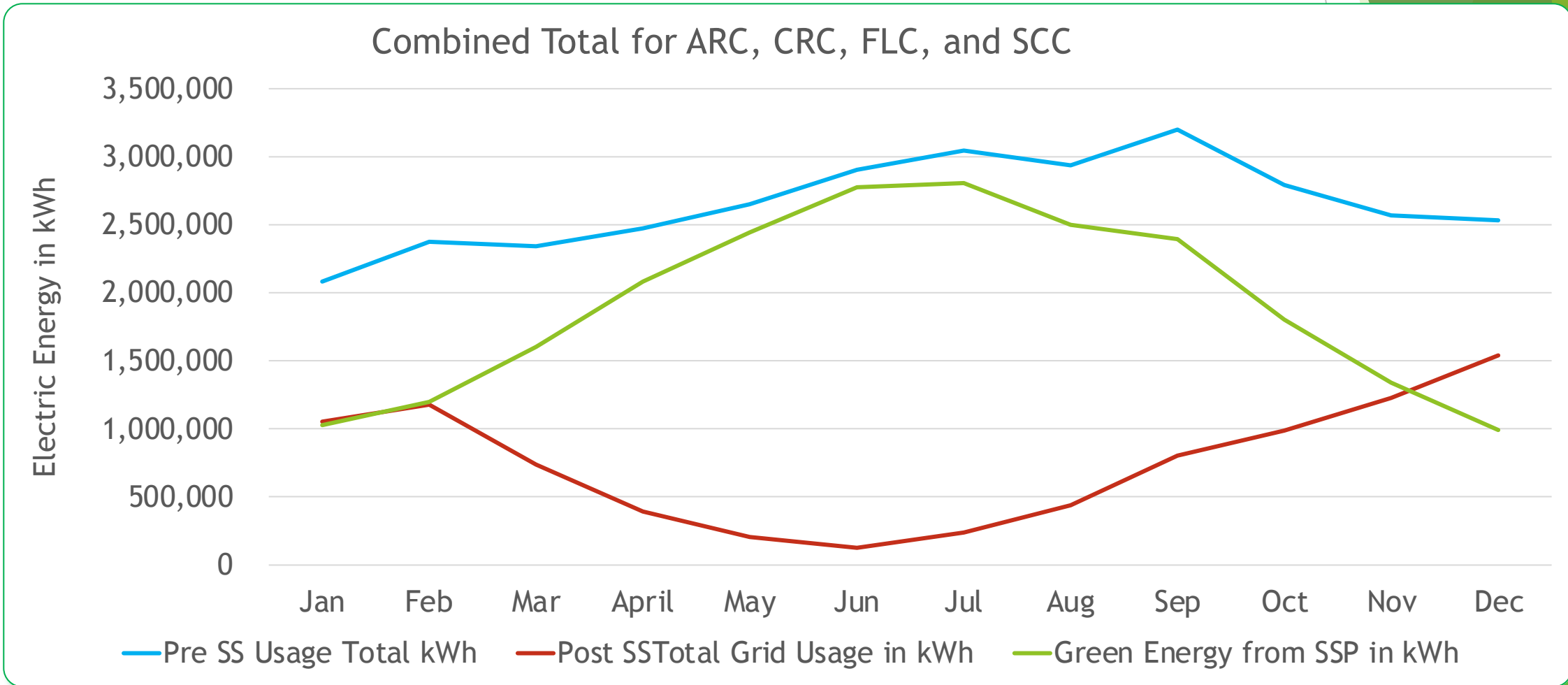


# Renewable Energy and SMUD's SolarShares Program

- ▶ Program started in 2018
- ▶ Fixed contract amount is 28,379,532 kWh/year for 20 years
- ▶ Equates to approximately 65% of total District-wide green electricity usage in kWh
- ▶ Considering total energy both (electricity and gas) this percentage equates to approximately 40% carbon free green energy
- ▶ SolarShares Program created a reduction in Green House Gas (GHG) emissions equivalent to 8,075 metric tons of carbon

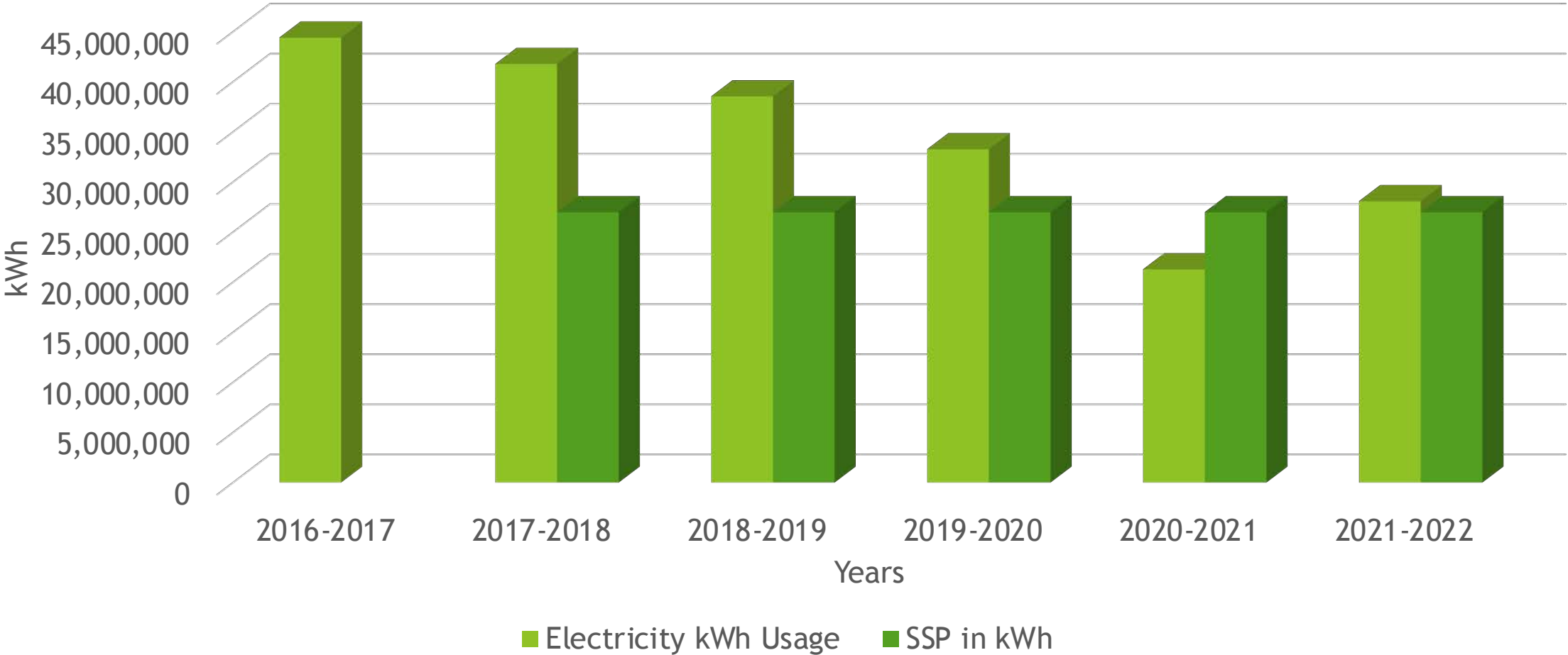


# Four Main Campus' Electric Energy Use Totals vs SolarShares



# SolarShares Program continued

Electrical Usage vs. Solar Shares Program



# New Construction Sustainability Efforts

## LEED Silver Certified minimum requirement

1. SCC Lillard Hall est. Gold Certified
2. ARC Tech Ed - Silver Certified
3. EGC II - Silver Certified
4. Natomas Center II & III - Silver Certified
5. FLC 2.1 - Silver Certified
6. Rancho Cordova Center II (on hold) - Silver Certified
7. CRC Auto Tech - Silver equivalent



# New construction continued:

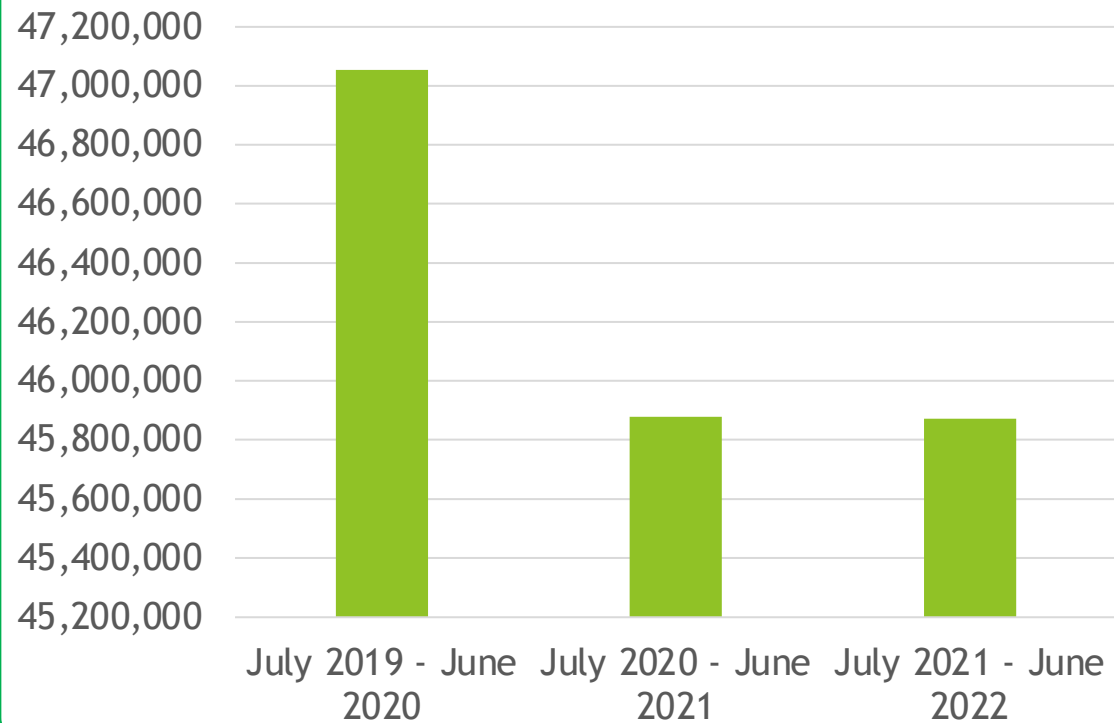
- ▶ Building Metering
  - ▶ Elect
  - ▶ N. Gas
  - ▶ Domestic water
  - ▶ Irrigation water
- ▶ Electric Vehicle Charging Stations
- ▶ Solar Ready
- ▶ ZNE ready
  - ▶ EGC II (All Electric)
  - ▶ Natomas Center II & III (All Electric)
- ▶ All new construction project are required to be below Title-24 of the Building Energy Code by 20%

# Existing Water Usage

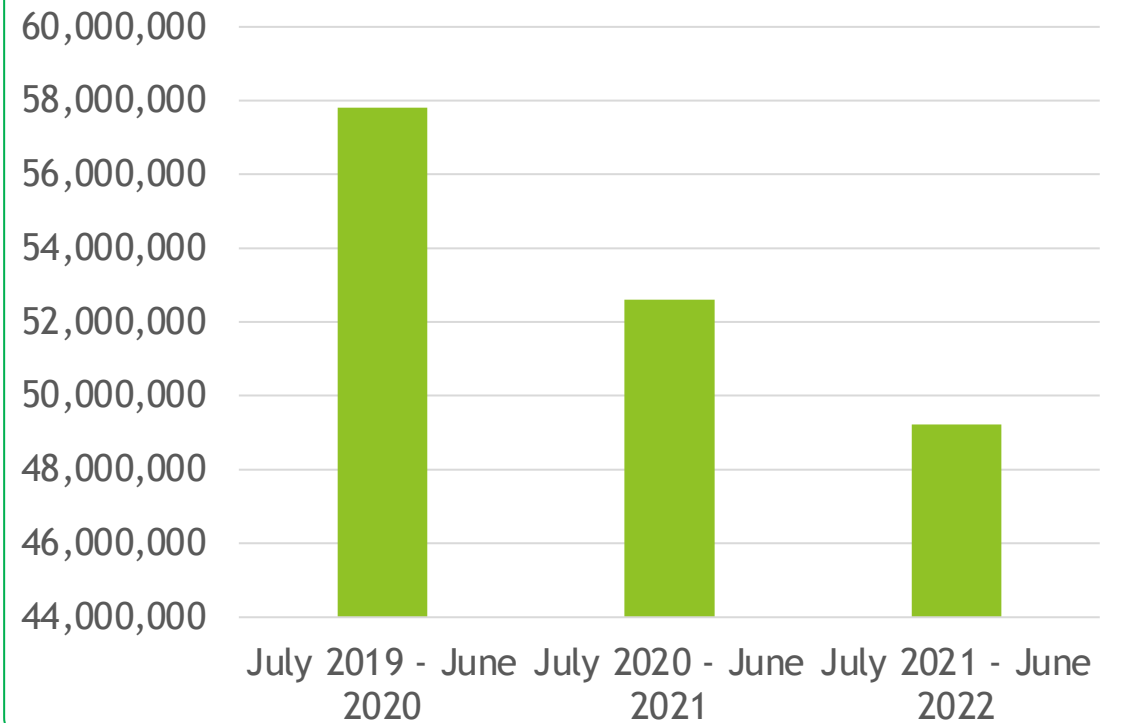
Dates	Domestic Usage (GAL/Yr.)	Domestic Water Cost	Irrigation Usage (GAL/Yr.)	Irrigation Cost	Total Water	Total Cost
FY 2019-20	47,053,904	\$129,950	57,813,957	\$171,256	104,867,861	\$301,206
FY 2020-21	45,879,918	\$134,780	52,604,817	\$163,265	98,484,735	\$298,044
FY 2021-22	45,871,868	\$143,225	49,217,815	\$164,301	95,089,683	\$307,526

# Percent Domestic to Irrigation Water Usage

DW Total Domestic Usage (GAL)



DW Total Irrigation Usage (GAL)





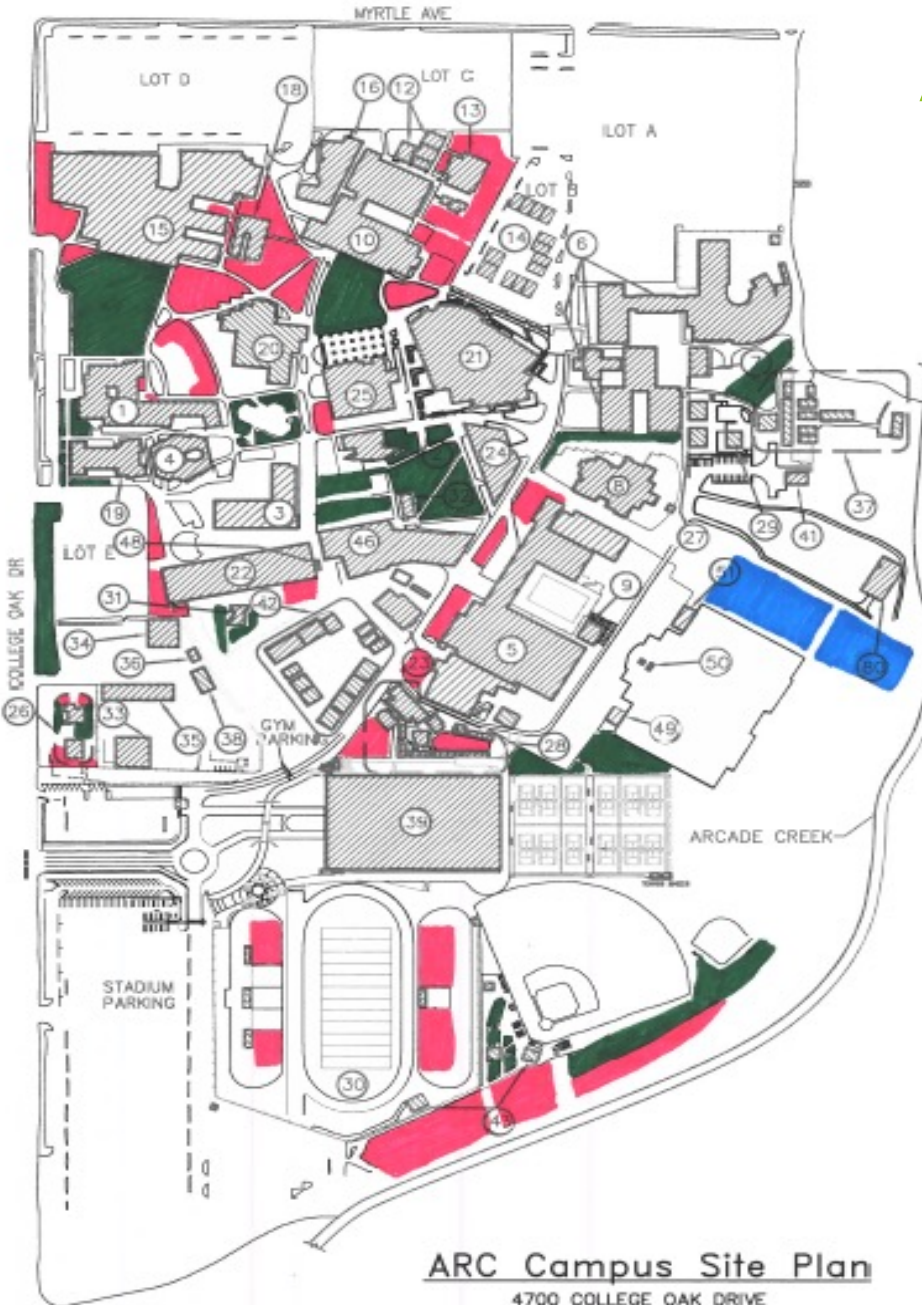
# Water Conservation Efforts

Location	Projects	Completion Status	Cost	Projected Water Savings in (Gal/yr.)
ARC	Water Conservation landscape convert to low impact, drought tolerant plants.	60%	\$965,248	4,583,397
CRC	Water Conservation landscape convert to low impact, drought tolerant plants.	30%	\$2,444,314	13,513,995
FLC	Water Conservation landscape to low impact, drought tolerant plants.	50%	\$743,000	3,578,569
SCC	Water Conservation landscape to low impact, drought tolerant plants.	100%	\$485,737	2,222,535
DW	DW Water Conservation - Install water meters. (starting with ARC)	Awarded	\$1,102,170	

# Water Conservation Efforts (cont'd)

Location	Projects	Completion Status	Cost	Projected Water Savings in (Gal/yr.)
ARC	Softball Synthetic Turf Installation.	Submitted to DSA	\$3,432,239	1,320,000
FLC	Softball Synthetic Turf Installation.	Submitted to DSA	\$2,230,500	1,320,000
SCC	Softball Synthetic Turf Installation.	Submitted to DSA	\$4,070,646	1,185,000
DW	Installed Touchless Bottle Filling stations	99%	\$990,0047	n/a
DW	Installed sensor faucets	100%	\$821,933	264,384
			<b>\$17,285,834</b>	<b>27,987,880</b>

# ARC - Drought Tolerant Project



### BUILDINGS

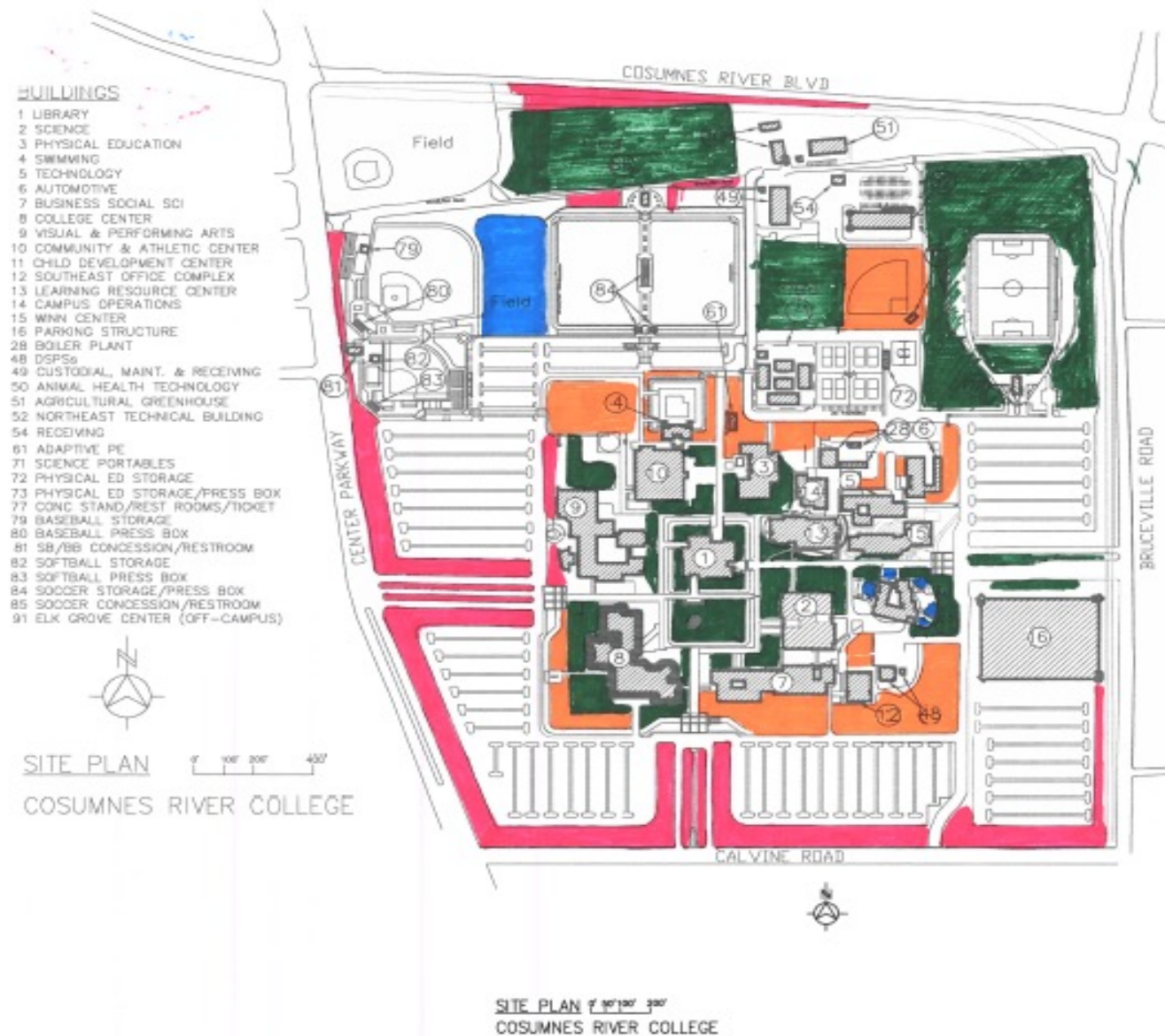
1. ADMINISTRATION
2. INSTRUCTIONAL TECH. CTR. (ITC)
3. STEM
4. RAEF HALL
5. PHYSICAL EDUCATION
6. TECH. VOCATION
7. TECH. VOC. PORTABLE
8. CHILD DEVELOPMENT CENTER
9. ADAPTIVE P.E.
10. SCIENCE
12. SCIENCE PORTABLE
13. SCIENCE OFFICES
14. COMPUTER/MATH CLASSROOMS
15. FINE ARTS
16. LIFE SCIENCE
18. FINE ARTS OFFICES
19. HOWARD HALL
20. STUDENT SERVICES/DSP&S
21. STUDENT CENTER
22. DAVES HALL
23. BOILER BLDG
24. BOOKSTORE
25. LIBRARY
26. CHILDREN CENTER
27. CHILD CARE PORTABLES
28. HEALTH AND EDUCATION
29. FUNERAL SERVICE PORTBLE
30. STADIUM
31. RANCH HOUSE
32. CENTREX
33. WAREHOUSE 3
34. WAREHOUSE 1
35. WAREHOUSE 2
36. SHOP 1
37. ENVIRONMENTAL RES.
38. CAMPUS POLICE BLDG.
39. PARKING STRUCTURE
40. CRIMINAL JUSTICE CENTER(OFF-CAMP.)
41. GROUNDS SHOP
42. SWING SPACE PORTABLES
43. SOFTBALL TEAMROOM
46. LEARNING RESOURCE CENTER
48. CONCESSION STAND
49. CONCESSION/RESTROOM
50. PRESS BOX/TICKET
51. FIELD/SOCCER/FOOTBALL ST
60. REGIONAL PUBLIC SAFETY CTR. (OFF-CAMPUS)
80. EAST WELL

- Retain Turf
- Remove Turf
- Replace w/ Synthetic Turf

**ARC Campus Site Plan**  
 4700 COLLEGE OAK DRIVE  
 SACRAMENTO, CA 95841

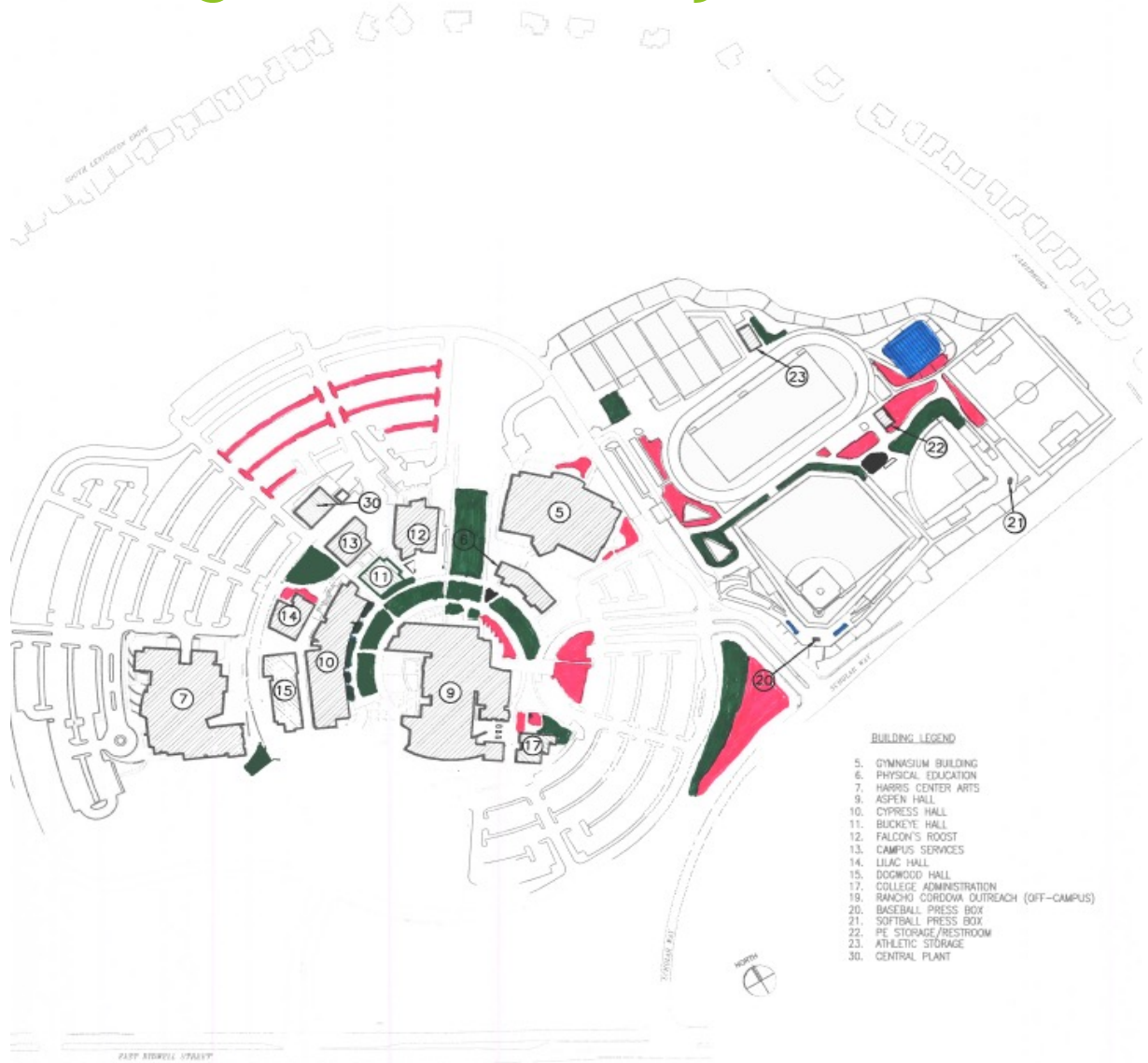


# CRC - Drought Tolerant Project



- Retain Turf
- Remove Turf
- Replace w/ Synthetic Turf
- Possible Future Project

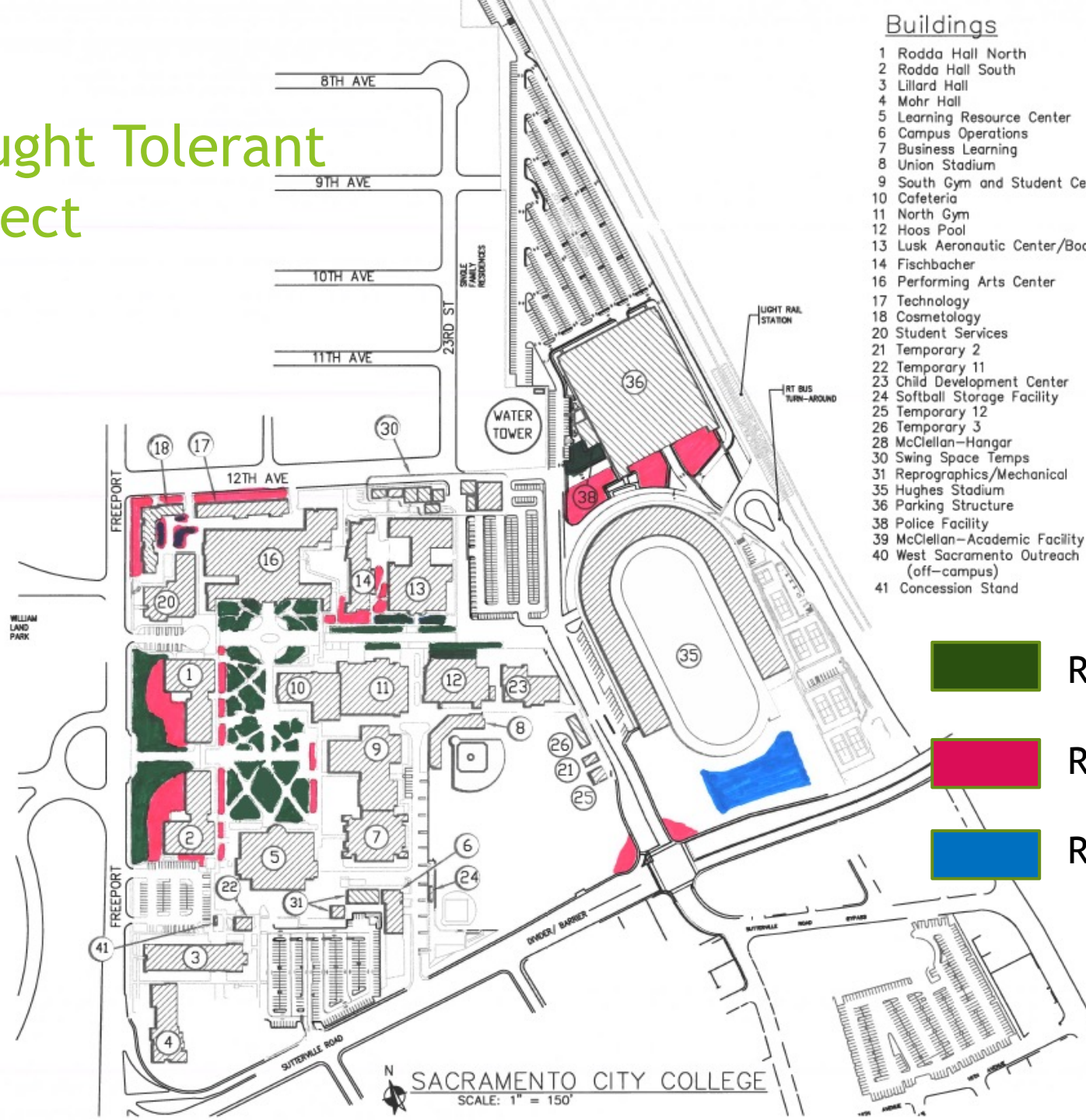
# FLC - Drought Tolerant Project



- Retain Turf
- Remove Turf
- Replace w/ Synthetic Turf

FLC Campus Site Plan

# SCC - Drought Tolerant Project



## Buildings

- 1 Rodda Hall North
- 2 Rodda Hall South
- 3 Lillard Hall
- 4 Mohr Hall
- 5 Learning Resource Center
- 6 Campus Operations
- 7 Business Learning
- 8 Union Stadium
- 9 South Gym and Student Center
- 10 Cafeteria
- 11 North Gym
- 12 Hoos Pool
- 13 Lusk Aeronautic Center/Bookstore
- 14 Fischbacher
- 16 Performing Arts Center
- 17 Technology
- 18 Cosmetology
- 20 Student Services
- 21 Temporary 2
- 22 Temporary 11
- 23 Child Development Center
- 24 Softball Storage Facility
- 25 Temporary 12
- 26 Temporary 3
- 28 McClellan-Hangar
- 30 Swing Space Temps
- 31 Reprographics/Mechanical
- 35 Hughes Stadium
- 36 Parking Structure
- 38 Police Facility
- 39 McClellan-Academic Facility
- 40 West Sacramento Outreach (off-campus)
- 41 Concession Stand



Retain Turf



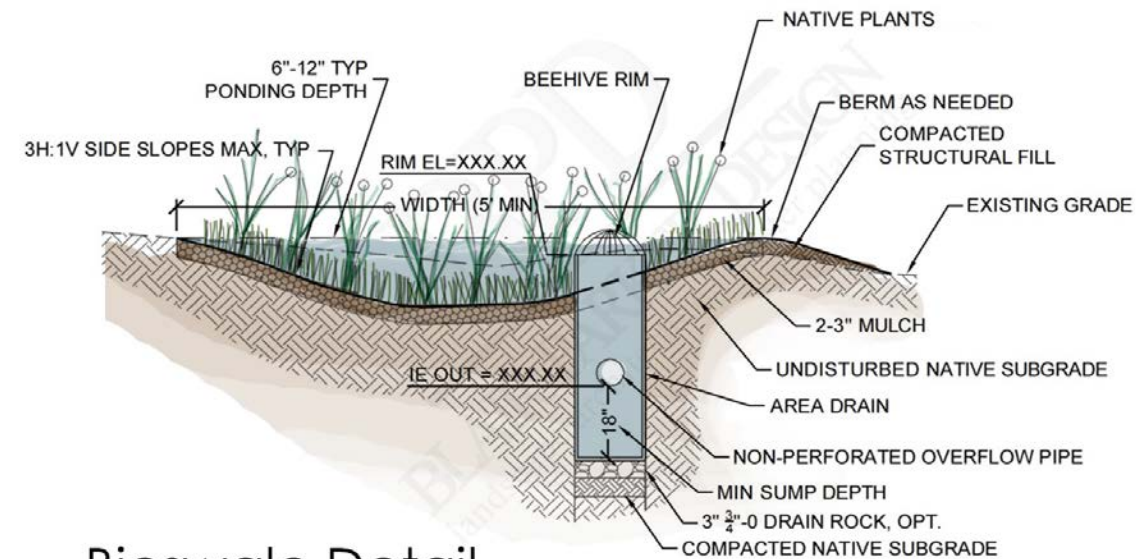
Remove Turf



Replace w/ Synthetic Turf

# New Construction Water Requirements

- ▶ Water meters
- ▶ Water Conservation
  - ▶ Low flow fixtures
  - ▶ Bottle filling stations
  - ▶ Weather-Based Irrigation Systems
  - ▶ Native and Drought Plants
  - ▶ Water Recapture/Recycling systems
  - ▶ Bioswales



Bioswale Detail

# Future Sustainability Efforts

- ▶ Continue to focus on and to actively pursue and exceed BOG Framework goals 2025, 2030, and 2030.
- ▶ Continue and expand conservation efforts in all areas.
- ▶ Additional water conservation projects.
- ▶ Seek funding for additional emerging technologies, and energy efficiency programs for existing buildings to reduce energy usage and GHG emissions.
- ▶ Increase renewable energy generation and participate in future programs like SMUD's SolarShares Program.



Questions?