



# PIEDMONT UNIFIED SCHOOL DISTRICT

## STEAM CLASSROOM & ALAN HARVEY THEATER BUILDINGS

EXTERIOR ELEVATIONS  
ZERO NET ENERGY

MONDAY SEPTEMBER 18, 2017





inspiring

wellness

zero net energy

character

community

teaching tool

gateway

campus

welcoming

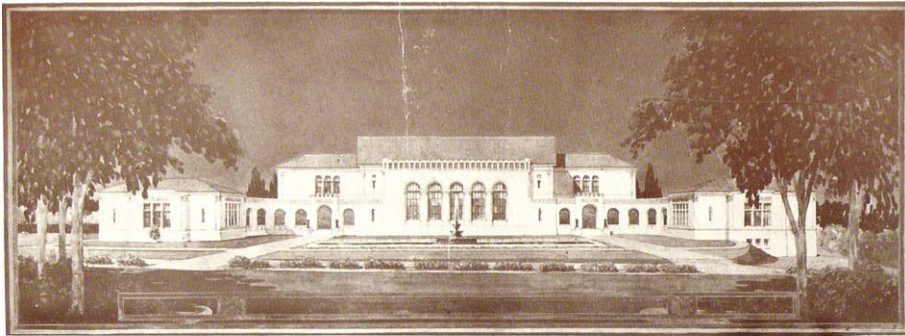
contextual

21st  
century





Contextual – Elements, Details, Approach



H. J. CHRISTENSEN, BUILDER

PIEDMONT HIGH SCHOOL

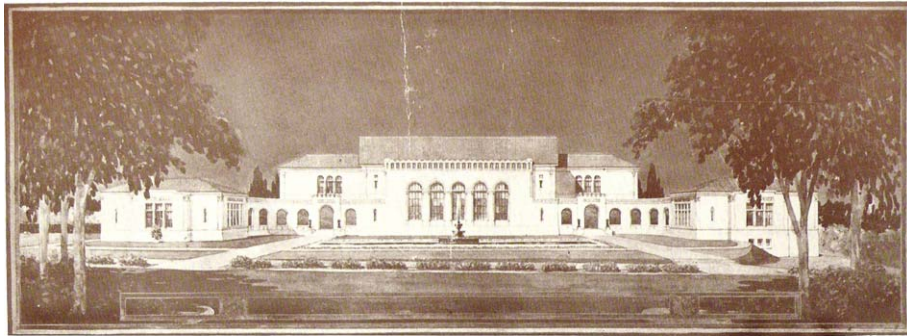
W. H. WEISS, ARCHITECT, S. F.





# HKIT ARCHITECTS

Zero Net Energy – Teaching Tool  
PVs, Shades



H. J. CHRISTENSEN, BUILDER

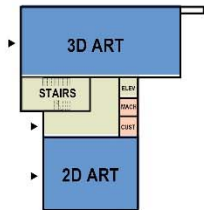
PIEDMONT HIGH SCHOOL

W. H. WEAKE, ARCHITECT, S. F.

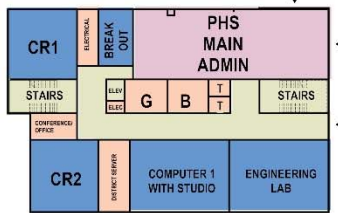




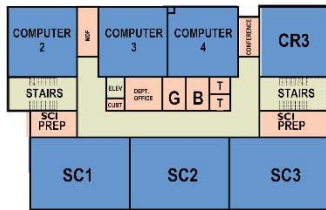
## STEAM



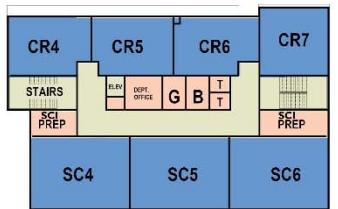
LOWER LEVEL  
5,013 SF



MAIN FLOOR  
12,762 SF

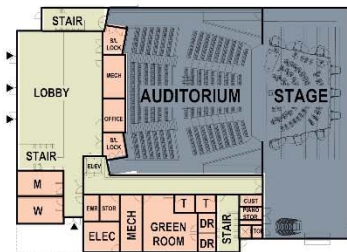


SECOND FLOOR  
12,762 SF

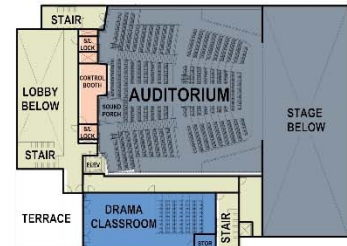


THIRD FLOOR  
12,322 SF

## THEATER



MAIN FLOOR  
15,582 SF



SECOND FLOOR  
4,818 SF

CLASSROOM BUILDING 42,723 SF  
THEATER 20,400 SF



SITE PLAN  
SCALE: 1"= 40'



# Street View Contextual





# Street View Contextual





# Campus Gateway Welcoming Entry





# Theater Entry



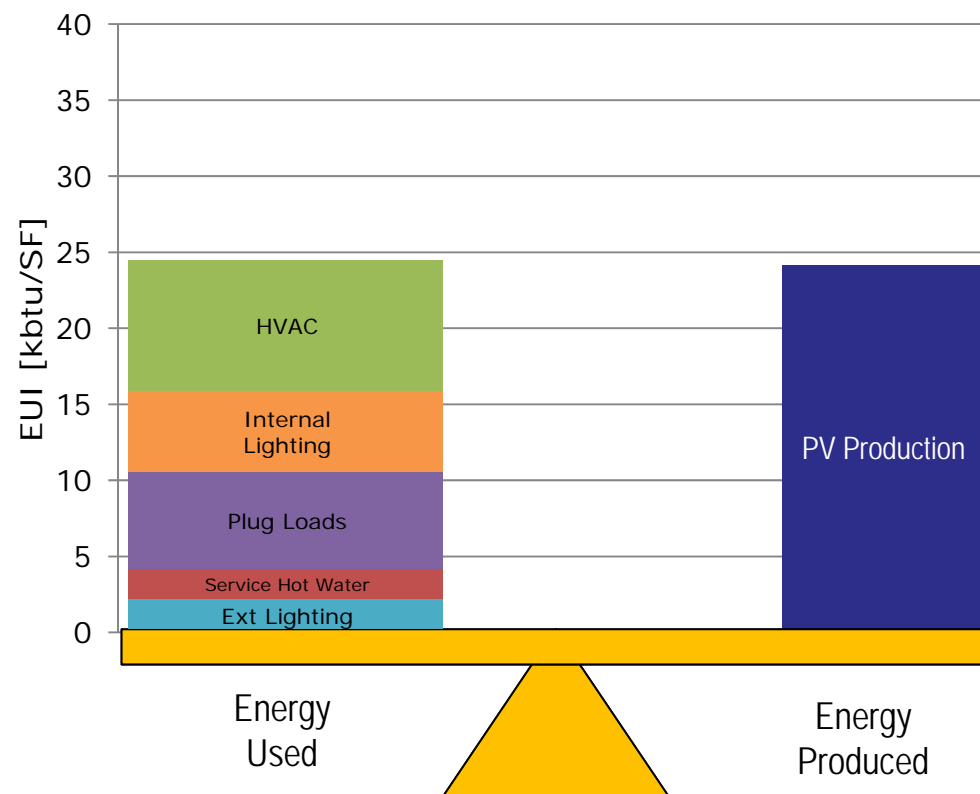
# Front Door Wayfinding





## Balancing the Energy Budget

Set a maximum energy budget to help make design decisions



## Benchmark-Based Typical New School Buildings

Base Building	34 kBtu/sf_new project
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STEAM Higher Function	
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Exhaust Fans	3 kBtu/sf_new project
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Computer Labs	3 kBtu/sf_new project
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Campus Server	
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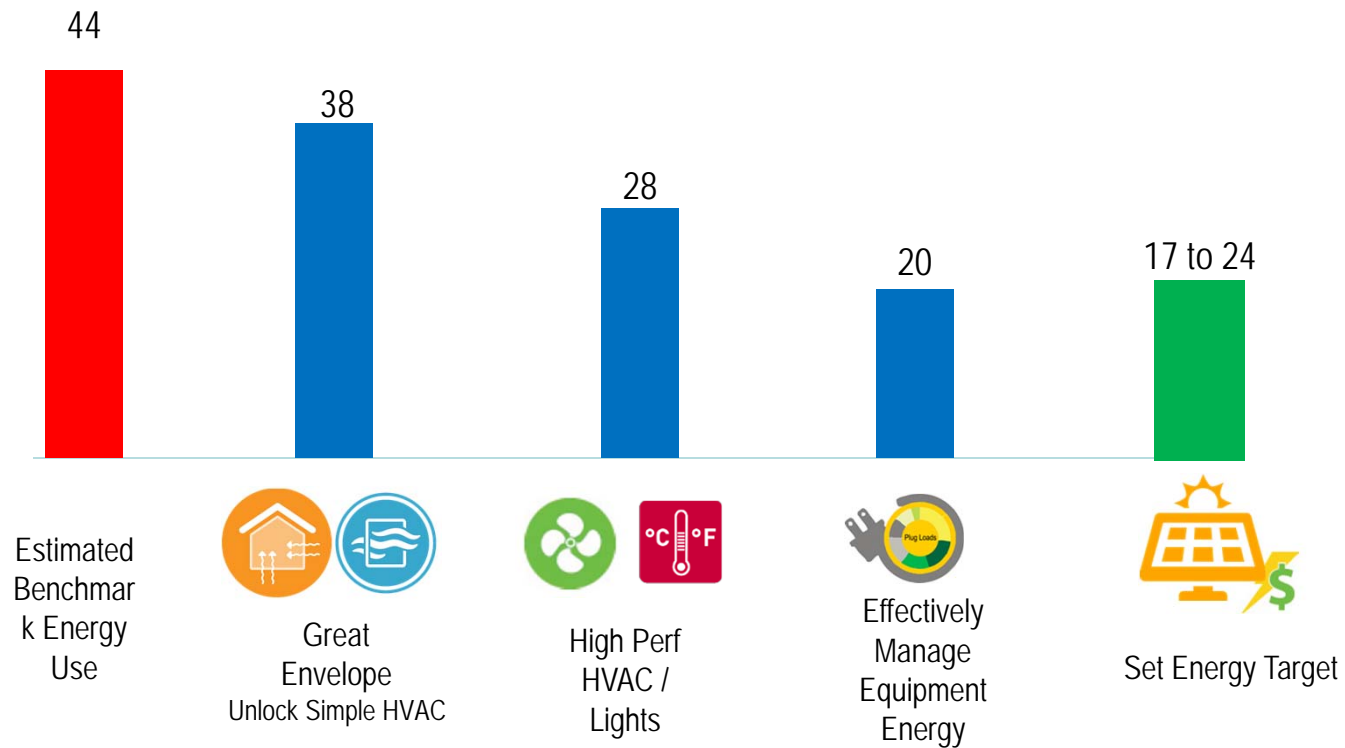
<i>estimated</i> 100 kW (30 tons) 4 kBtu/sf_new project	
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44 kBtu/sf\_new project

Target: 17 – 24 kBtu/SF (Limiter: Available PV Area)

## Pathway to ZNE



Target: MAXIMIZE PV AREA



# Front Door Wayfinding





# Quad View 21<sup>st</sup> Century; Teaching Tool



# View from SW

(Existing Quad)





# View from NW

(Existing Quad)







# View from NW

(Existing Quad)

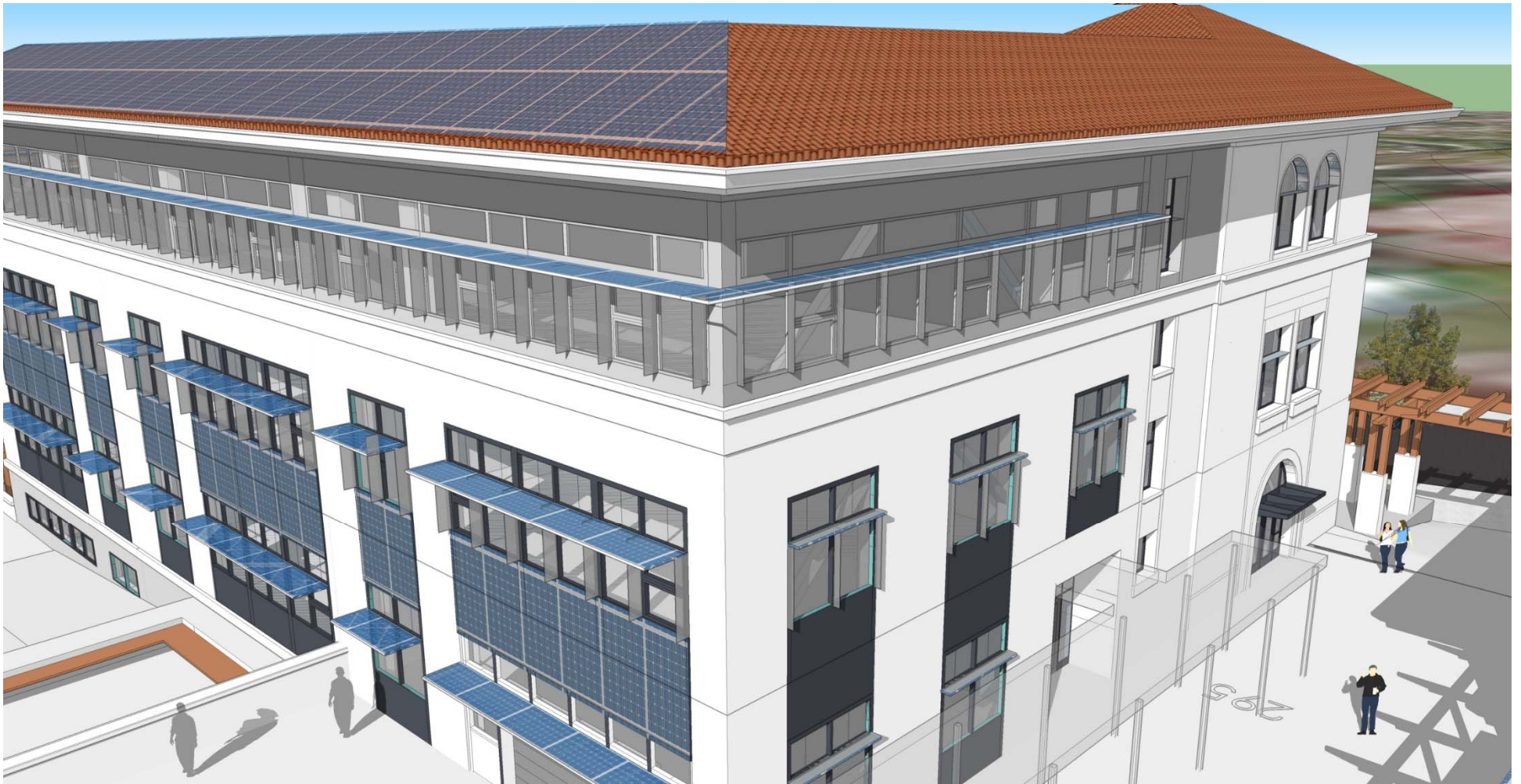




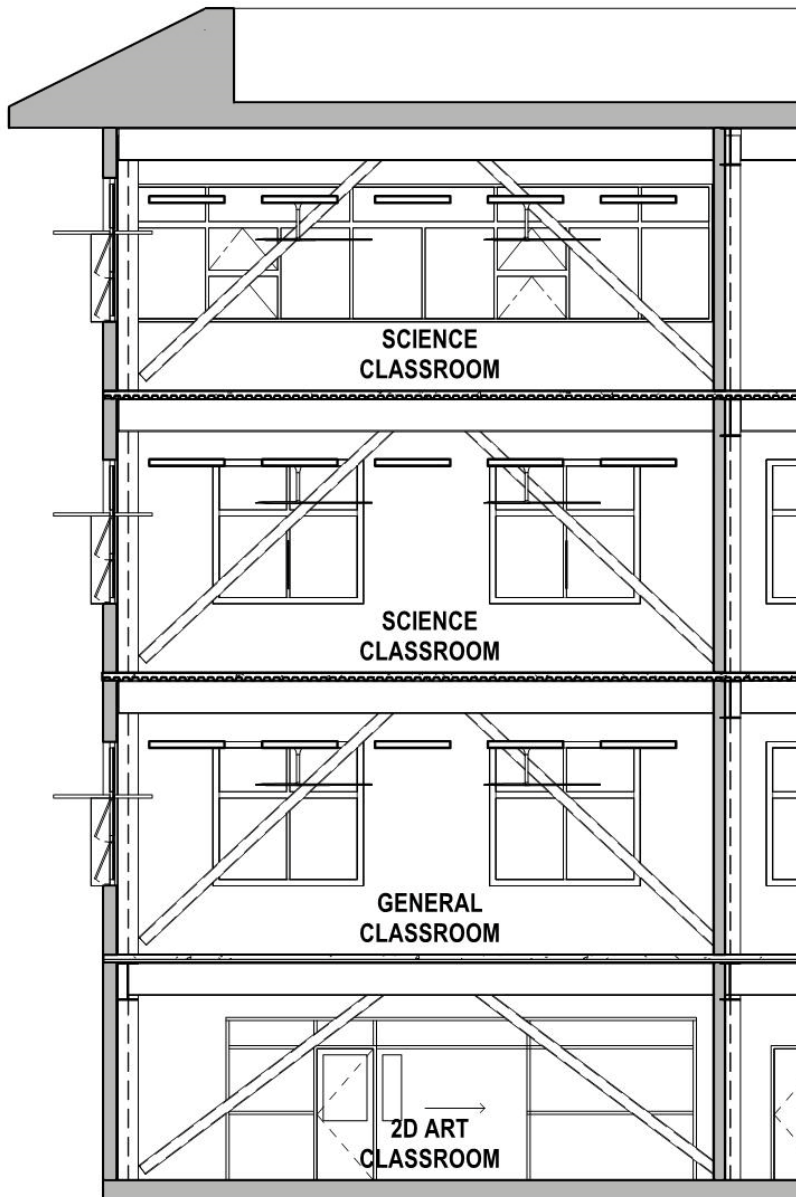
# Street View Contextual



# Classrooms Inside Out Design







# Classrooms Inside Out Design

- Healthy Learning Environment
- Operable Windows
- Thoughtful Daylighting
- Controlled Sun
- High Ceilings
- Suspended Acoustical Cloud
- Building as Teaching Tool
- Exposed Systems
- Exposed Structural Deck

