

East Providence High School

Building Committee June 10, 2019



East Providence high school

Agenda

- **A/E Update**

Next Steps

Programming

Design Update

- **OPM Update**



Next Steps

Preliminary Foundation & Ground Improvements

100% Design Development Submission

DD Cost Estimates:

Bid package #3: Foundations & Footings UG MEP

60% Construction Document Submission

Bid package #4: Structural Steel

May				June				July					August			
6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26
			May 31													
					June 7											
								June 7- July 5								
								June 21-28								
													July 26			
														August 9		



Design Development Programming Meetings

May 7, 2019

- ✓ Athletics & Physical Education
- ✓ Student Support Services
- ✓ Special Education
- ✓ Media Center
- ✓ Band & Choral
- ✓ Auditorium
- ✓ Piano Lab & Digital Music
- ✓ Custodians

May 14, 2019

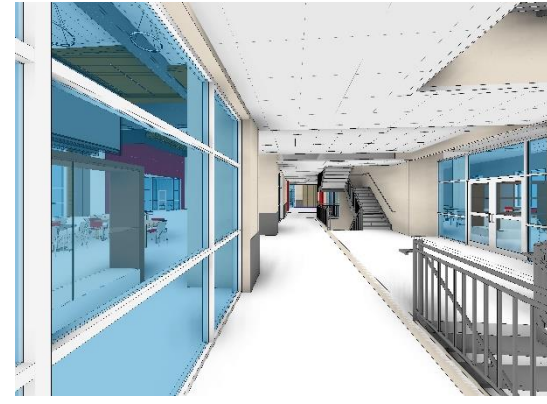
- ✓ Special Education
- ✓ Art & Design
- ✓ Construction
- ✓ Automotive Technology
- ✓ Graphic Design
- ✓ Engineering
- ✓ Allied Health
- ✓ Science

May 21, 2019

- ✓ District Kitchen
- ✓ Culinary Arts

May 28, 2019

- ✓ Administration
- ✓ Medical Suite- Nurse
- ✓ Allied Health: Dental & Nursing
- ✓ Custodial



Design Update

Landscape Design

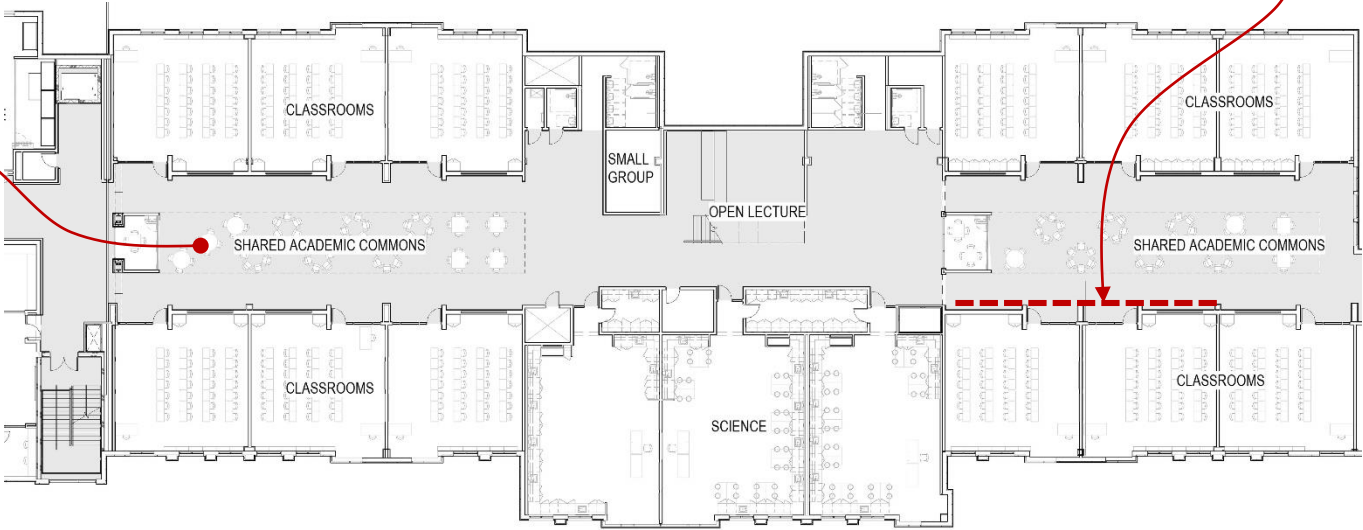
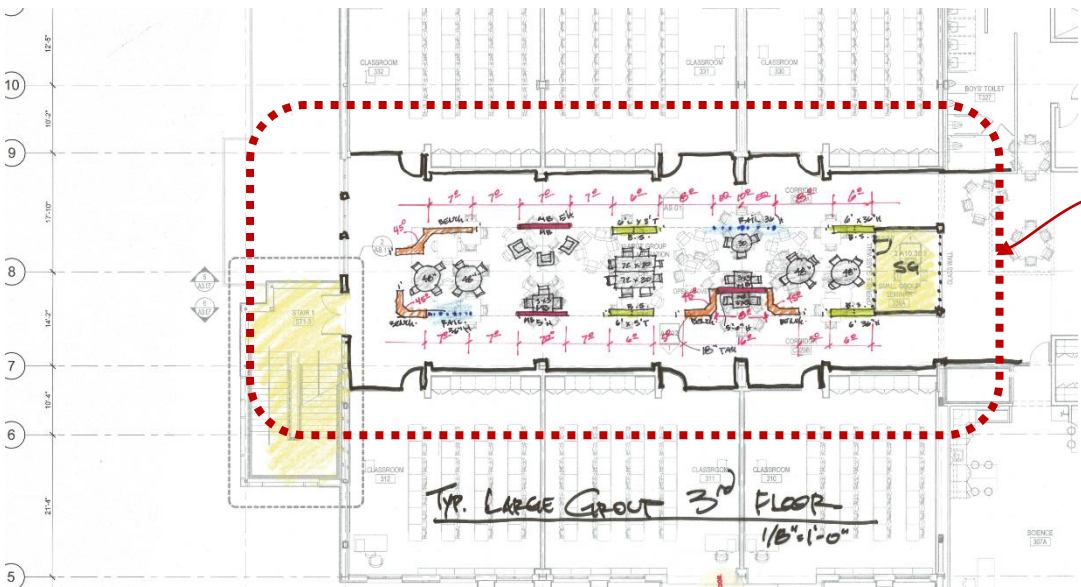
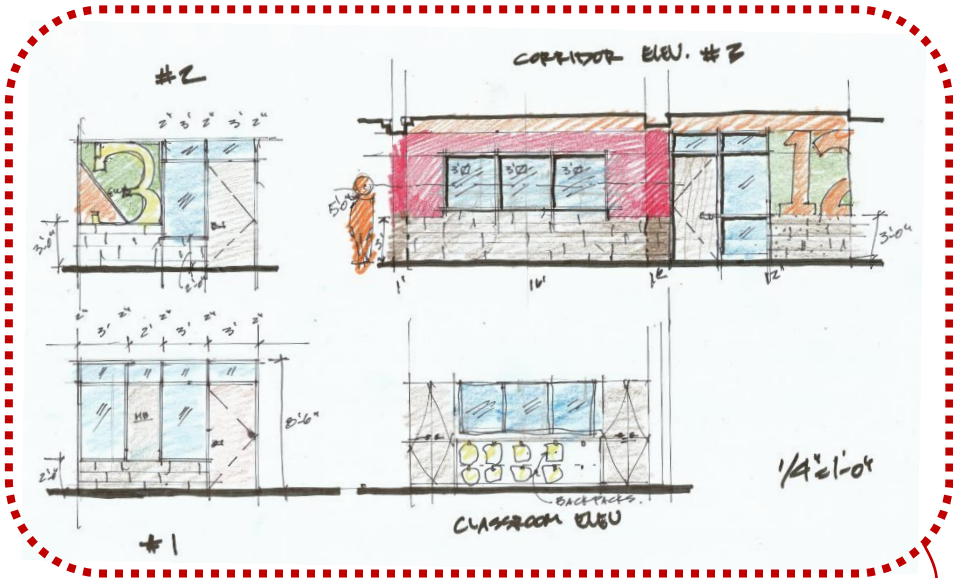
May 2019

Building Design Part 1: Interior

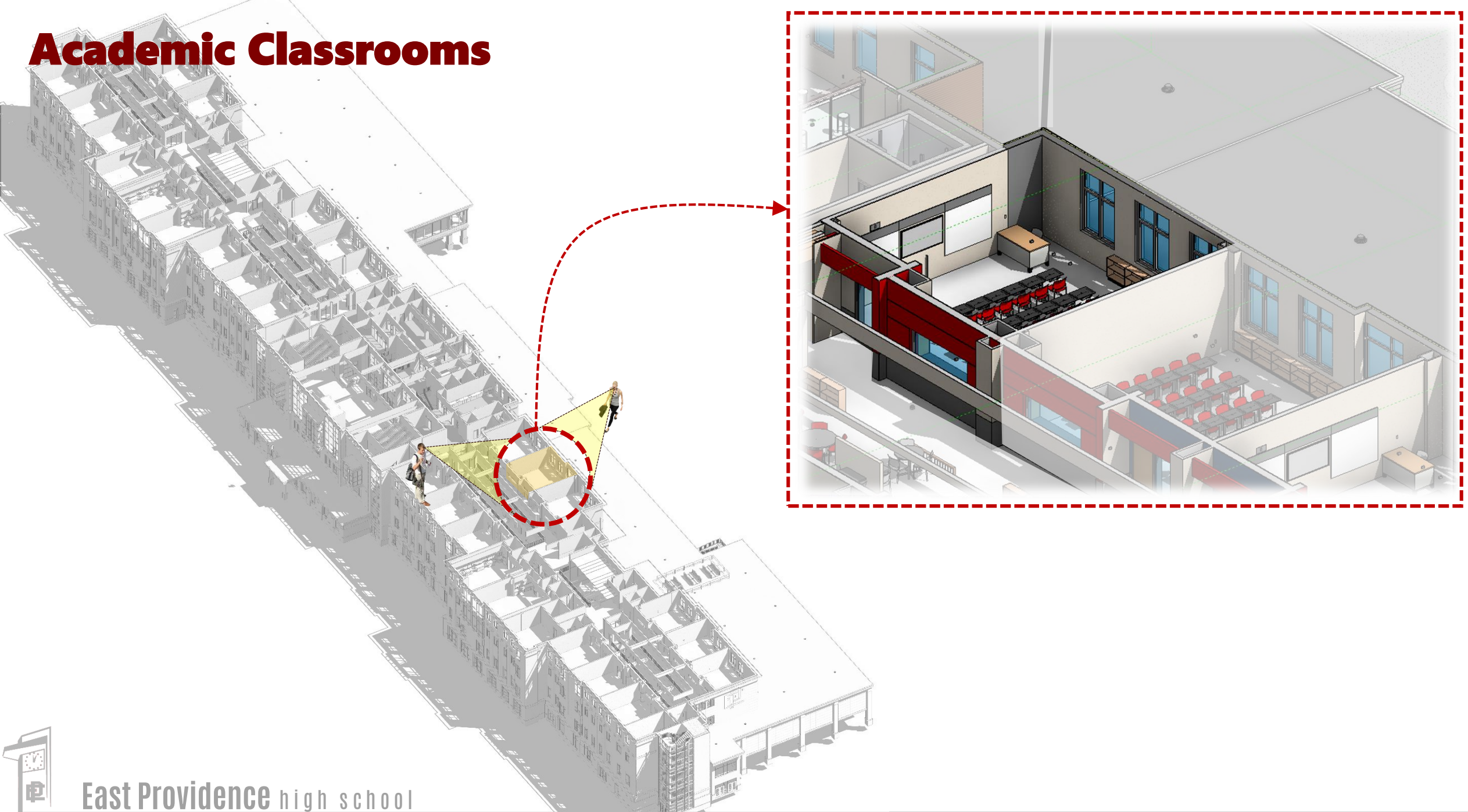
June 2019

Building Design Part 2: Interior & Exterior

July 2019



Academic Classrooms



Academic Classrooms



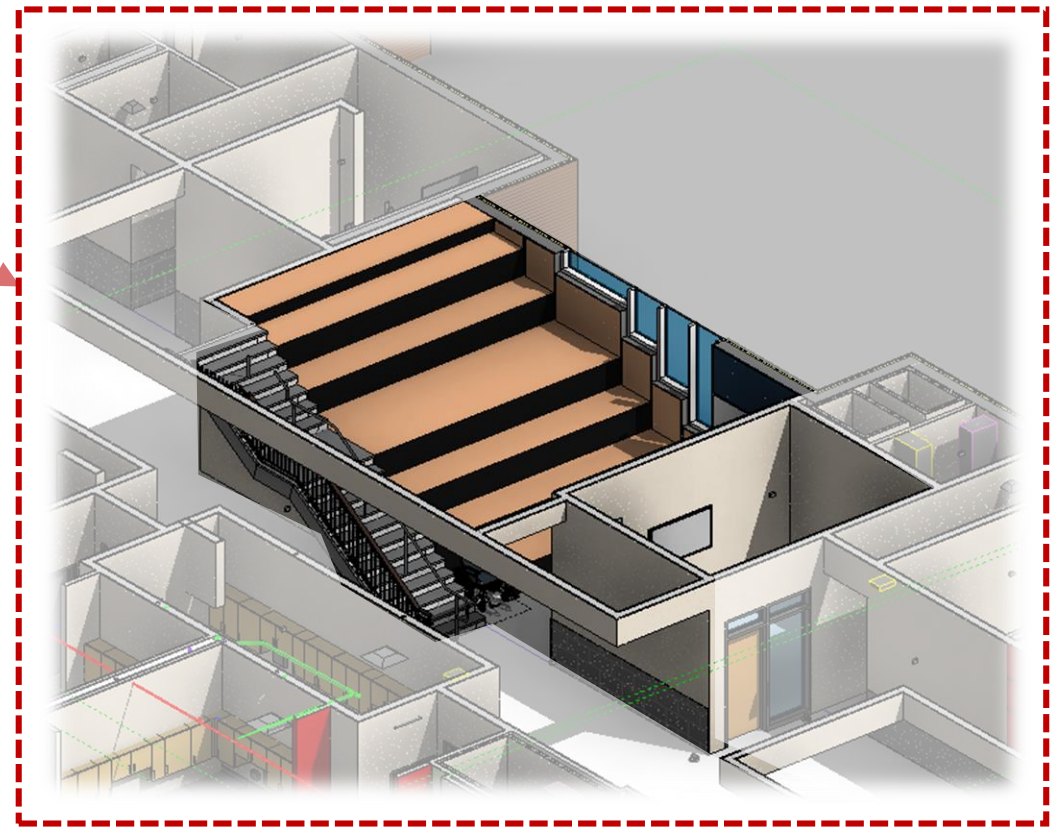
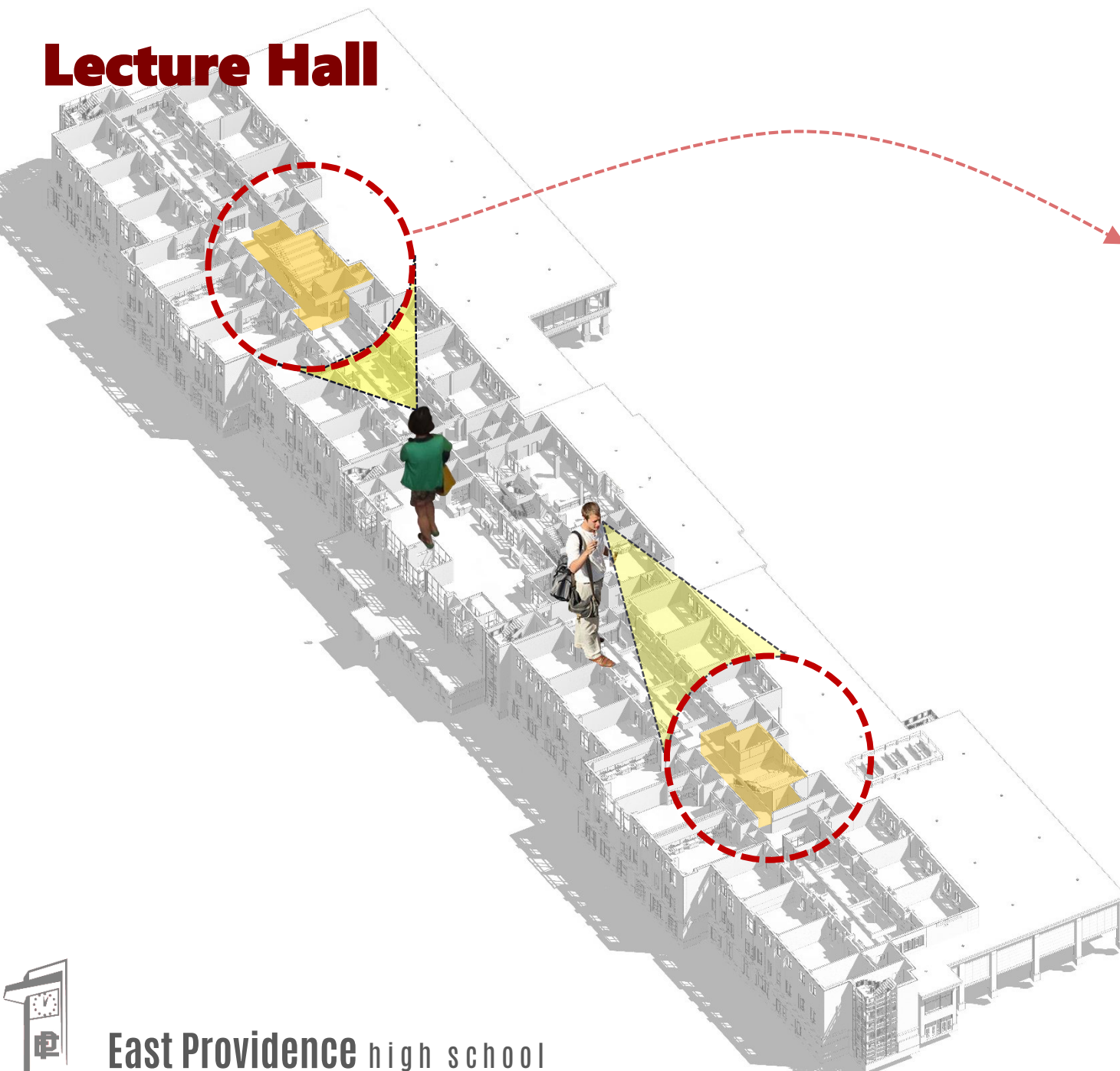
East Providence high school

Academic Classrooms



East Providence high school

Lecture Hall



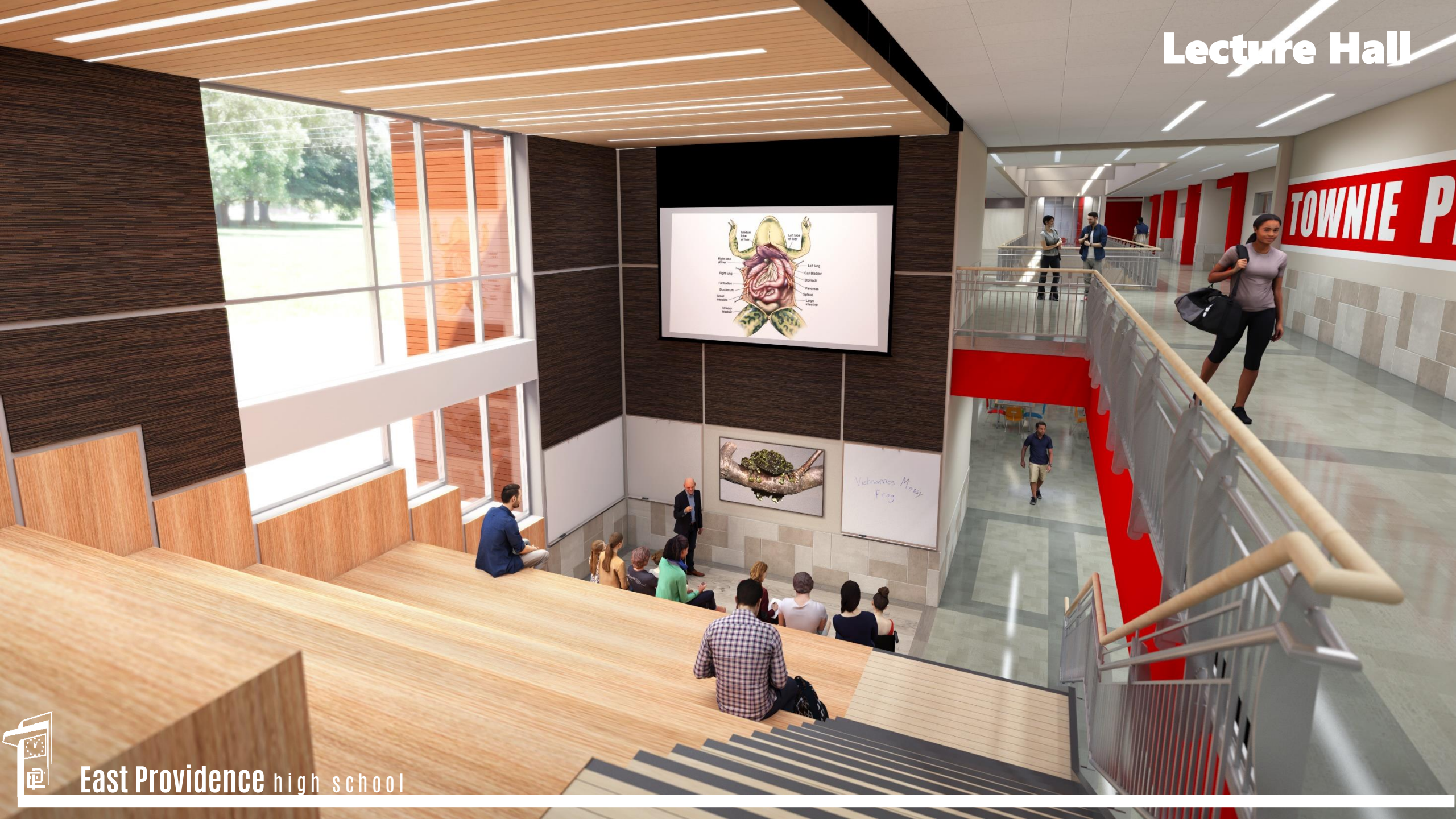
East Providence high school

Lecture Hall



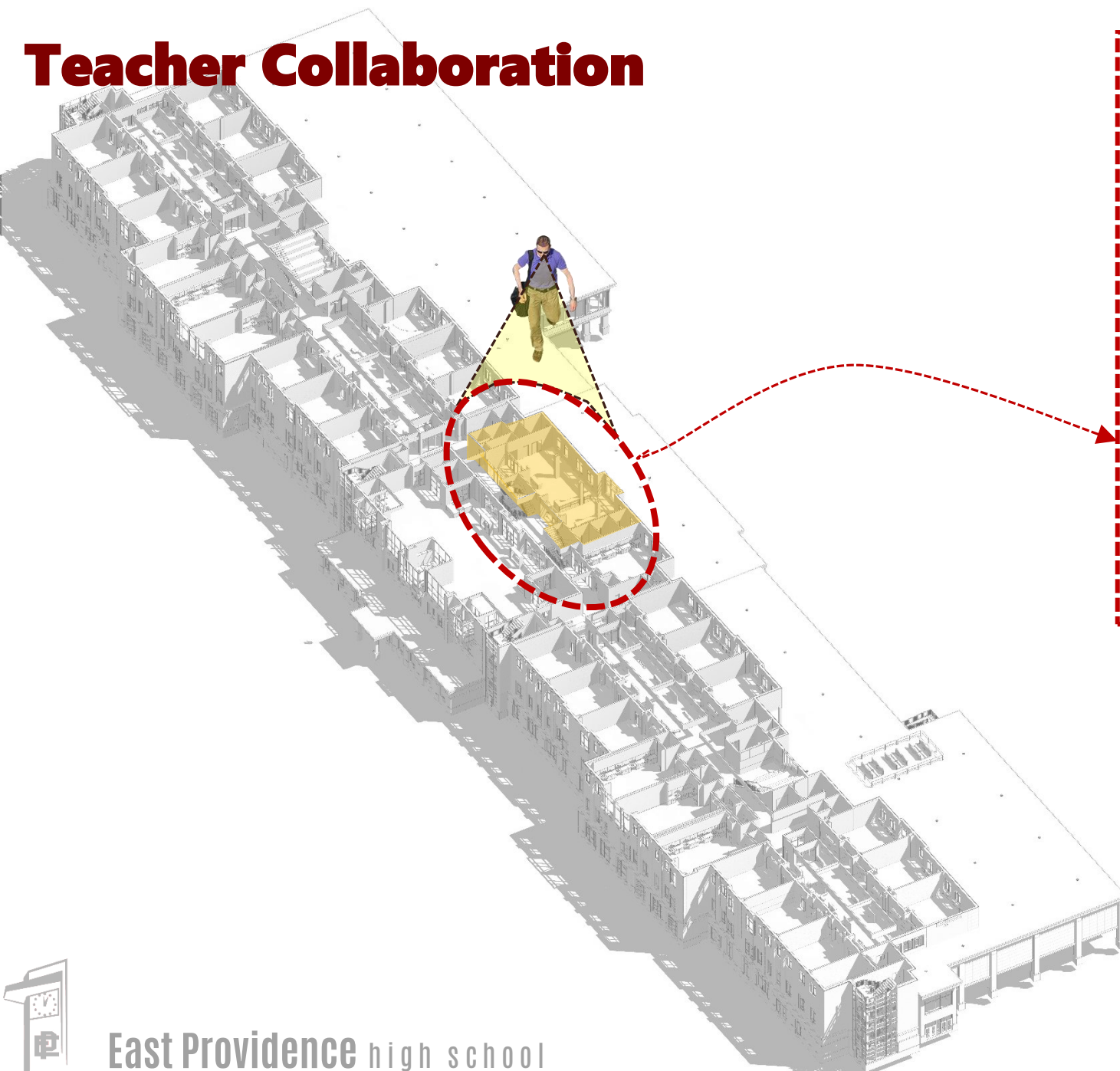
East Providence high school

Lecture Hall



East Providence high school

Teacher Collaboration

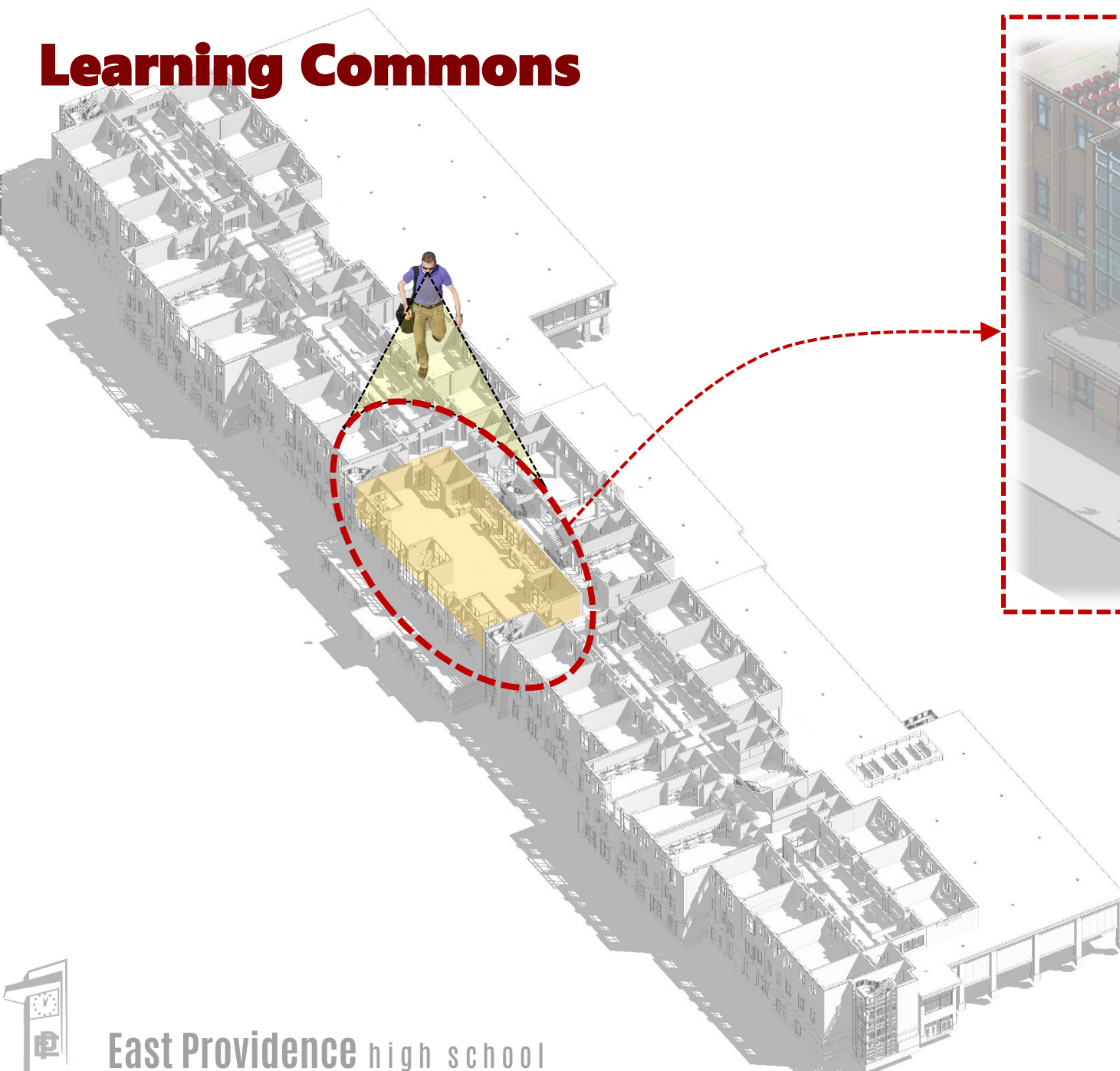


Teacher Collaboration



East Providence high school

Learning Commons



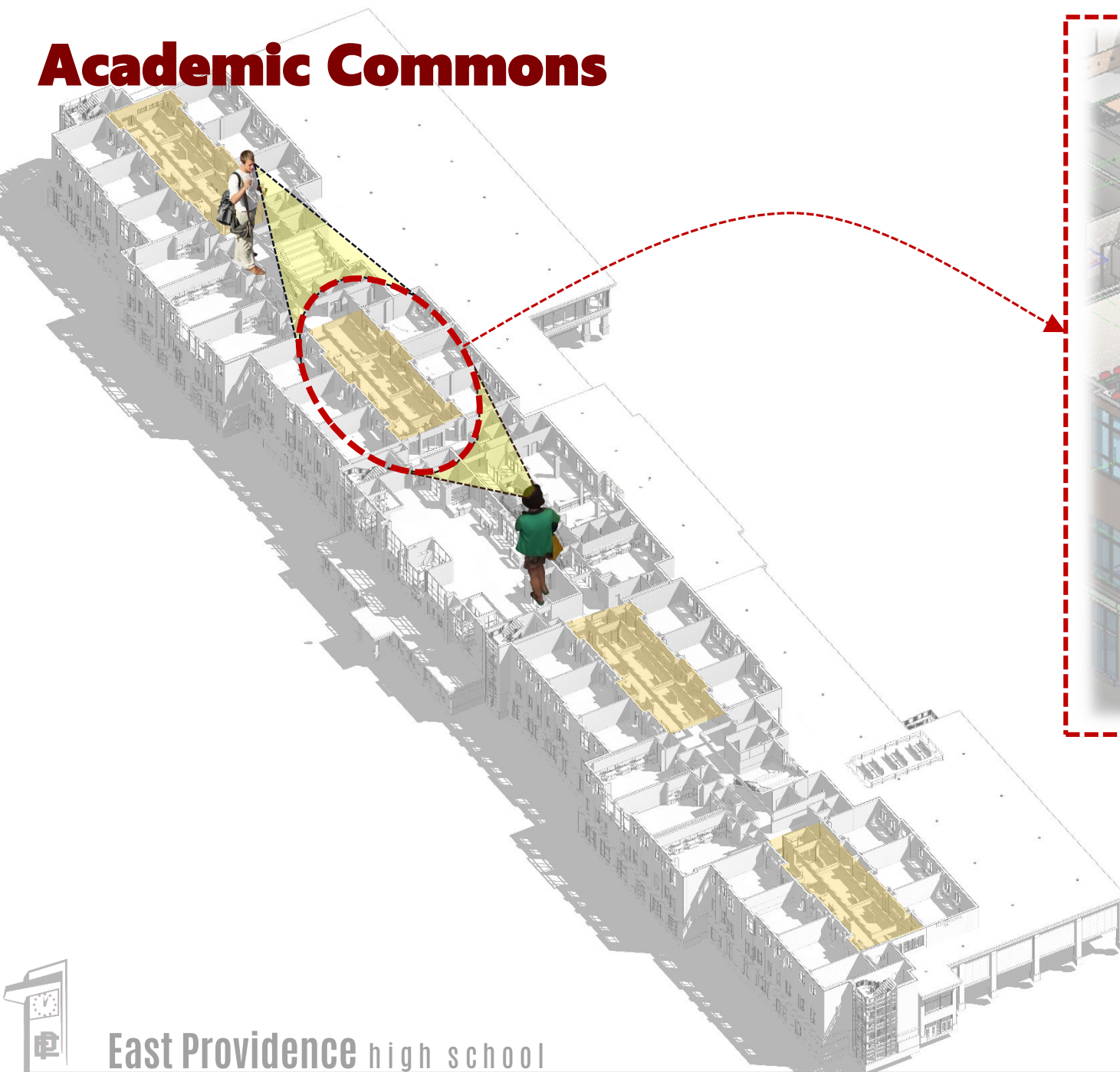
East Providence high school

Learning Commons



East Providence high school

Academic Commons



East Providence high school

Academic Commons



East Providence high school

Academic Commons



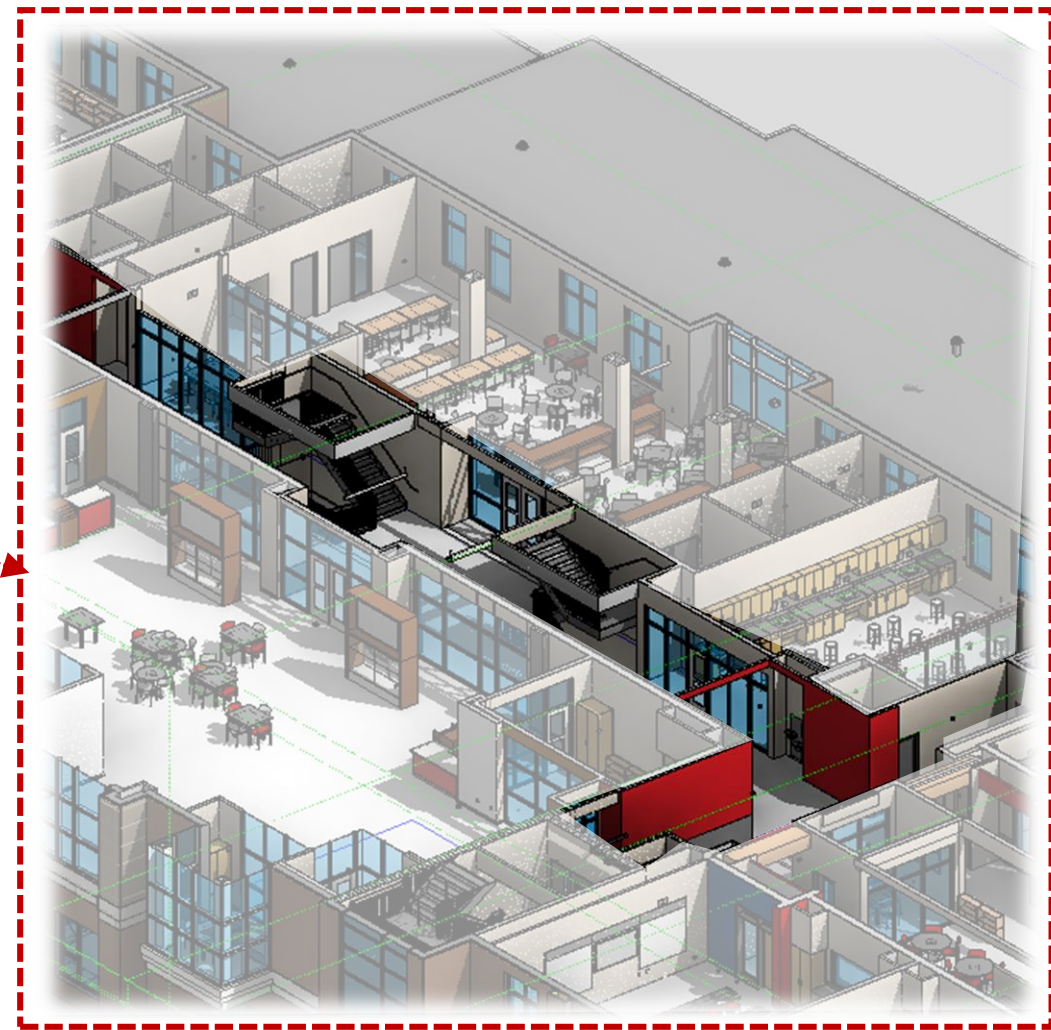
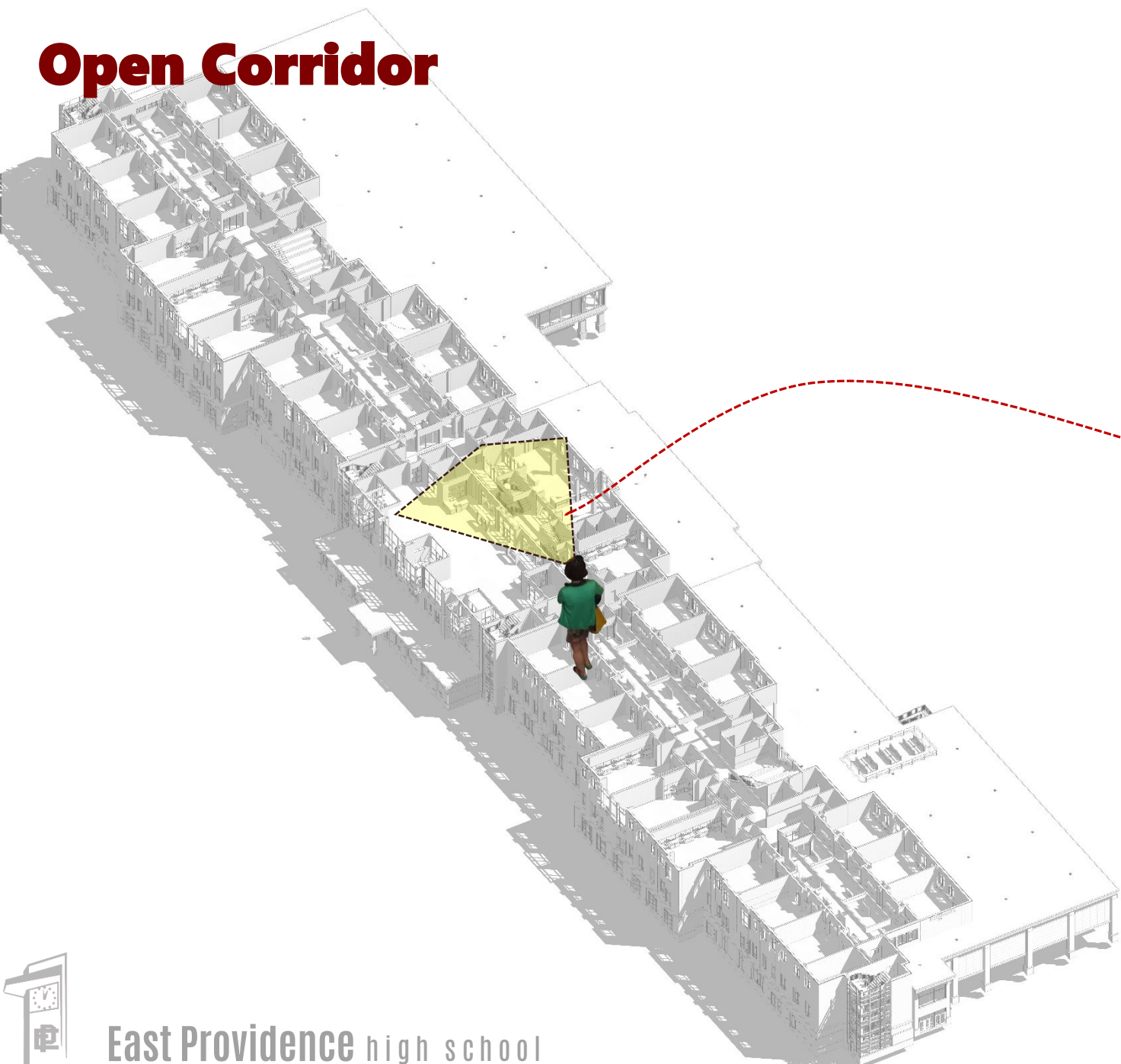
East Providence high school

Academic Commons



East Providence high school

Open Corridor



East Providence high school

Learning Commons & Teacher Collaboration



East Providence high school

East Providence High School Green Features

How are you reducing the Carbon Footprint?

01 ROOF

CODE: R-25
DESIGN: R-36

- White Roof reduces heat gain & heat island effect
- Flat Roof reduces building materials & costs
- Flat Roof maximizes area for PV panels

02 EXTERIOR WALLS

CODE: R-14
DESIGN: R-24

- Increased insulation values reduces fossil fuel consumption
- Reduces heating and cooling loads

03 EXTERIOR WINDOWS

U Value CODE: 0.38
DESIGN: 0.34

- Double Pane Low E Windows reduces fossil fuel consumption
- Reduces heating and cooling loads

04 NATIVE PLANTS

Use of native plants and trees reduces need for irrigation

05 REDUCED BUILDING FOOTPRINT

4-Story School: smaller, compact building footprint means lower cost for excavation, footings, foundations, and slab

06 EXTERIOR SUNSHADES

- Reduces heat gain in summer and allows sunlight into building in winter months.
- Lowers overall energy consumption of building

07 EXTERIOR CEMENT SIDING

- 75% of raw materials used are locally sourced
- Certified GREENGUARD Gold for low-emitting materials
- Product contributes to Recycled Content and Regional Materials
- Requires fewer resources for replacement & reduces maintenance



East Providence high school

East Providence Green Features

How are we reducing the Carbon Footprint?

01

GAS FIRED BOILERS: 96% Eff.

High efficiency, gas fired condensing boilers are 96% efficient

BUILDING MANAGEMENT SYSTEM

BMS controls the HVAC system more precisely to prevent wasting energy used to heat or cool spaces which may be unoccupied or partially occupied.

02

VFD'S FOR PUMPS

Variable frequency drives for pumps and fans reduce electrical consumption by allowing motors to operate at speeds precisely matching the load

03

04

WATER HEATERS: 98% EFFICIENT

High efficiency gas fired condensing domestic water heaters are 98% efficient

07

LED LIGHTING

LED lights operate at a much lower wattage when compared to fluorescent lights of the same lumen output

06

LIGHT CONTROL SYSTEMS

System manages lighting based on schedules and occupancy

ELECTRIC MOTORS

High efficiency electric motors save energy and reduce carbon footprint

08

Integration and Innovation		Pre-req	Total	Yes	?	No	Responsible Party(ies)	Design Review		Construction Review	
II 1.0	Integrated Design	P	3	3			CHPS Consultant	CD			A
II 1.1	Enhanced Integrated Design		2	2			CHPS Consultant		A		
II 2.1	District Level Commitment		1		1		School Board		A		
II 3.1	School Master Plan		1		1		School Board		A		
II 4.1	High Performance Transition Plan		1			1	School Board		A		A
II 5.0	Educational Display	P	1	1			Architect / School Board	CD			A
II 5.1	Demonstration Area		1	1			Architect / School Board	CD			A
II 6.1	Educational Integration		2	2			Architect / School Board		A		A
II 7.1	Climate Change Action / Carbon Footprint Reporting		3		3		School Board		A		A
II 8.0	Crime Prevention through Environmental Design	P	2	2			Architect		A		A
II 9.1	Innovation		4	2	2		Architect / Project Team	VARIES		VARIES	
Integration & Innovation (II) Subtotal			Total	Yes	?	No					
			21	13	7	1					

Operations and Metrics		Pre-req	Total	Yes	?	No	Responsible Party(ies)	Design Review		Construction Review	
OM 1.0	Facility Staff and Occupant Training	P	3	3			School Board	CD			A
OM 2.1	Pest Occupancy Transition		2		2		School Board		A		A
OM 3.0	Performance Benchmarking	P	2	2			School Board		A		A
OM 4.1	High Performance Operations		4		4		School Board		A		A
OM 5.0	Systems Maintenance Plan	P	1	1			Commissioning Agent / School Board				A
OM 6.0	Indoor Environmental Management Plan	P	2	2			School Board				A
OM 7.1	Green Cleaning Policy		2	2			School Board				A
OM 8.0	Integrated Pest Management	P	1	1			Architect / School Board	PS			A
OM 8.0	Anti-lidng Measures	P	1	1			Civil Engineer / School Board	CD			A
OM 10.1	Green Power		2	2			Architect / School Board		A		
OM 11.0	ENERGY STAR Equipment and Appliances	P	2	2			School Board		A		
OM 12.1	Computerized Maintenance Management System		1		1		School Board	PS			A
Operations and Metrics (OM) Subtotal			Total	Yes	?	No					
			23	16	7	0					

Indoor Environmental Quality		Pre-req	Total	Yes	?	No	Responsible Party(ies)	Design Review		Construction Review	
EQ 1.0	HVAC Design - ASHRAE 62.1	P	8	8			Mechanical Engineer	PS			A
EQ 1.1	Enhanced Filtration		2	2			Mechanical Engineer	CD			A
EQ 1.2	Dedicated Outdoor Air System		3	3			Mechanical Engineer	CD			A
EQ 2.0	Pollutant and Chemical Source Control	P	2	2			Architect / Mechanical Engineer	CD	A		A
EQ 3.0	Outdoor Moisture Management	P	1	1			Architect / Mechanical Engineer	CD			A
EQ 4.1	Ducted Returns		2	2			Mechanical Engineer	CD			A
EQ 5.1	Construction Indoor Air Quality Management		5	5			Architect / Contractor	CD			A
EQ 5.2	Construction Moisture Management		1	1			Architect / Contractor	CD			A
EQ 6.1	Pest Construction Indoor Air Quality		1		1		Architect / Contractor	CD			A
EQ 7.0	Low Emitting Materials	P	2	2			Architect / Contractor	PS	CD	PS	A
EQ 7.1	Additional Low Emitting Materials		5	5			Architect / Contractor	PS	CD	PS	A
EQ 8.1	Low Radon		1	1			Architect / Civil Engineer	CD			A
EQ 9.1	Thermal Comfort - ASHRAE 55		4	4			Mechanical Engineer	PS	CD		A
EQ 10.1	Individual Controllability		1	1			Mechanical Engineer	CD			A
EQ 10.2	Controllability of Systems		1	1			Electrical Engineer	CD			A
EQ 11.0	Daylighting: Glare Protection	P	4	4			Daylight Consultant	CD	A		A
EQ 11.1	Daylight Availability		5		5		Daylight Consultant	PS	CD		A
EQ 12.0	Views	P	1	1			Architect	PS	CD		
EQ 12.1	Additional Views		2		2		Architect	PS	CD		
EQ 13.1	Electric Lighting Performance		3	2	1		Electrical Engineer	CD	A		
EQ 13.2	Superior Electric Lighting Performance		5		5		Electrical Engineer	CD			A
EQ 14.0	Acoustical Performance	P	7	7			Acoustical Engineer	PS	CD	A	A
EQ 14.1	Enhanced Acoustical Performance		6		6		Acoustical Engineer	PS	CD	A	A
EQ 15.1	Low-EMF Wiring		1		1		Electrical Engineer	CD			A
EQ 15.2	Low-EMF Best Practices		2		2		Electrical Engineer	CD	A		A
EQ 16.1	High Intensity Fluorescent Fixtures		1		1		Electrical Engineer	CD			A
Environmental Quality (EQ) Subtotal			Total	Yes	?	No					
			76	52	15	9					

Energy		Pre-req	Total	Yes	?	No	Responsible Party(ies)	Design Review		Construction Review	
EE 1.0	Energy Performance	P	6	6			Energy Consultant	CD	A		
EE 1.1	Superior Energy Performance		40	18	22		Energy Consultant	CD	A		
EE 2.1	Zero Net Energy Capable		3		3		Architect / Energy Consultant / CHPS	CD			
EE 3.0	Commissioning	P	4	4			Commissioning Agent	CD	A		A
EE 3.1	Additional Commissioning Qualifications		1		1		Commissioning Agent / School Board	CD	A		A
EE 3.2	Building Envelope Commissioning		1	1			Commissioning Agent / School Board	CD	A		A
EE 3.3	Enhanced Commissioning		1	1			Commissioning Agent / School Board	CD	A		A
EE 4.0	Environmentally Preferable Refrigerants	P	1	1			Mechanical Engineer	CD			
EE 5.1	Energy Management System		2	2			Mechanical Engineer / School Board	CD			
EE 5.2	Advanced Energy Management System and Submetering		2	2			Mechanical Engineer / Electrical Engineer	CD			
EE 6.1	Natural Ventilation and Energy Conservation Interlocks		2		2		Architect / Mechanical Engineer	PS	CD		A
EE 7.0	Local Energy Efficiency Incentive and Assistance	P	2	2			Energy Consultant		A		A
EE 8.1	Variable Air Volume Systems		1	1			Mechanical Engineer	CD			A
EE 9.1	Renewable Energy Performance Monitoring		1		1		Electrical Engineer / Solar Vendor	CD			A
EE 10.1	Electric Vehicle Charging		1	1			Electrical Engineer / Civil Engineer	CD			A
Energy Efficiency (EE) Subtotal			Total	Yes	?	No					
			68	39	26	3					

Water		Pre-req	Total	Yes	?	No	Responsible Party(ies)	Design Review		Construction Review	
WE 1.0	Minimum Reduction in Indoor Potable Water Use	P	5	5			Plumbing Engineer	PS	CD		A
WE 2.1	Reduce Potable Water Use for Sewage Conveyance		4	2	2		Plumbing Engineer	PS	CD		A
WE 3.0	Irrigation and Exterior Water Budget - Use Reduction	P	4	4			Landscape Architect / Irrigation Consultant	CD			A
WE 4.1	Reduce Potable Water Use for Non-Recreational Landscaping		2	2			Landscape Architect / Irrigation Consultant	CD	A		A
WE 5.1	Recycle Potable Water Use for Recreational Landscaping		1	1			Landscape Architect / Irrigation Consultant	CD			A
WE 6.0	Irrigation Systems Commissioning	P	1	1			Commissioning Agent / School Board			A	A
WE 7.1	Rainwater Collection and Storage		2		2		Plumbing Engineer	PS	CD		
WE 8.1	Water Management System		2	2			Plumbing Engineer	CD			A
Water Efficiency (WE) Subtotal			Total	Yes	?	No					
			21	17	2	2					

Site		Pre-req	Total	Yes	?	No	Responsible Party(ies)	Design Review		Construction Review	
SS 1.0	Site Selection	P	2	2			Civil Engineer			A	
SS 2.1	Environmentally Sensitive Land		3	2	1		Civil Engineer	PS	CD	A	
SS 3.1	Minimize Site Disturbance		1		1		Civil Engineer	PS	CD		
SS 4.1	Construction Site Runoff Control and Sedimentation		1	1			Civil Engineer / Contractor		CD		A
SS 5.1	Post Construction Stormwater Management		1	1			Civil Engineer / Contractor	PS	CD		A
SS 6.1	Central location		2	2			CHPS Consultant	PS		A	
SS 7.1	Located Near Public Transportation		1	1			CHPS Consultant			A	
SS 8.1	Joint-Use of Facilities		1	1			School Board		CD		A
SS 9.1	Human-Powered Transportation		2	2			Civil Engineer / School Board	PS	CD		A
SS 10.1	Reduce Heat Islands - Landscaping and Sites		1		1		Civil Engineer / Landscape Arch	CD			
SS 11.1	Reduce Heat Islands - Cool Roofs and Green Walls		1		1		Architect	CD			A
SS 12.1	Avoid Light Pollution and Unnecessary Lighting		2		2		Electrical Engineer / Contractor	CD			A
SS 13.1	School Gardens		1	1			School Board / Landscape Arch / Contractor	CD	A		A
SS 14.1	Use Locally Native Plants for Landscaping		1	1			Landscape Arch	PS	CD		
SS 15.0	Site and Building Best Practices	P	2	2			Civil Engineer	PS	CD	A	
Site (SS) Subtotal			Total	Yes	?	No					
			22	16	6	0					

Materials and Waste		Pre-req	Total	Yes	?	No	Responsible Party(ies)	Design Review		Construction Review	
MW 1.0	Storage and Collection of Recyclables		2	2			Architect / School Board		CD		A
MW 2.0	Minimum Construction Site Waste Management		2	2			Architect / Contractor	CD			A
MW 2.2	Construction Site Waste Management		2	1	1		Architect / Contractor	CD			A
MW 3.1	Single Attribute - Recycled Content		2	2			Architect / Contractor	CD		PS	A
MW 4.1	Single Attribute - Rapidly Renewable Materials		1		1		Architect / Contractor	CD		PS	A
MW 5.1	Single Attribute - Certified Wood		1	1			Architect / Contractor	CD		PS	A
MW 6.1	Single Attribute - Materials Reuse		1		1		Architect / Contractor	CD		PS	A
MW 7.1	Multi-Attribute Materials Selection		2	2			Architect / Contractor	PS	CD	PS	A
MW 8.1	Building Reuse - Exterior		2		2		Architect / Contractor	CD		PS	A
MW 9.1	Building Reuse - Interior		1		1		Architect / Contractor	CD		PS	A
MW 10.1	Health Product Related Information Reporting		1	1			Architect / Contractor	CD		PS	A
MW 11.1	Locally Produced Materials		2	1	1		Architect / Contractor	CD		PS	A
Materials and Waste (MW) Subtotal			Total	Yes	?	No					
			19	12	2	5					

250
TOTAL

→

165
GOAL



New Construction Requirements
Verified: 110 points
Verified Leader: 160 points

Questions & Comments

