



# Bristol Warren Regional School District

## RIDE Necessity of School Construction

---



PMA Consultants

PERKINS —  
EASTMAN

SCHOOL BUILDING COMMITTEE | 10.31.2024



# AGENDA

## BRISTOL WARREN REGIONAL SCHOOL DISTRICT SCHOOL BUILDING COMMITTEE MEETING

Reynolds Building, 1st Floor Conference Room  
235 High Street  
Bristol, RI 02809

Thursday, October 31, 2024, 8:30AM  
<https://www.youtube.com/@bwrsdri>

### AGENDA

- I. OPEN MEETING
- II. PUBLIC COMMENTS
- III. DISCUSSION AND/OR POSSIBLE ACTION
  - A. Approval of 09/19/24 Meeting Minutes - VOTE
  - B. General Project Update
  - C. Planning Board Update
  - D. Design Update
    - 1. Exterior Update
    - 2. Interior Finishes
    - 3. Building Systems Update from CMTA
  - E. Project Schedule / Next Steps
- I. ADJOURNMENT

Ana Riley, Superintendent and Chairperson,  
Bristol Warren District Building Committee



# GENERAL PROJECT UPDATE

---



PMA Consultants

PERKINS —  
EASTMAN



# STAGE III PROGRESS UPDATE

05Sep24 - Light Controls Meeting  
09Sep24 - School Committee  
09Sep24 - AE/OPM Coordination Meeting  
12Sep24 - Bristol Planning Meeting  
16Sep24 - Abutters Meeting

Last SBC meeting

19Sep24 - School Building Committee  
19Sep24 - AE/OPM Coordination Meeting  
23Sep24 - Warren Planning Review  
23Sep24 - User Group Meetings at MHHS  
24Sep24 - User Group Meetings at MHHS  
25Sep24 - Target Date: RIDE DD Review comments  
26Sep24 - AE/OPM Coordination Meeting  
02Oct24 - Bristol TRC Meeting  
03Oct24 - AE/OPM Coordination Meeting  
10Oct24 - AE/OPM Coordination Meeting  
10Oct24 - Bristol Planning Board  
11Oct24 - Warren TRC Meeting  
11Oct24 - Security Meeting  
17Oct24 - AE/OPM Coordination Meeting  
24Oct24 - AE/OPM Coordination Meeting  
28Oct24 - User Group Meetings (Admin and CTE)  
28Oct24 - School Committee (KMS Chevron Approval)  
28Oct24 - Warren Planning Board  
29Oct24 - Test Well Drilling 10/29-10/30 (Geothermal & Irrigation)

Upcoming

31Oct24 - School Building Committee  
03Nov24 - AE/OPM Coordination Meeting



# Planning Board Update

---



PMA Consultants

PERKINS —  
EASTMAN

# PLANNING BOARD UPDATE

- **Master Plan Approved**
  - Waiver granted for RIDEM and Preliminary Plan to occur at same time (Bristol & Warren)
  - Major Topics:
    - Bristol
      - Synthetic Turf
      - Parking Counts
      - Impervious Surface
      - Irrigation
    - Warren
      - Parking/Traffic Circulation
      - Playground Structures
      - Stormwater Management
      - Hydrant Location
- **Preliminary Plan Submission**
  - Bristol (1/3/25)
  - Warren (1/3/25)



# DESIGN UPDATE

---



PMA Consultants

PERKINS —  
EASTMAN



# BWRSD WORK PLAN

## Bristol Warren Regional School District

Project # 0099110.00			
Design Schedule			
10/24/202			
CONSTRUCTION DOCUMENTS	07/29/24	12/23/24	
SBC DD Page Turn with Owner		08/08/24	
SBC meeting - Exterior Finishes and Turf Field presentation		09/19/24	
SBC meeting - Interior Finishes and Systems		10/31/24	
SBC meeting - Approve 60% CD Budget		01/23/24	
SBC meeting - CD Update prior to Bidding		TBD	
SC Meetings		09/09/24	
SC Meetings		09/23/24	
SC Meetings		10/28/24	
SC Meetings		11/18/24	
SC Meetings		12/16/24	
SC Meetings		01/27/24	
Neighborhood Meeting		09/16/24	BWRSD to confirm date
Signage Meeting at MHHS - entry sign		09/15/24	
MHHS Final User Meetings	09/23/24	09/24/24	MHHS to send a schedule
Program and Plan Review with Michelle and Ana		9/30/2024 at 3:00	
Select Follow up User Meetings		10/28 and 10/29	
Meet with MHHS students to review history of school		09/24/24	Need a group of students to meet
Follow up meeting with Students to collect images of MHHS		TBD	
Fire Department and Building Inspector Review - Warren		9/3/24 at 1:00	
Fire Department and Building Inspector Review - Bristol		9/3/24 at 10:30	
Security Meeting with Cloud based system		08/20/24	
Security System Review Meeting with SRO and BPD		10/11/24	
Integrated Design Team Meeting - Commissioning?		TBD	Commissioning Agent
Permitting	07/01/24	11/25/24	
Warren review meeting with Fire Chief		6/20/2024 at 10:30	in person
Submit Bristol Masterplan Application		08/05/25	
Warren Permit Application Meeting		7/31/2024 at 1:00	
Submit Warren Permit Application		08/12/24	
Bristol TRC Meeting		8/28/24 at 10:00	
Warren TRC Meeting		10/11/24	
Bristol Planning Board Master plan Review		9/12/24 at 6	
Bristol TRC Meeting - review before 10/10 hearing		10/02/24	
Bristol Masterplan Hearing - Continued		10/10/24	
Warrant Planning Board Review		10/28/24	
RIDEM submission for MHHS		12/15/24	Refer to PARE/LEC
Bristol Planning Board Submission		01/03/25	
Bristol Planning Board TRC		1/22/2025 - TBD	
Bristol Planning Board Hearing		02/13/24	
Warren Planning Board Hearing		TBD	
CRMC Submissions for KMS and HC		08/06/24	Drawings sent to CRMC on 8/6/24
CRMC Review Meeting		8/27/24 at 10:00	
CRMC Approval		TBD	
Carry over items - Investigation work	07/01/24	11/25/24	
Geoenvironmental - soil from tank at high school		09/23/24	Soil Removal
Geoenvironmental - soil from tank at high school		09/13/24	Additional Soil Removal
Test pits at KMS and HC		OCT.-TBD	
Geothermal test wells		10/28/24	
Surveys		09/19/24	
Survey Stamped Drawings		TBD	a few final edits are being worked on
Additional Survey scope of east side of KMS		09/05/24	
Incentive - RIBE		TBD	Send DD set
Historic Documentation Site wall		08/02/24	
Historic Documentation Draft		11/01/24	
Historic Documentation Comments due from client		11/22/24	

## Bristol Warren Regional School District

Project # 0099110.00			
Design Schedule			
Traffic Summary for new		Ongoing	Bryant to send summary for MHHS and KMS
Crack Monitoring at KMS		Ongoing	RJK to visit monthly
Hugh Cole Condensation report		Ongoing	
KMS Hydrant		Ongoing	
HC Hydrant tests		TBD	
Hugh Cole condensation issue		07/29/24	Site visit
Hugh Cole review Fire Suppression system with WFD		07/29/24	Site visit
Construction Documents Drawings	07/22/24	01/31/25	
Consultant Coordination Meetings			
Structure and MEP Coordination - RSE/CMTA		Friday's at 10:00	
Site Coordination - Pare/Traverse		Thursday's at 2:00	
Lighting Coordination - HLB		Wednesday at 4:00	next lighting review meeting TBD
Technology review of Audio Enhancement system		8/23/24 at 11:00	
Acoustics Coordination - CT		DD report received	
AV and Theater Coordination - CT		8/22/2024 at 11:00	
Kitchen Coordination - CM		8/22/2024 at 9:30	
Code Review Meeting with JS		8/16/2024 at 9:00	
Lighting Control Review		9/5/2024 at 3:00	
Kitchen Coordination Meeting		10/07/24	
Spec Review meeting - Kalin		10/8/2024 at 10:00	
Spec - Front End Coordination		TBD	
Security Coordination - PP and CMTA		TBD	
Hardware Coordination		8/20/2024 at 2:00	Send drawings to Assa Abloy on 9/3
Hardware spec review		TBD	
RJK Envelop review comments		09/25/24	Details sent to RJK on 9/13
Bldg. Envelop Review		10/1/24 at 2:00	
FF&E and MEP coordination		TBD	
Technology Review Meeting		TBD	
60% Construction Document Set	07/22/24	11/01/24	
Check Set Due		10/09/24	
Final comments to Consultants		11/07/24	
60% CD Drawings/Specs due to PE from all Consultants except Civil and Landscape		11/15/24	
60% CD QA/QC Review - PE	11/15/24	11/29/24	
Light Design team or minimized Team hours	11/15/24	01/10/25	
60% CD Drawings/specs due to PE from Civil and Landscape		12/06/24	
60% CD Due to Estimator		12/09/24	
Cost Estimate			
Estimating	12/09/24	01/10/25	
Receive and Review Estimate from Cost Estimator	01/10/25	01/15/25	
Reconcile Cost Estimate - Value Engineering - MEETING		01/17/25	
Final Reconciliation - Revised Estimate Due		01/22/25	
Approval of 60%CD Scope and Budget		01/23/25	
Compile and Submit 60%CD Pkg to Owner and RIDE		01/27/25	
RIDE Review Period	01/27/25	02/10/25	
Review final comments from RIDE		TBD	
CD check set due for final coordination		02/21/25	
Final Drawing Review	02/24/25	03/05/25	TBD Based on Permitting Approval
Final Redlines to Consultants		03/05/25	TBD Based on Permitting Approval
Bid Documents Due		03/14/25	TBD Based on Permitting Approval
Compile and Submit CD Drawings	03/17/25	03/28/25	
BIDDING	03/31/25	05/09/25	TBD Based on Permitting Approval
Contractor Pre-qual			
Addendum		04/11/25	TBD
Final Question			
Bids Due			
Construction to Begin			



# DESIGN UPDATE - Exterior

---



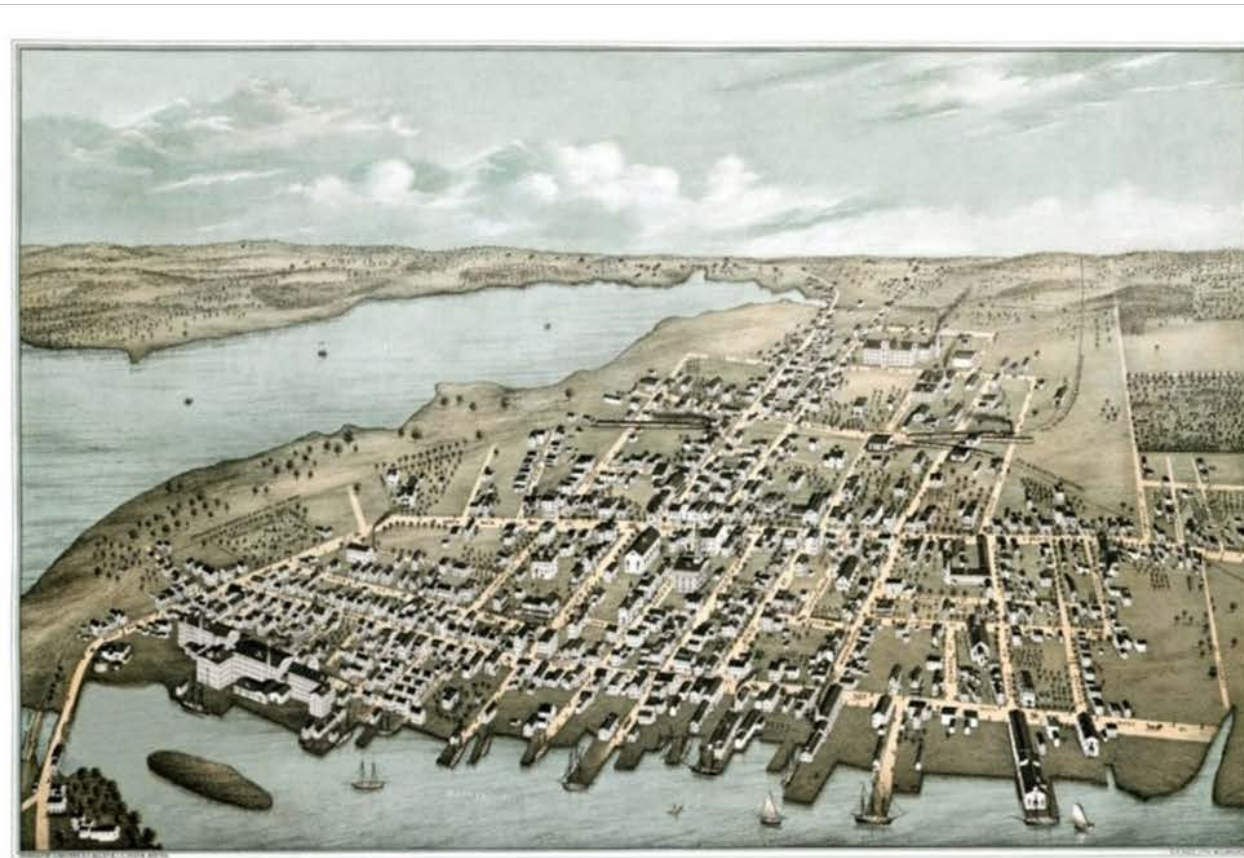
PMA Consultants

PERKINS —  
EASTMAN



# CONCEPT

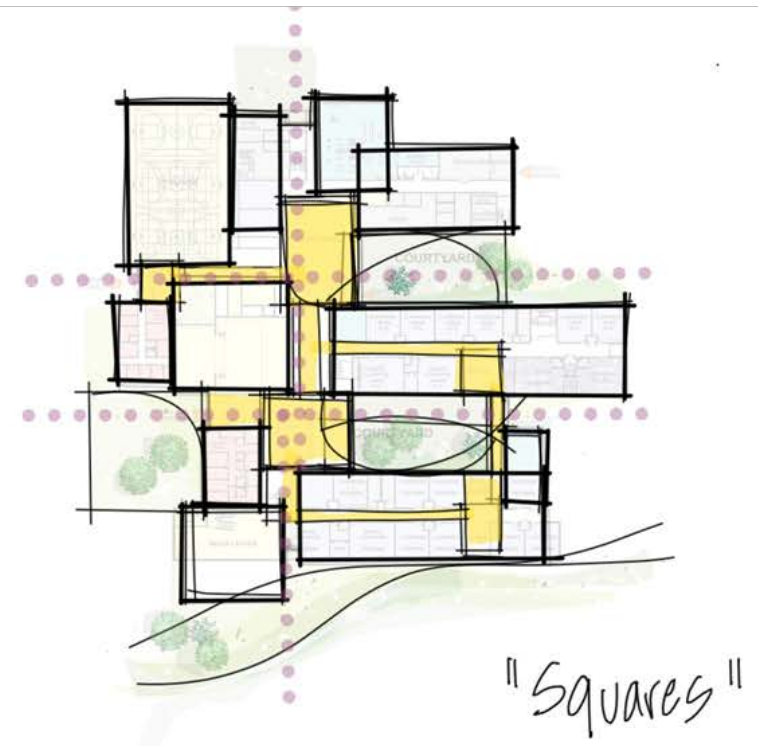
## A Village





# ORGANIZATIONAL CONCEPT

## A Village



## MASSING + SCALE





MT HOPE  
HIGH SCHOOL







# DESIGN UPDATE - Interior

---



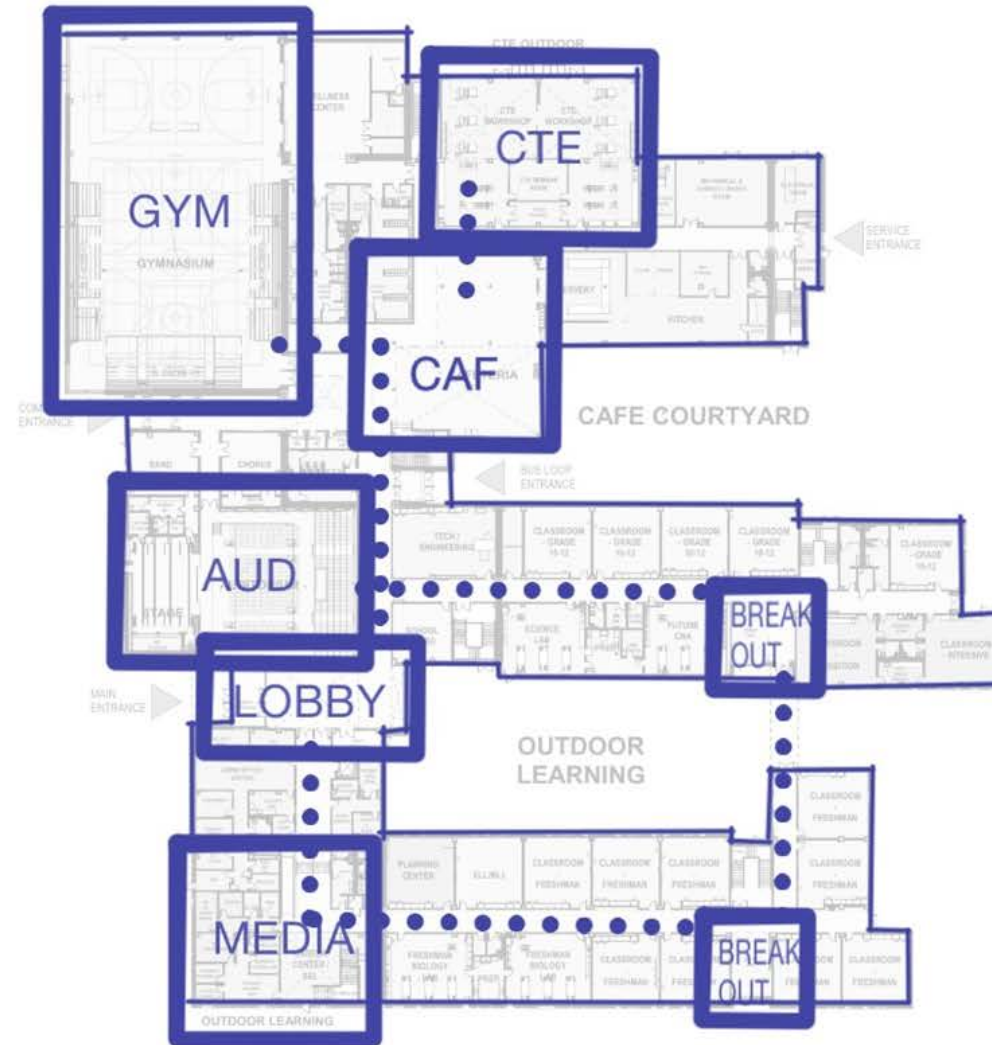
PMA Consultants

PERKINS —  
EASTMAN

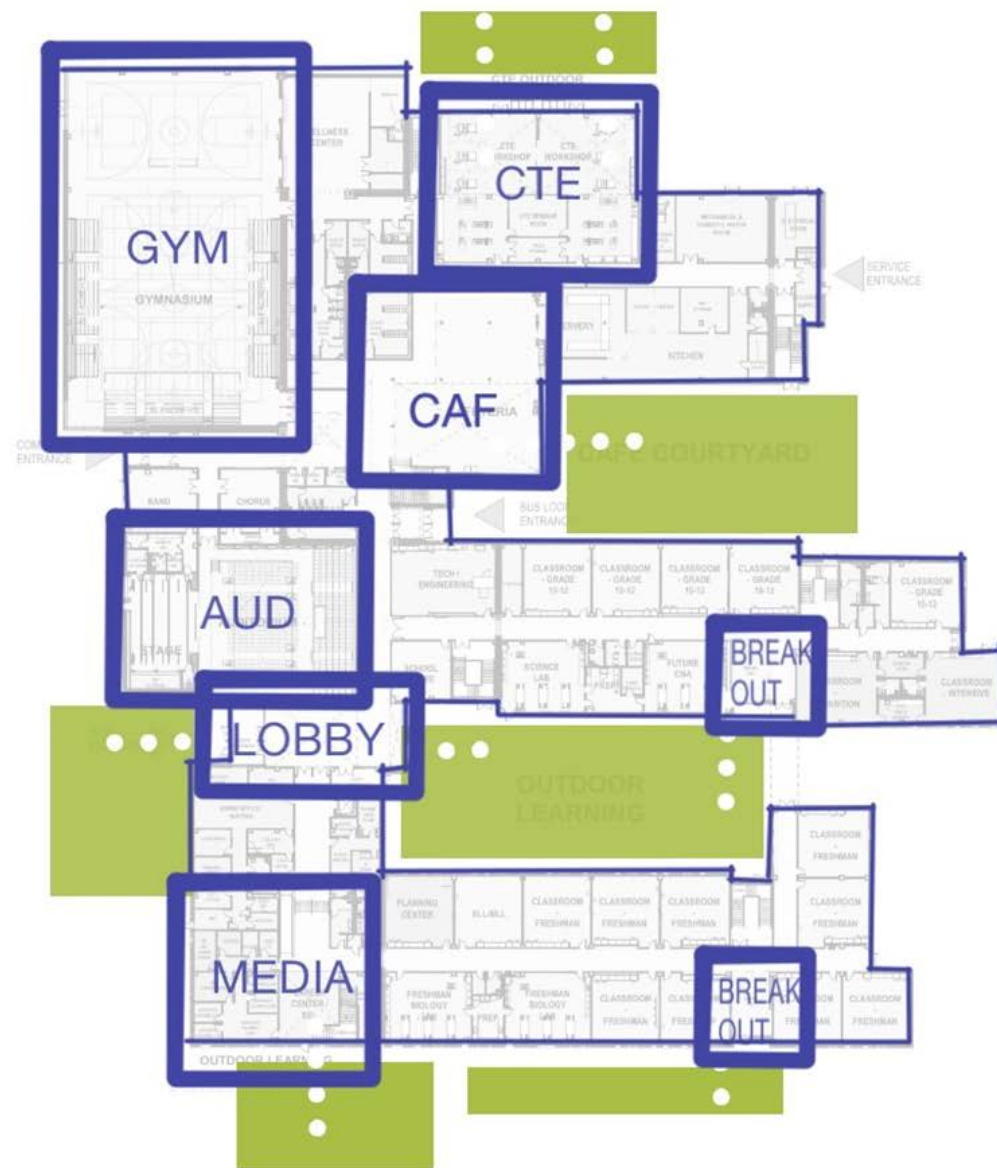


# CONCEPT

## A Village

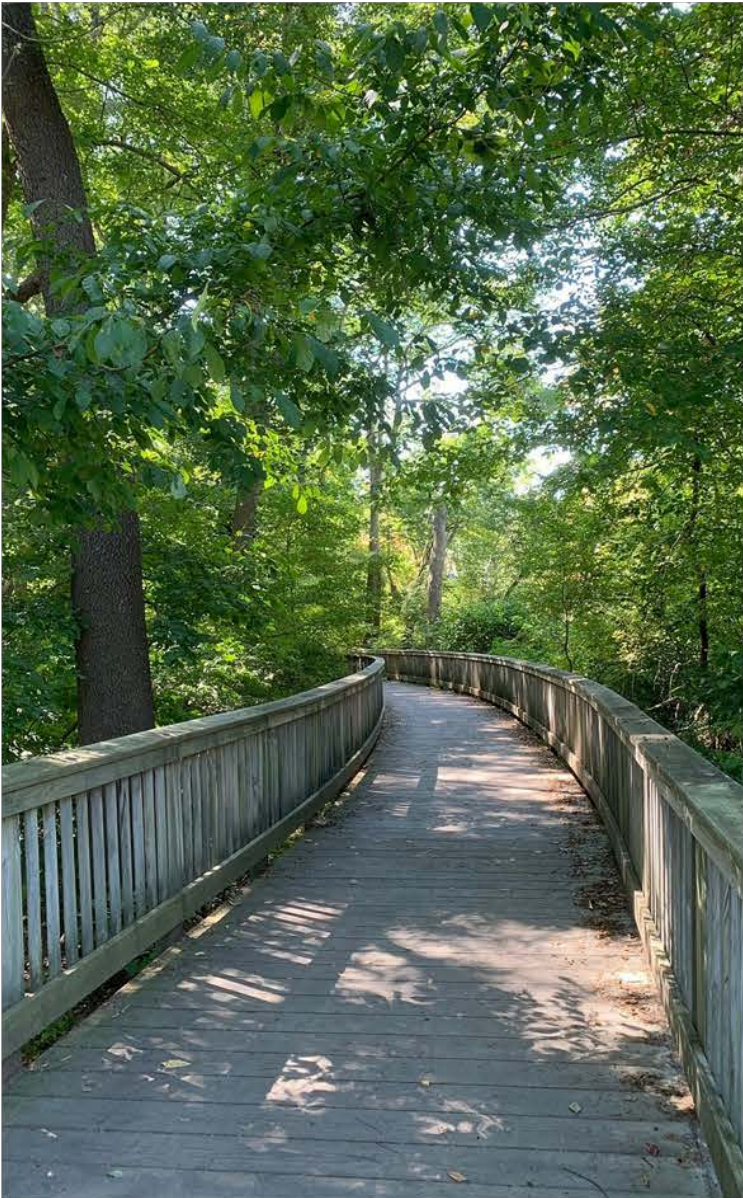






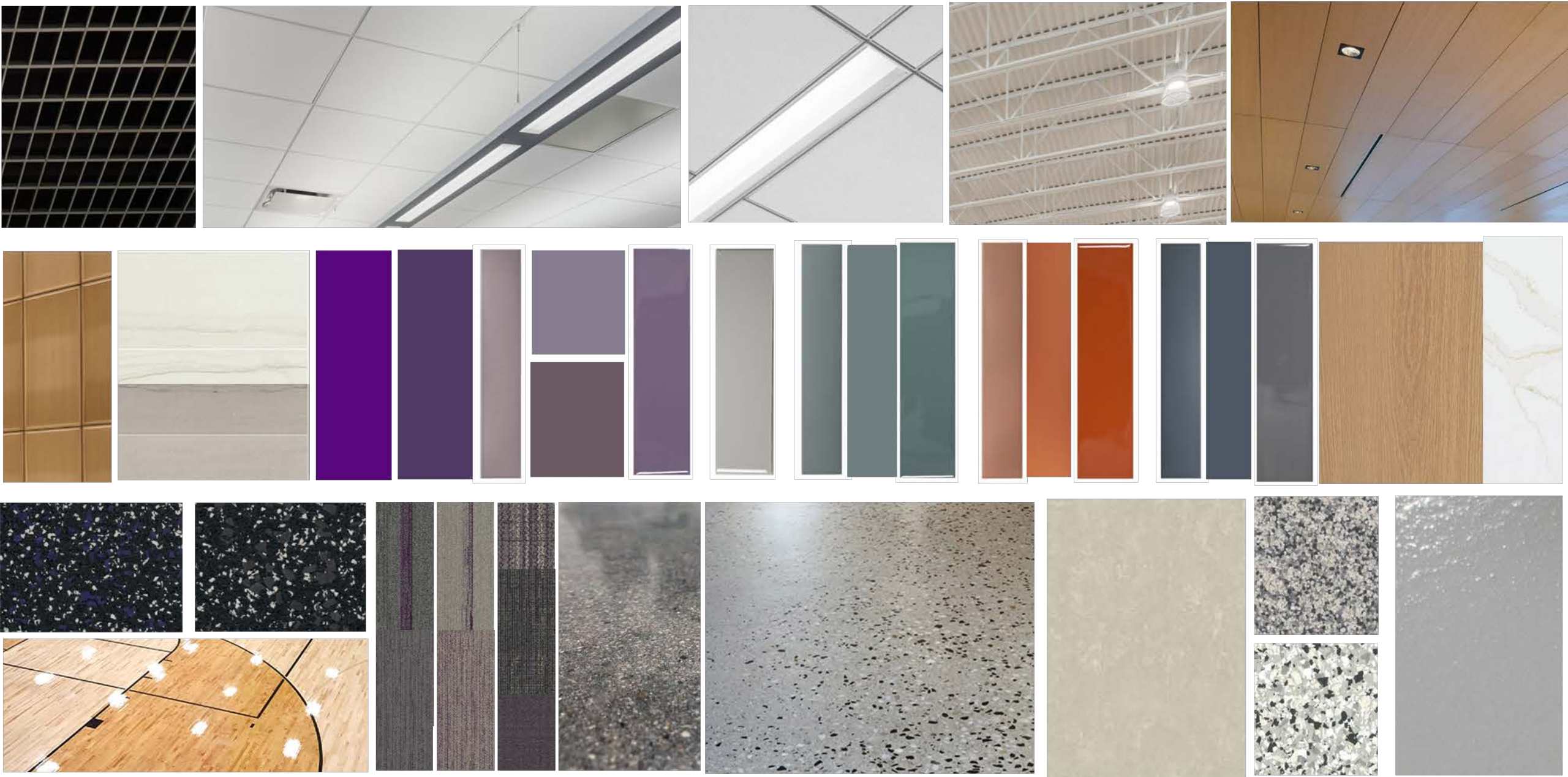


# INSPIRATION Green Ways & Blue Ways



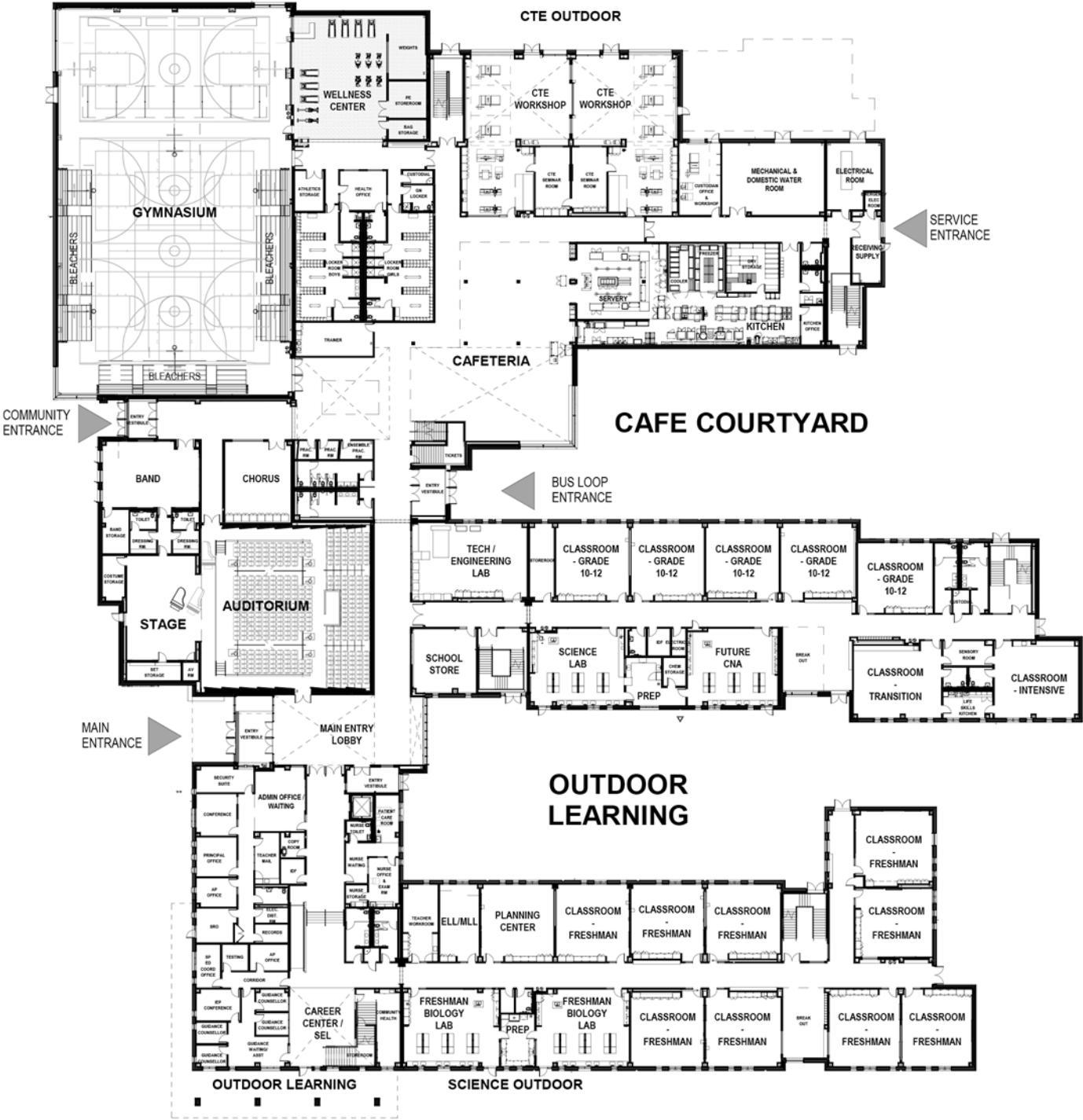


# MATERIAL PALETTE



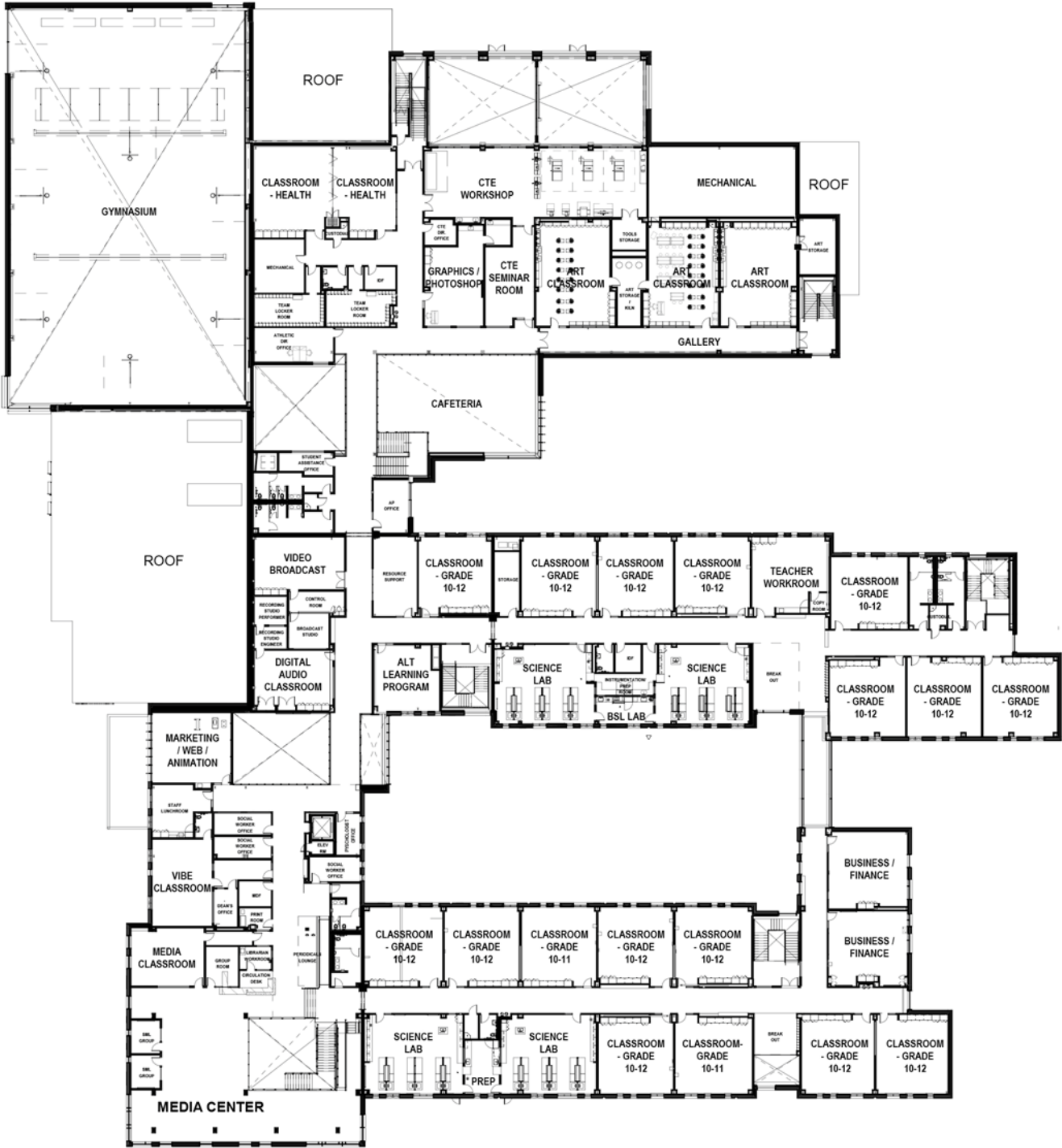


FIRST FLOOR





SECOND FLOOR





MAIN ENTRY





CAFE

KIES CAFE

The human body heals itself and  
nutrition provides the resources  
to accomplish the task.  
-Roger Williams





# MEDIA CENTER





# GYMNASIUM







AUDITORIUM



# MHHS HVAC SYSTEM UPDATE

---

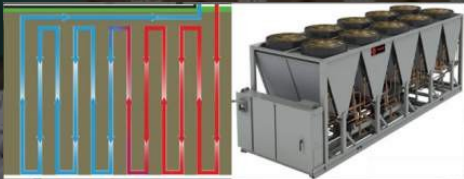

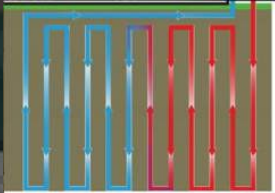


PMA Consultants

PERKINS —  
EASTMAN



# HVAC Options

	ASHP		GSHP
Heating & Cooling Source	 The diagram shows a vertical loop of pipes with red arrows indicating upward flow and blue arrows indicating downward flow. Next to it is a photograph of an outdoor air source heat pump unit with multiple condenser coils.	 An aerial photograph of a large, multi-story building with a flat roof, surrounded by a parking lot and greenery.	 The diagram shows a vertical loop of pipes with red arrows indicating upward flow and blue arrows indicating downward flow.
Distribution Options	<ul style="list-style-type: none"><li>• Distributed Fan Coil Units</li><li>• Fan Coil Units (FCUs), Air Handling Units (AHUs)</li><li>• 4-Pipe Terminal Equipment (FCUs, AHUs, etc.)</li><li>• VAV AHUs w/ reheat</li><li>• Above Ceiling</li></ul>		

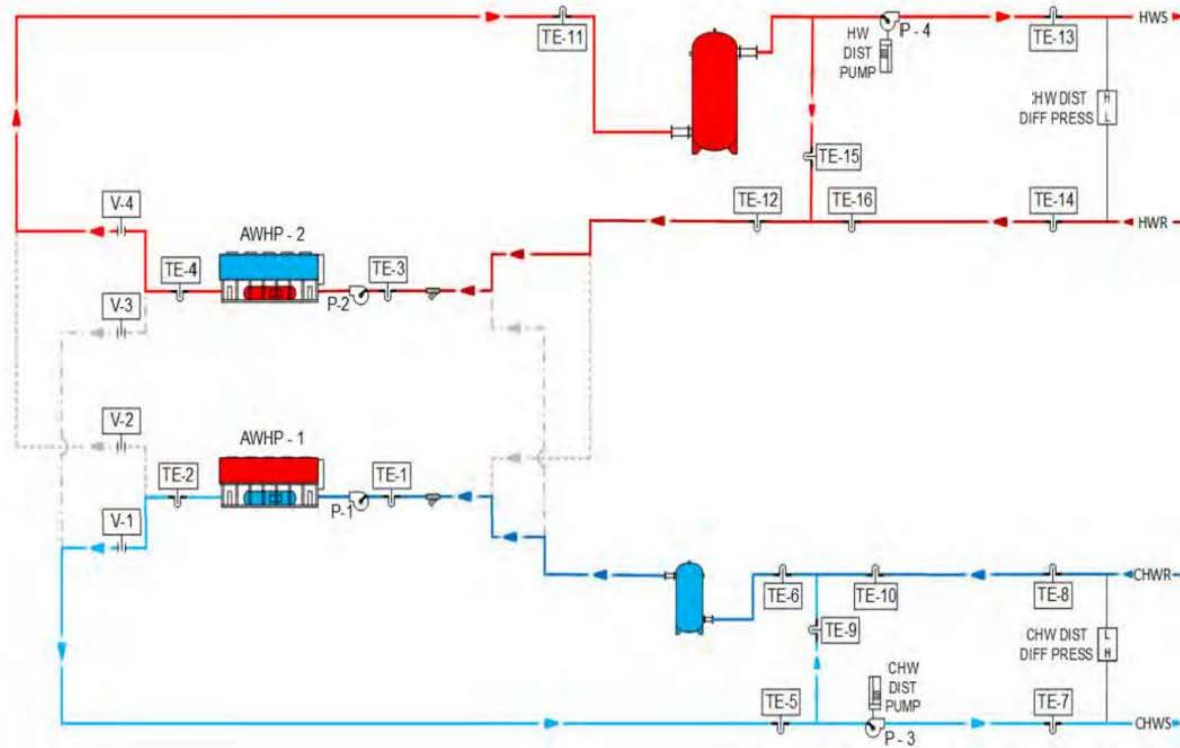


# Air Source Heat Pump

## AIR SOURCE HEAT PUMP – PLANT OPTIONS

### Air to Water Heat Pump Unit

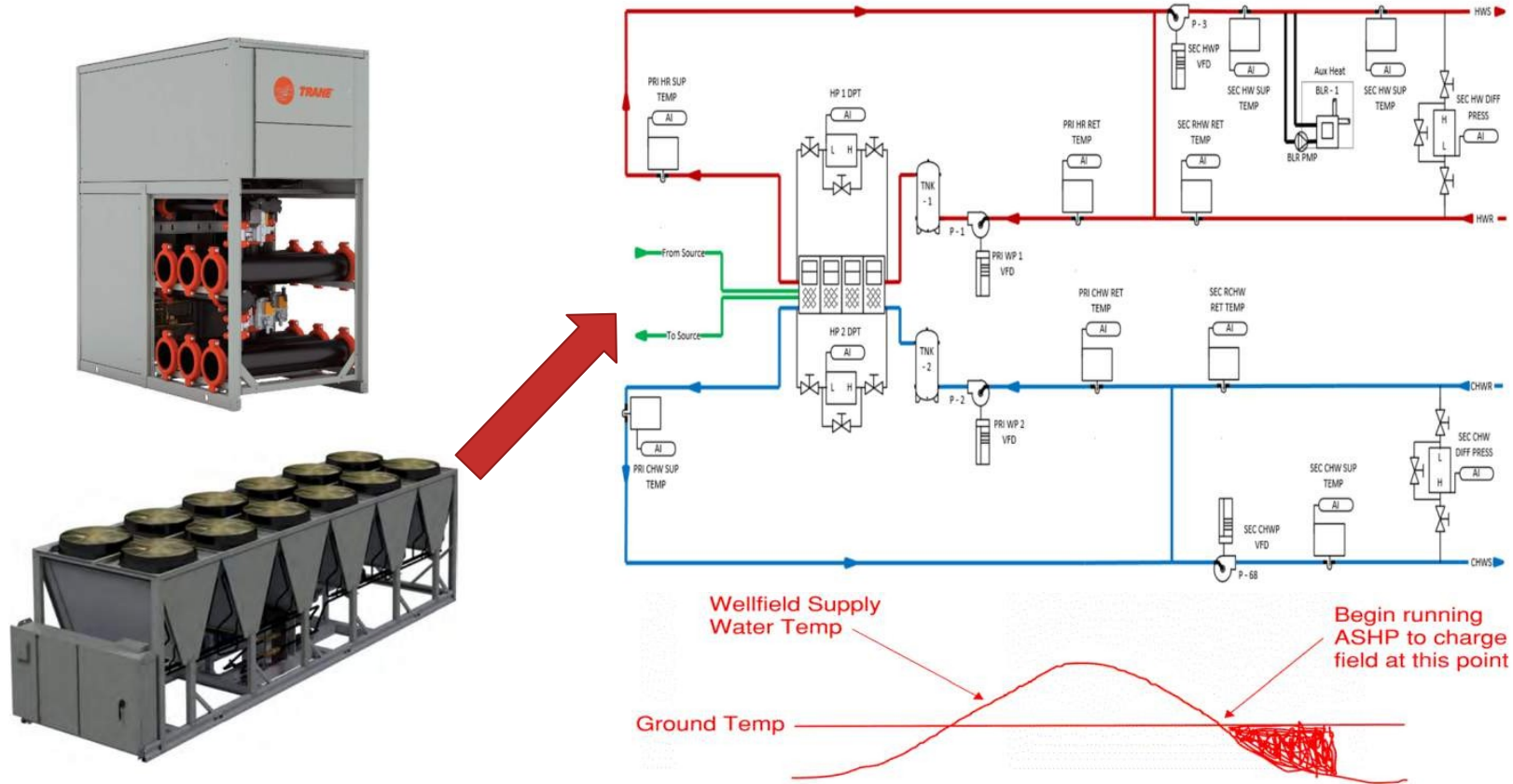
- ✓ Neutral / Condenser Water Loop
- ✓ Chilled Water
- ✓ Hot Water (120 deg F)
- ✓ 2-Pipe or 4-Pipe





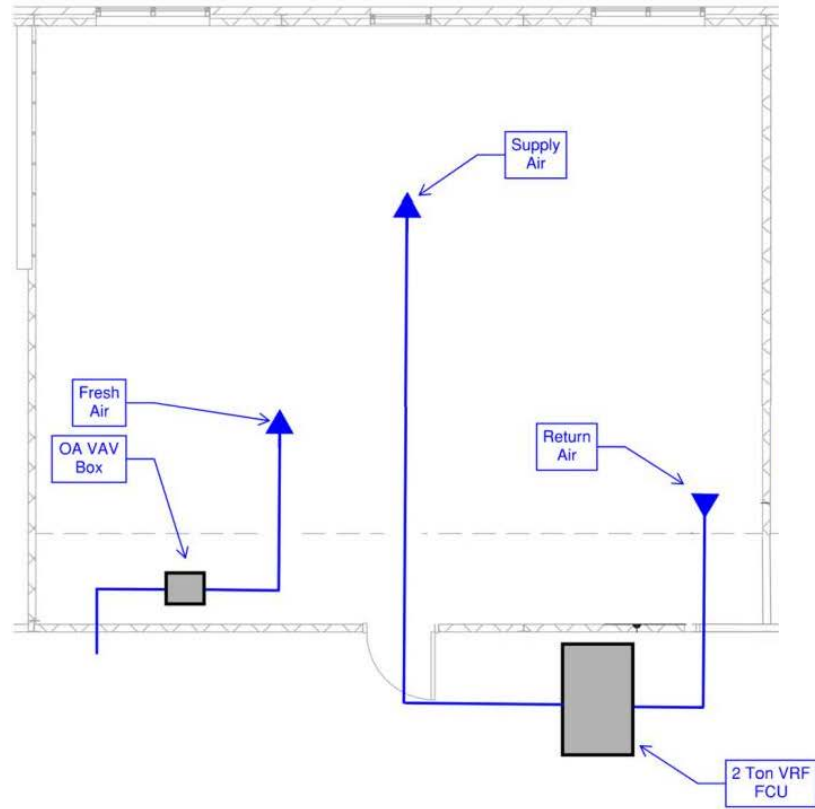
# Air Source Heat Pump w/ Geothermal

## GROUND SOURCE / GEOTHERMAL & AIR SOURCE – PLANT OPTIONS





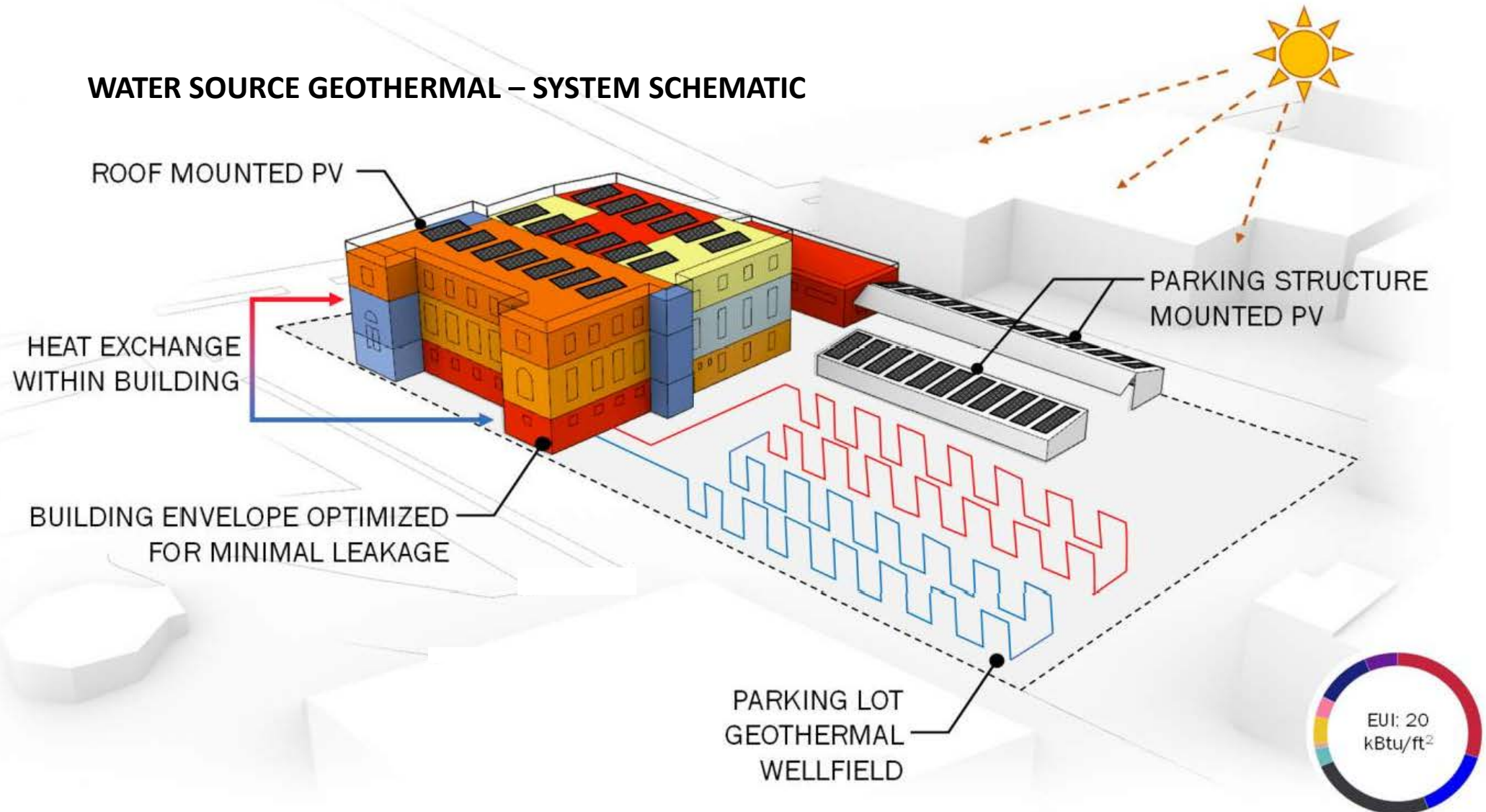
# Classroom Equipment Layouts





# Geothermal

## WATER SOURCE GEOTHERMAL – SYSTEM SCHEMATIC

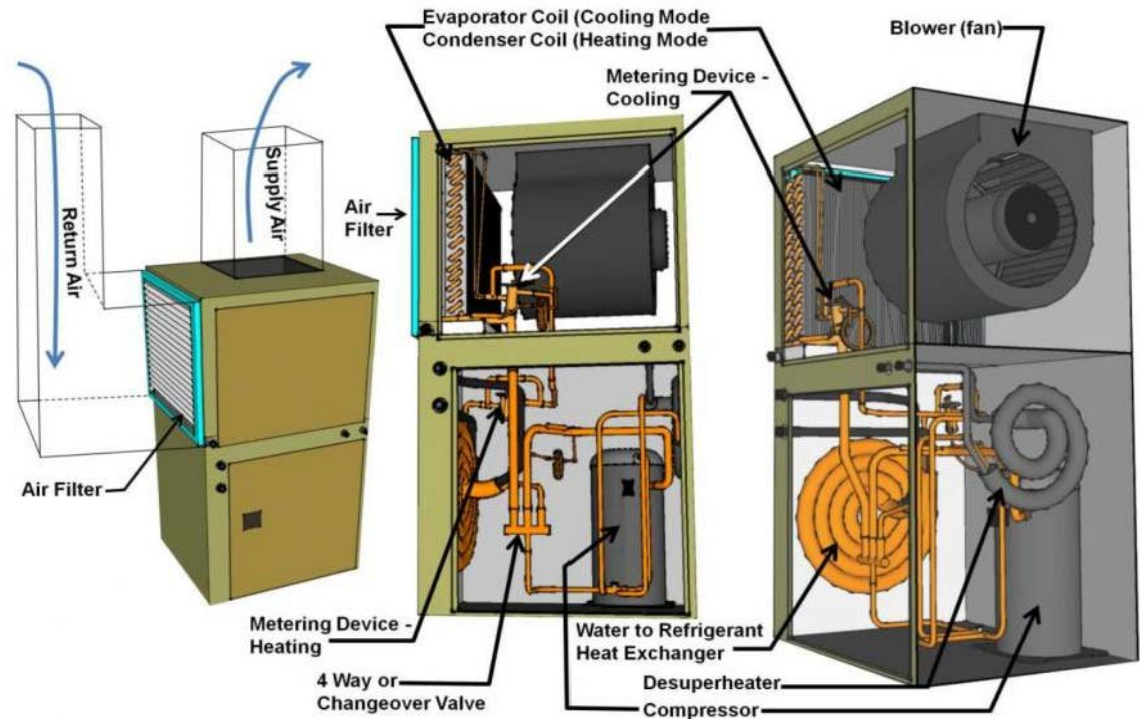




# Distributed Water Source Heat Pumps

## HEAT PUMP UNITS

Model	026	038	049	064	072
Compressor (1 Each)	Two-Stage Scroll				
Factory Charge (HFC-410A) (oz) [kg]	44 [1.25]	52 [1.47]	69 [1.96]	142 [4.03]	140 [3.97]
<b>ECM Fan Motor &amp; Blower</b>					
Fan Motor (hp) [W]	1/2 [373]	1/2 [373]	1 [746]	1 [746]	1 [746]
Blower Wheel Size (dia x w) - (in) [mm]	9 x 7 [229 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]





# Distributed Water Source Heat Pumps



## Vertical Fan Coil Units

Ducted, Concealed  
¾ - 6 ton capacities  
MERV 13 Filter Options



## Large Vertical Fan Coil Units

Ducted, Concealed 6  
- 25 ton capacities  
MERV 13 Filter Options

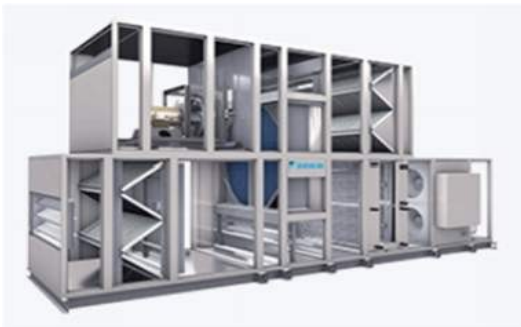


## Horizontal Fan Coil Units

Ducted, Concealed  
¾ - 6 ton capacities MERV  
13 Filter Options



# Dedicated Outside Air Systems



## DOAS System Sizing Discussion Points

- ✓ Size per ASHRAE 62.1 / Building Code
  - ✓ 30% better?
  - ✓ Min. Air Changes?
- ✓ Determine Classroom Occupancy Counts (i.e. 25 students per classroom)
- ✓ Determine Cafeteria Occupancy / Number of Servings per Day
- ✓ Determine Gym typical Daily Occupancy and Peak Occupancy

## DOAS Equipment Discussion Points

- ✓ Rooftop Type Equipment
  - A. RTU w/ VRF Heat Pump with Electric Heat
  - B. DX RTU Heat Pump with Electric Heat
  - C. AHUs with 2-pipe Coil and Water-to-Water Unit
- ✓ Energy Recovery Wheels
- ✓ Heating and Cooling
- ✓ CO2 Demand Control w/ VAV Terminals per Zone
- ✓ Filtration Needs @ Units
- ✓ UV / Bipolar



# BUDGET UPDATE

---

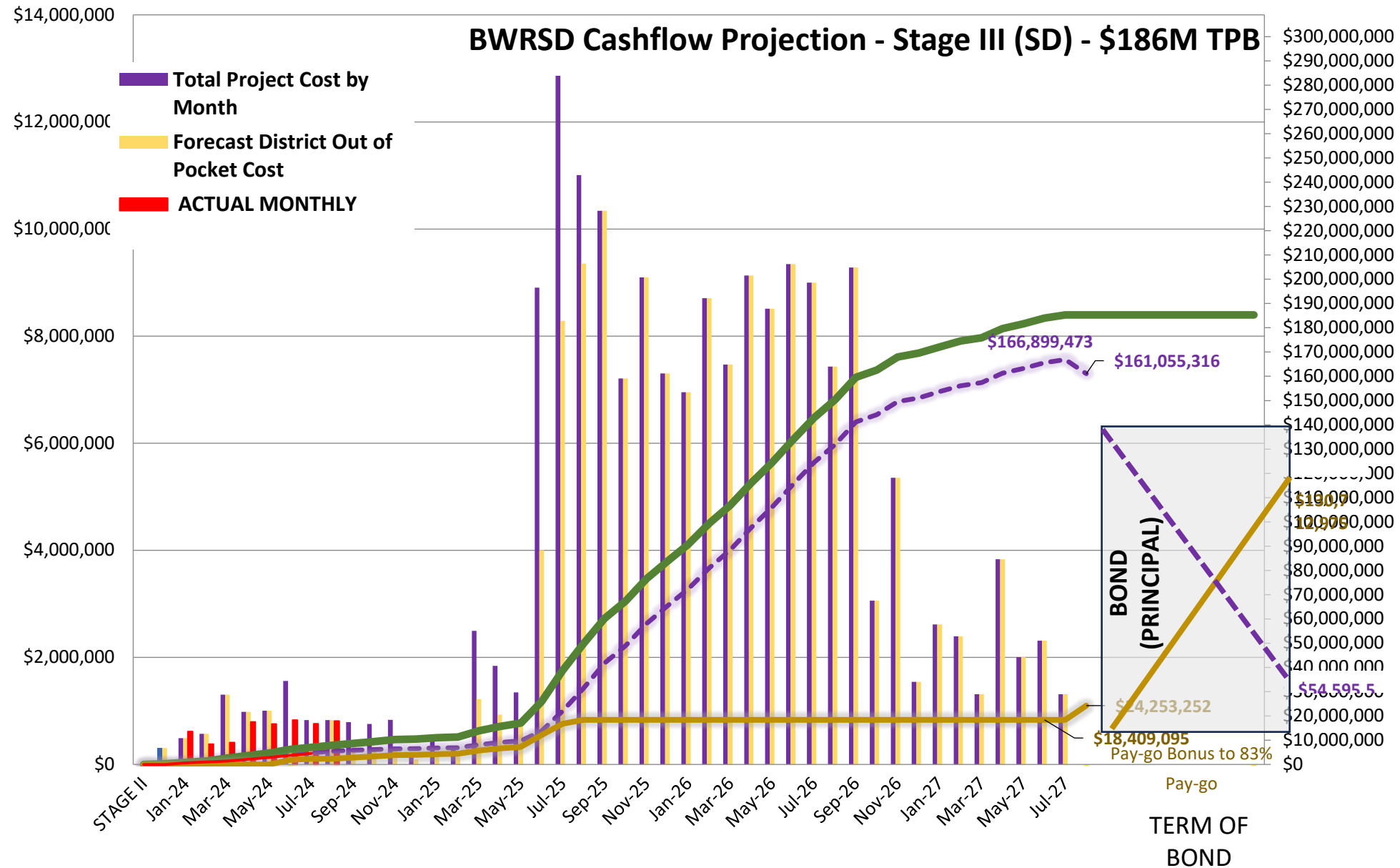


PMA Consultants

PERKINS —  
EASTMAN



# PROJECT CASHFLOW





# PROJECT SCHEDULE / NEXT STEPS

---

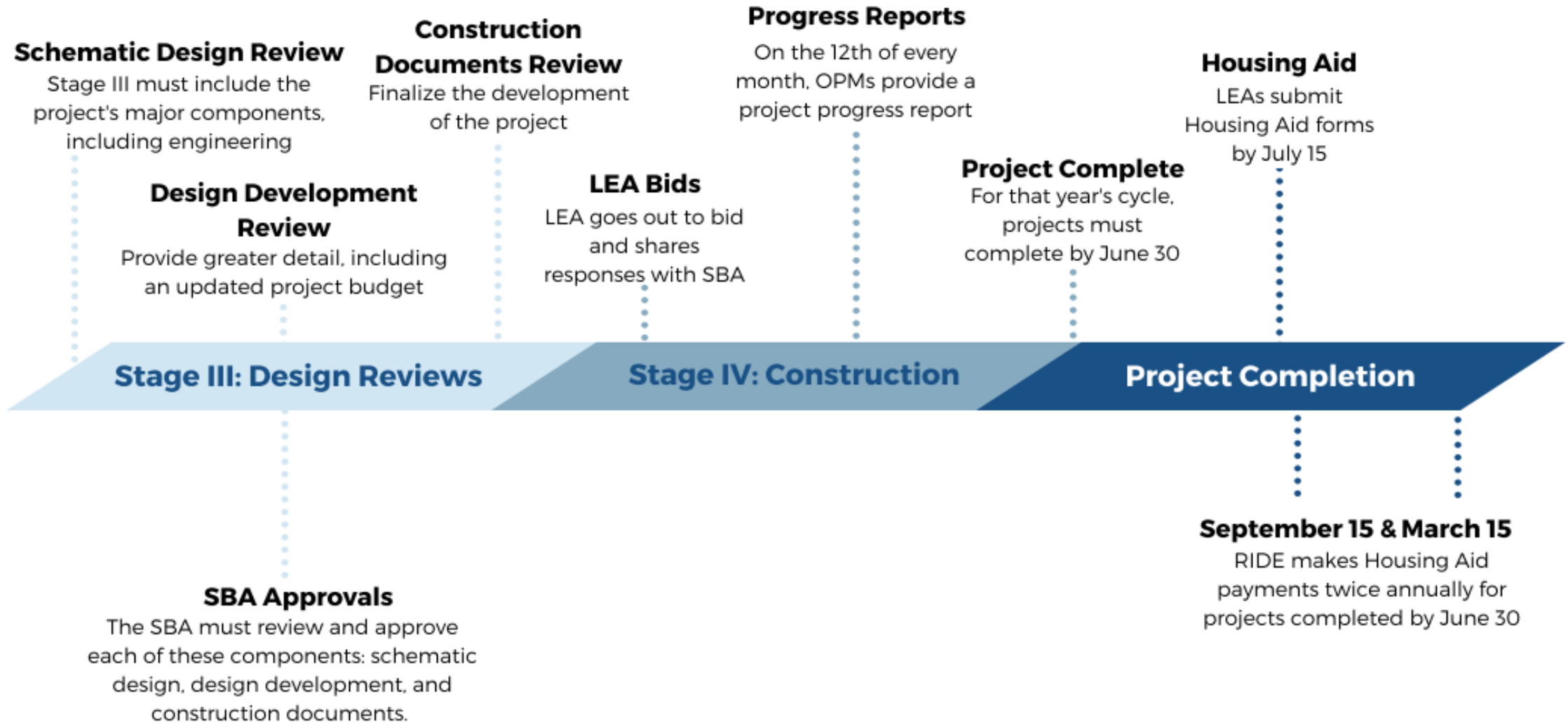


PMA Consultants

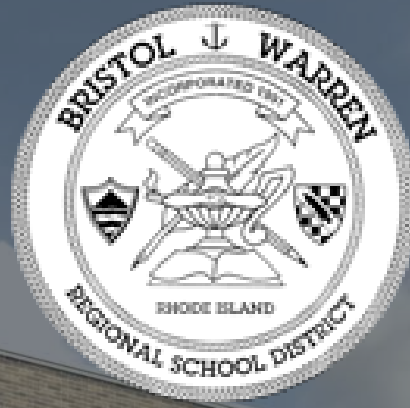
PERKINS —  
EASTMAN



# NEXT STEPS







**PMA Consultants**

**PERKINS —  
EASTMAN**

MT HOPE  
HIGH SCHOOL

**QUESTIONS? | THANK YOU!**