

# East Longmeadow HS Building Project

60% Construction Documents

## Agenda

- Welcome and Approval of Minutes
- Public Participation
- OPM Update
- Design Update
- CM Update
- Motions / Approvals
- New Business



---

# Schedule Update

---



---

# Design Update

- Site Update
  - PV Presentation
  - Design/Programming Updates
-

# Site Update Agenda

---

- Site Plan Update
- Front Entry Plaza
  - Seatwalls
  - Parent & School Bus Drop-off
- Spartan Walkway & Monuments Update
- Pedestrian Bridge
- Pre-K Playground Program
- Arts Outdoor Learning Area
- Sciences Outdoor Learning Area
- Outdoor Dining Terrace
- Additional Student Traffic Control
- Stormwater Management Update

# Completed Meetings – May 2024

---

Site Plan Review

Maintenance Review

Spartan Walkway and Memorials Review

Athletic Field Irrigation System Review

Press Box and Accessible Ramp Review

# Proposed Site Plan

- Includes Maple Street pedestrian improvements
- Relocates primary site entrance
- Separates parent and school bus drop off areas
- Separates parking from loading dock service drive
- 468 total parking spaces
- Norden Street terminates at west side of campus
- Accessible walkways into and throughout campus
- Concentrates vehicular and hardscape areas
- Maximizes contiguous open space



# Building Area Enlargement

- Entry Plaza – Strong sense of arrival
- Outdoor dining and learning spaces
- Dedicated Pre-K play area
- Relocated Spartan Walkway
- Accessible campus
- 360-degree emergency access around building
- Loading dock oriented away from residences
- Park-like campus aesthetic



# Parent & School Bus Drop-off (Current)

- Bollard spacing increased to 12 feet on center at Parent Drop-off
- Replaced 400 LF of flush curb with vertical curb at School Bus Drop-off
- Flush portion of School Bus Drop-off accommodates 6 school buses
- School Bus Drop-off accommodates a total of 14 school buses
- 39 total bollards removed



# Spartan Walkway & Monuments Update



# Spartan Walkway Enlargement

1. Spartan Walkway Monument Sign
2. Sue C. Nichols Granite Dedication Bench
3. Spartan Walkway Granite Logo Plaque (48"x48")
4. ELHS 50th Birthday Granite Bench
5. Spartan Walkway Engraved Unit Pavers
6. Don-Joe-Gary 1971 Granite Dedication Plaque



# Pedestrian Bridge



# Pre-K Playground Program



STEEL STORAGE SHED



SAFETY SURFACE

FENCE



PLAY MOUNDS



# Site Renders



Proposed Main Entry Approach



Arts Outdoor Learning Environment



Outdoor Dining Terrace



Sciences Outdoor Learning Environment

# Dining and Science Shade Structures

---



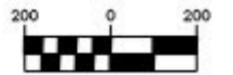
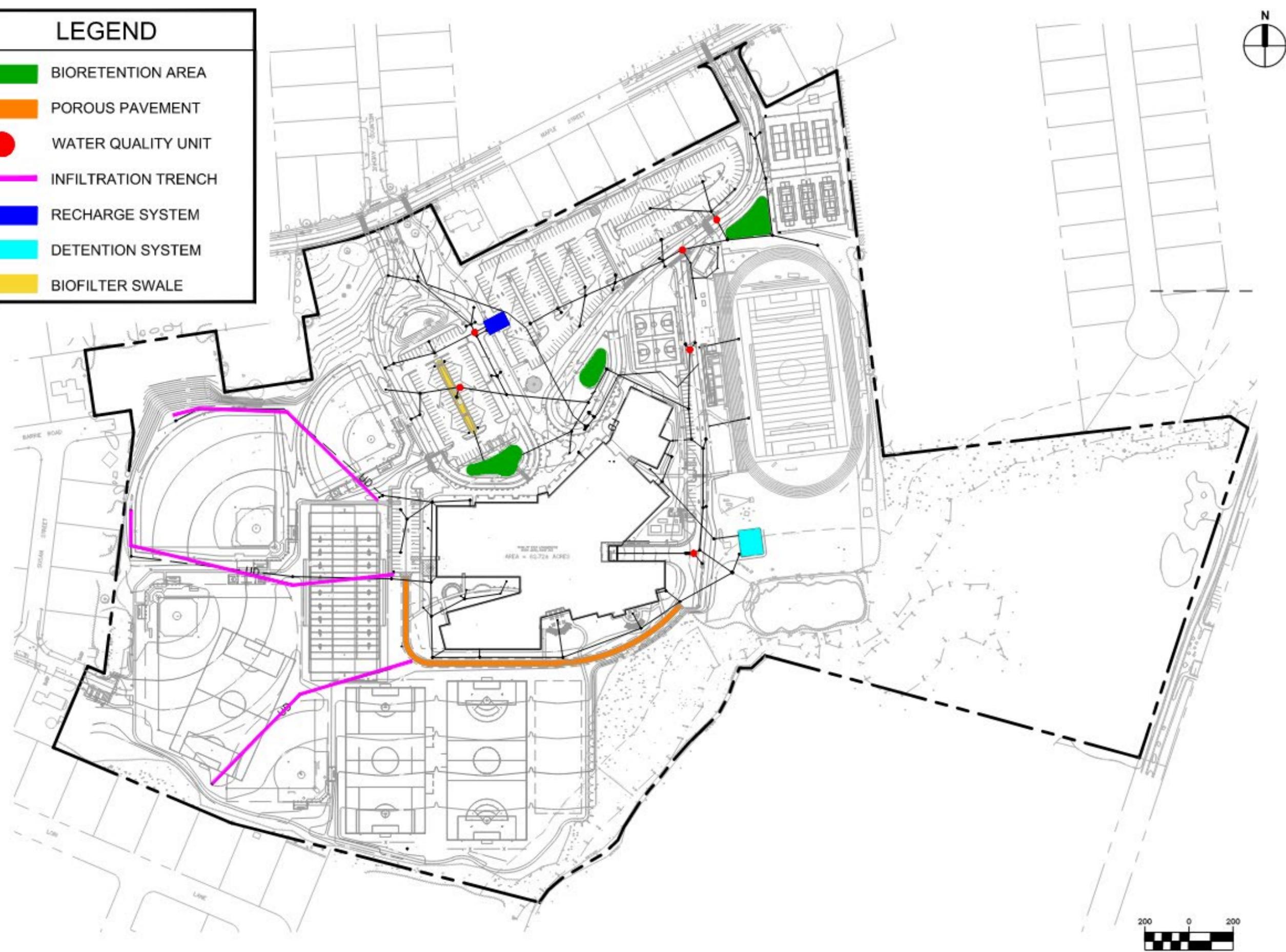
# Additional Student Traffic Control

- 1. Galvanized Steel Double-Leaf Barrier Gate Location

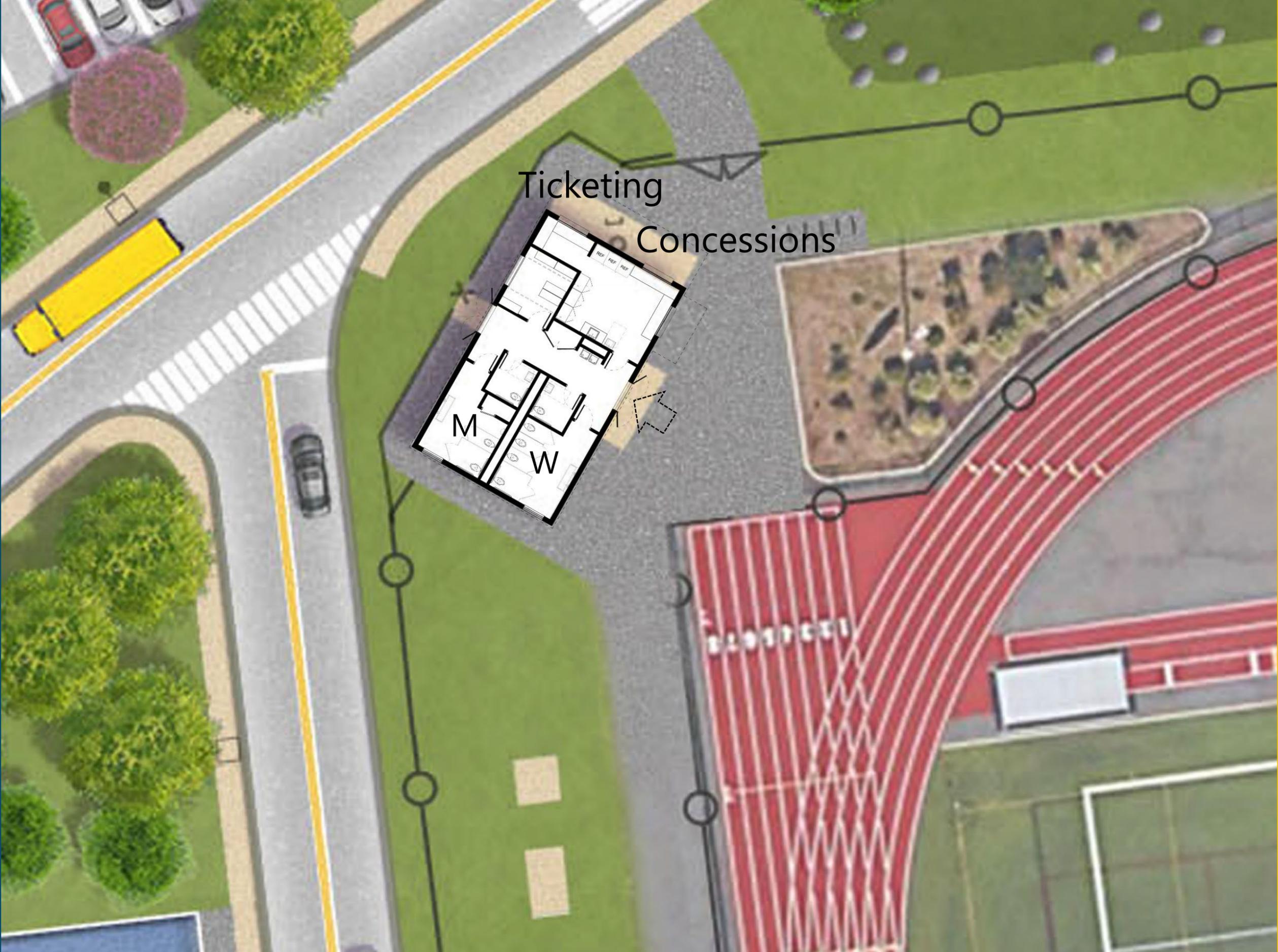


# Stormwater BMP Key Plan

LEGEND	
	BIORETENTION AREA
	POROUS PAVEMENT
	WATER QUALITY UNIT
	INFILTRATION TRENCH
	RECHARGE SYSTEM
	DETENTION SYSTEM
	BIOFILTER SWALE



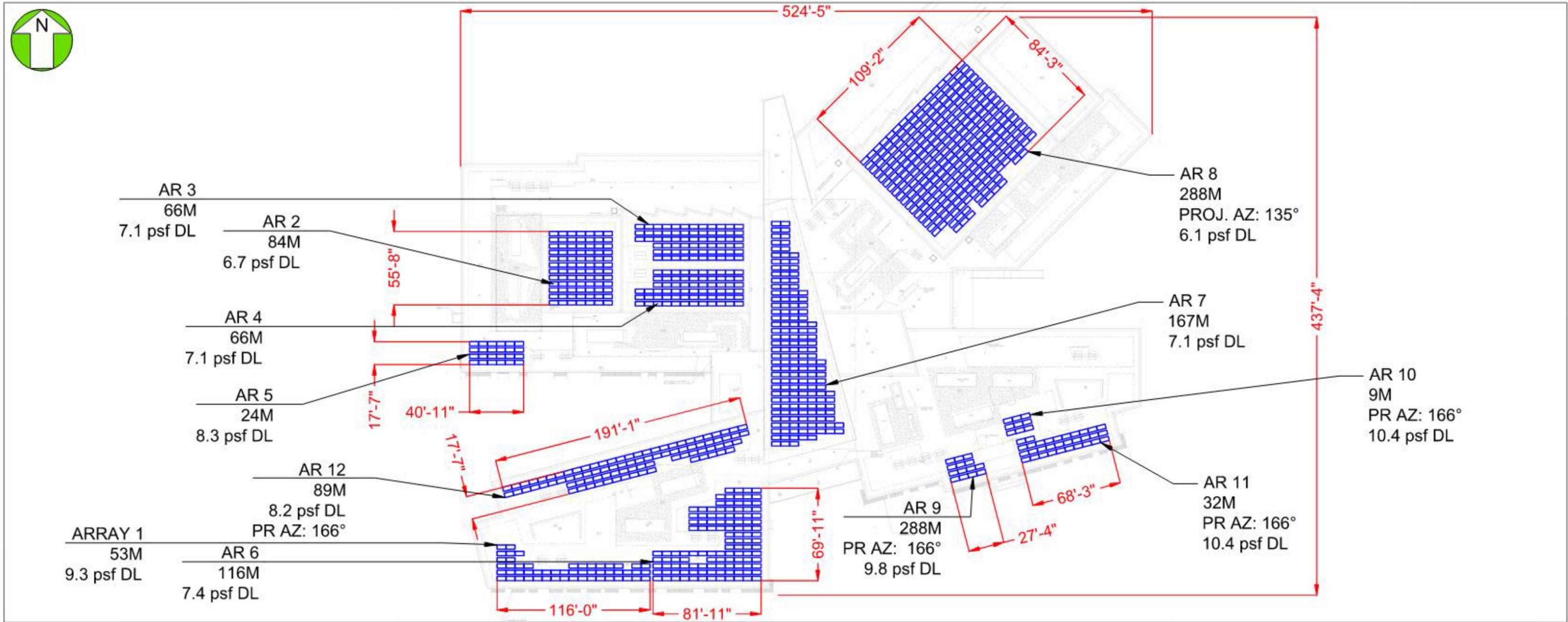
# Concessions Building



**Thank you**

---

# Proposed PV Layout

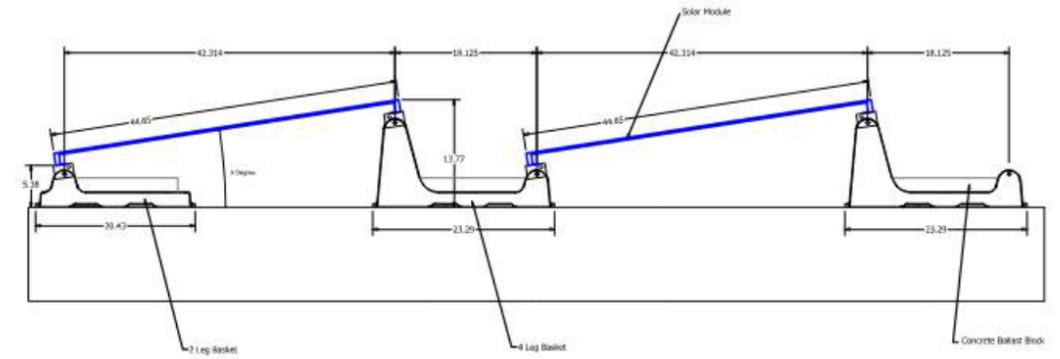


Includes (1008) 470 watt solar panels for a total DC kW of approximately 473 kW. Total AC kW output to be approximately **438 kW**. This results in a total of approximately 560,000 kWh/year (based on PVWatts Calculator)

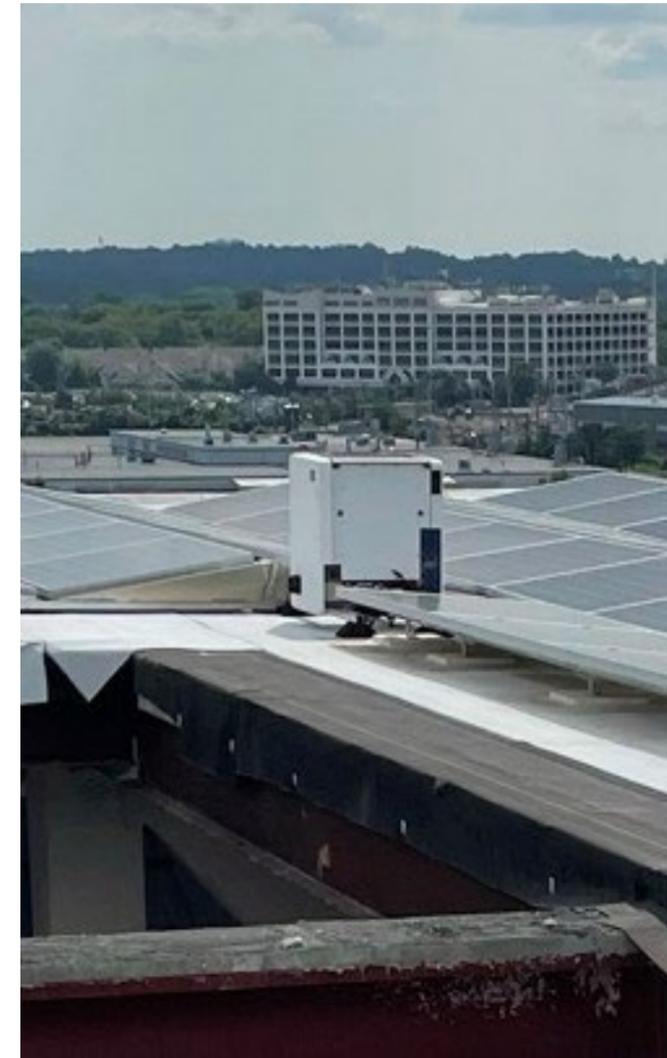
Note that additional panels are being discussed over the locker room (visible from second floor classrooms), as well as over the Greenhouse Storage area (as a demonstration of sorts – visible from the Science Terrace).

# PV System Description

- Utilize high output, high efficiency PV panels to provide more watts per sq.ft.
- Proposed inverters will be roof mounted, saving space indoors.
- Ballasted design (no through roof devices), with a module tilt of less than 10 degrees, reducing the ability to see the panels from the ground.
- Monitoring system including sensors, dataloggers, software. Every 15 minutes the system will monitor:
  - Inverter status. Verify it is operating properly.
  - Instantaneous kW power
  - Cumulative kWh energy production.
  - Irradiation
- System real time and historical data will be accessible from:
  - Personal computers, via the internet.
  - Remote personal displays (i.e., cell phones, etc.)
  - Remote public displays. Design includes minimum 50" monitor for viewing. Other options available.
- Costs for PV systems are reimbursable (up to 30%) via the Inflation Reduction Act (IRA). This makes it advantageous to own vs lease.
- Owner is less susceptible to energy price fluctuations over time



Typical Elevation View of PV Panels



A roof top location using roof mounted inverters similar to those proposed. They are approximately 2 foot "cubes".

Hotel Marcel, New Haven, CT.

# PV System Concerns

- Due to the amount of solar panels needing to be recycled or rebuilt is so low (due to PV being relatively new and panels typically last 25-30 years) there is not much data of disposal services.
- Based on information from NREL (National Renewable Energy Laboratories) the estimated cost to recycle a panel at this time is approximately \$30.

In the baseline scenario that reflects today's conditions, 500 gigawatts of PV are assumed to be installed in the U.S. by 2050 (compared to 104 gigawatts in 2020), generating 9.1 million metric tons of PV waste. Based on the limited information publicly available today, the authors modeled average recycling cost of \$28 per module, repair at \$65 per module, and landfill at \$1.38 per module, where used modules are modeled to be sold at 36% of new module prices.

- Typically, PV systems require very little maintenance:
  - No moving parts.
  - Inverters are the only component that do not have a standard life cycle beyond 20 years.
  - Due to solar panels being connected to each other with "plugs", replacement of any failed or broken panel is simple.
  - If desired, a maintenance agreement could be provided by the PV installer, or a third party.
  - Installing a PV system as the same time a new roof or replaced roof is installed reduces issues with future roof replacements.



Typical roof top solar array using low profile brackets.

# Battery Energy Storage Systems (BESS)

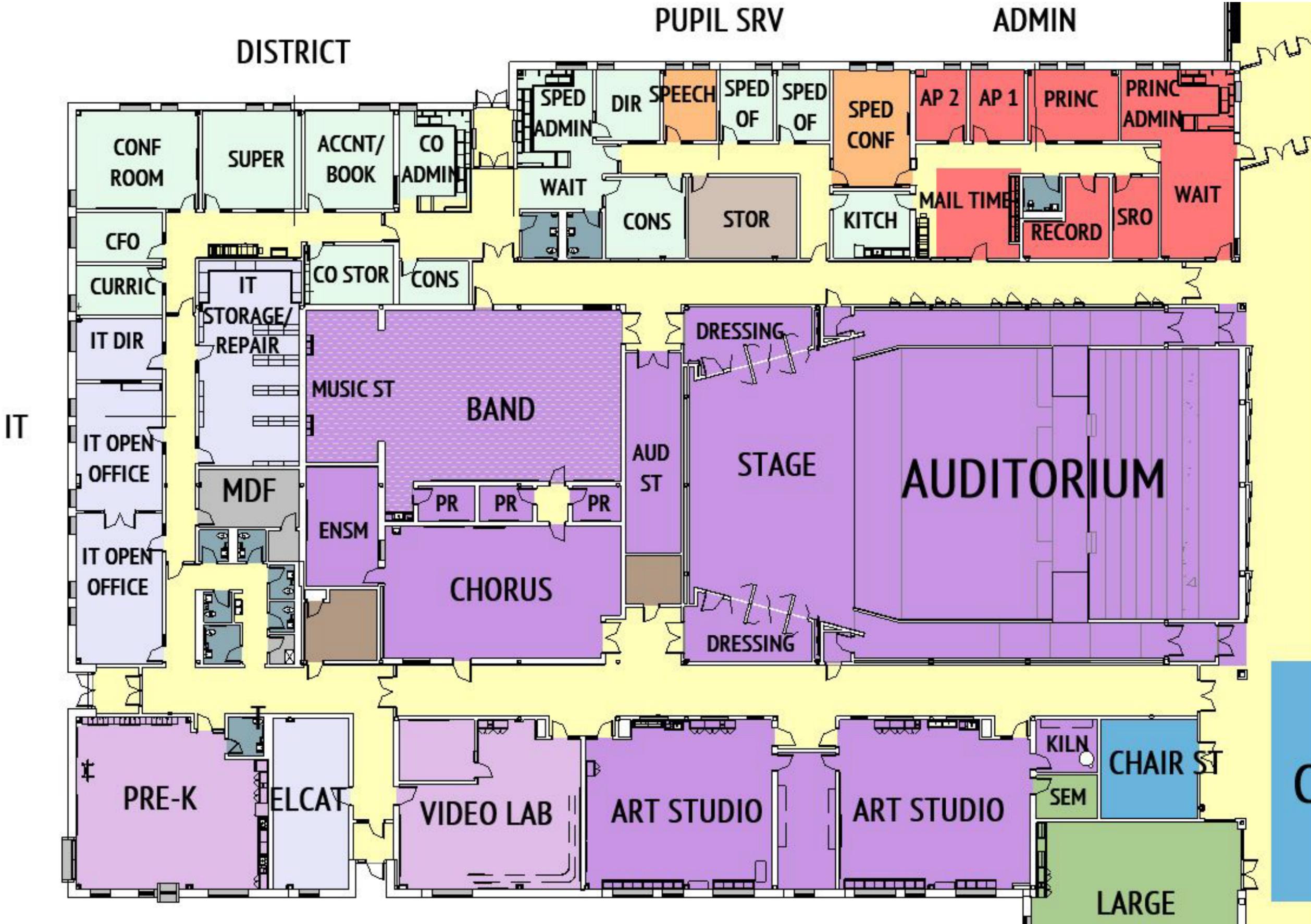
- BESS systems are becoming more and more prevalent. However, whether or not to install one depends on multiple factors.
  - Utility rate structure.
  - Willingness of local utility to allow equipment that can be “grid forming” connect to the utility.
  - Costs. Are there any incentives besides IRA?
  - Is there excess solar for charging the BESS?
  - Can it be used for emergency power?
- Typically, a BESS size starts at around 125 kW and goes up from there into the megawatts (1000’s of kW). The proposed design for the school would most likely be 250 kW, with energy storage capacity of either 250 kWh or 500 kWh.
- BESS is currently NOT included in the project (due to cost, negative implications with National Grid, and size of schools electric needs vs PV power generated)
- PV is being designed to allow for FUTURE battery storage, and the Design Team is preserving space for a future system.



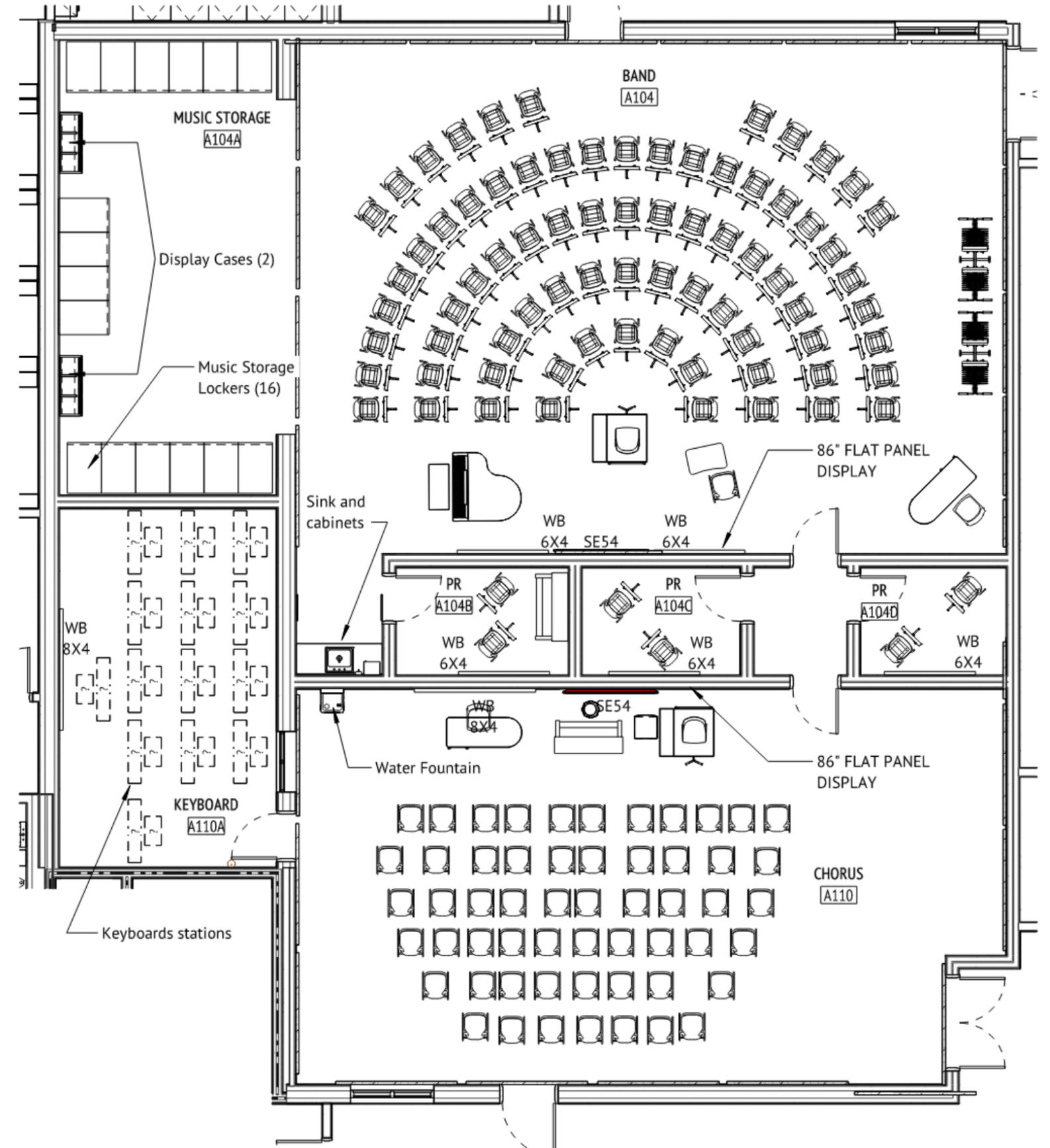
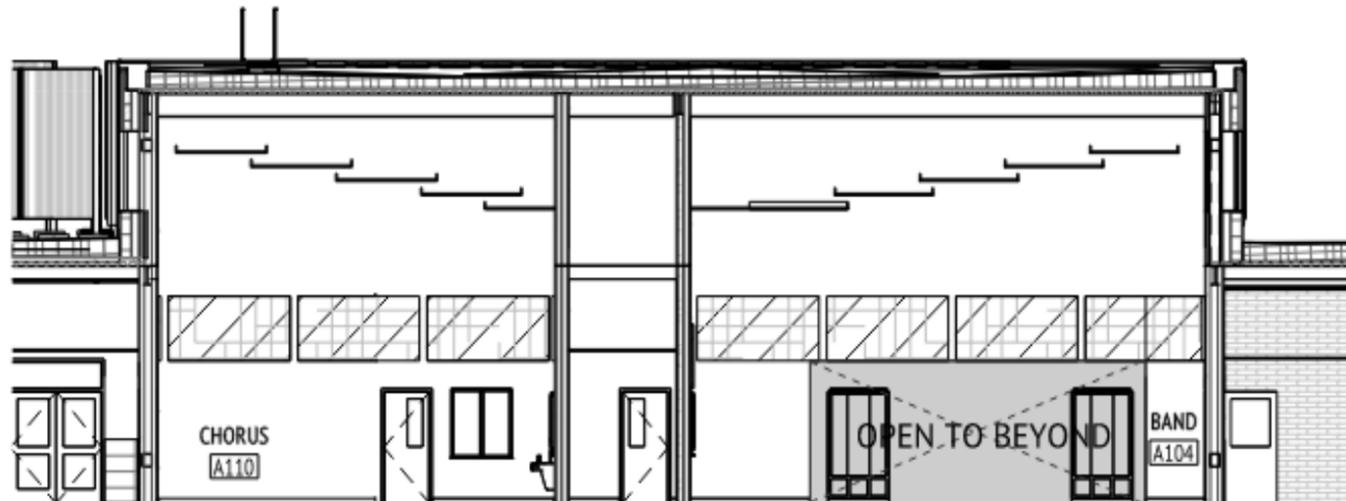
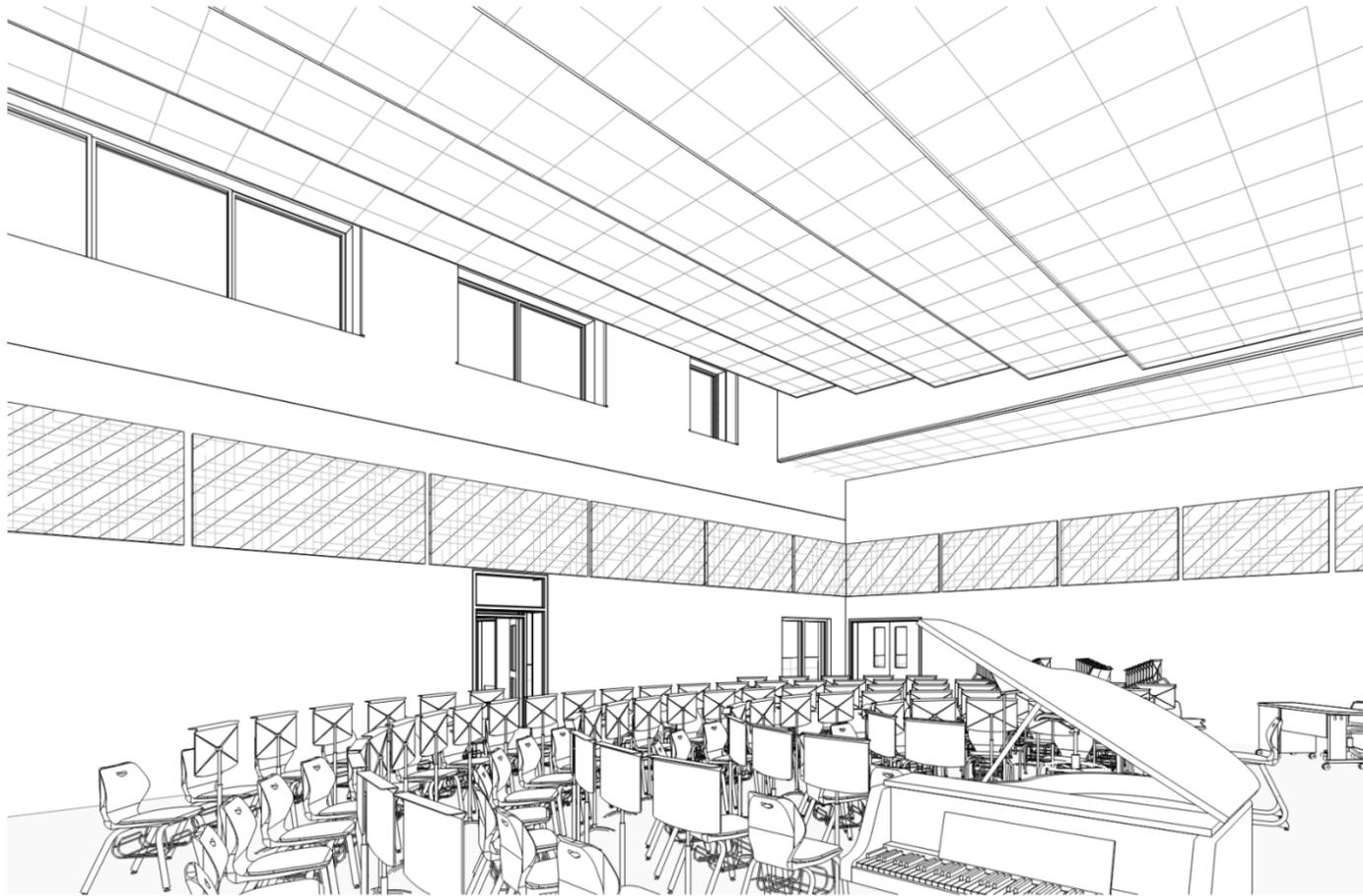
Video of Indoor BESS Installation



# A-Wing

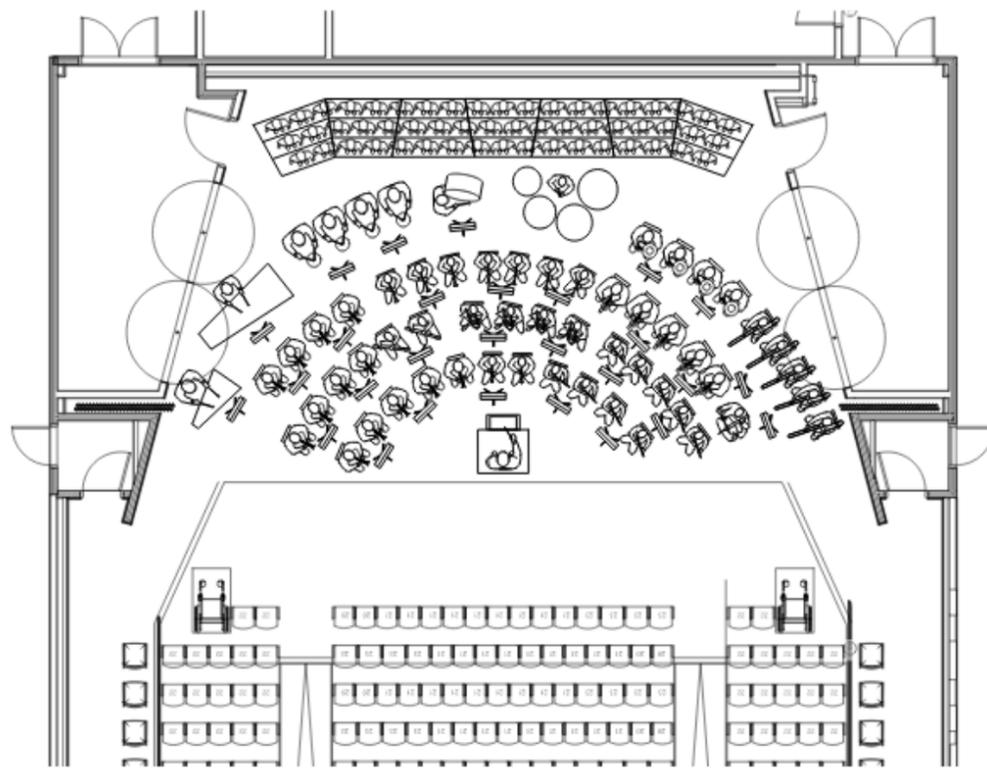


# Band/Chorus

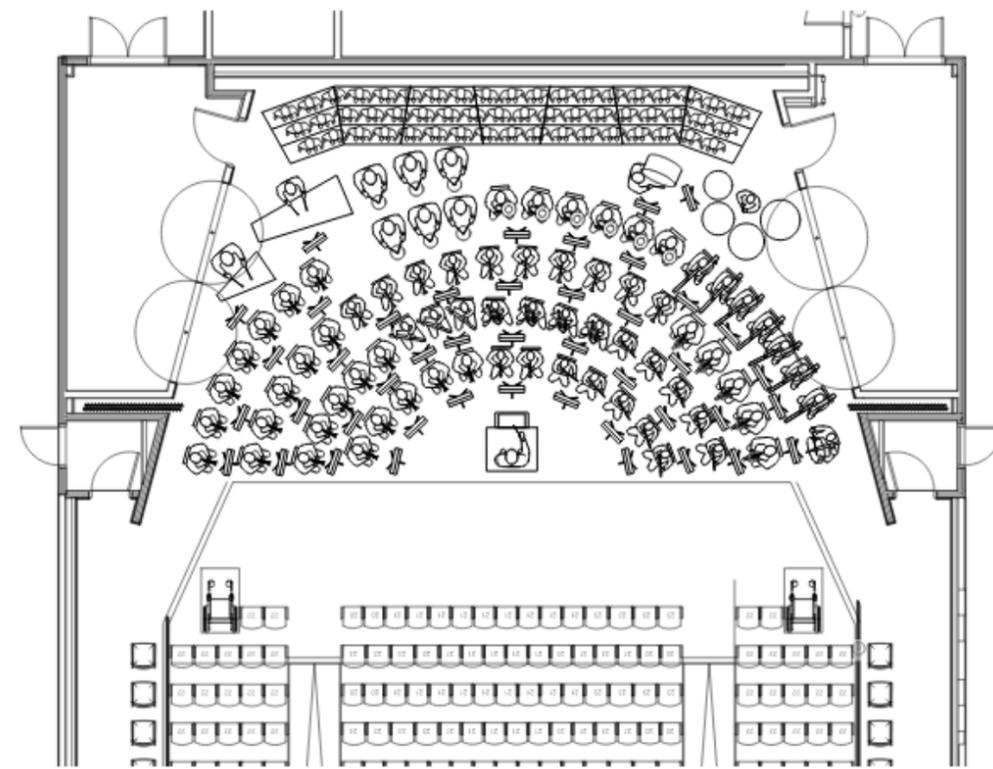


# Auditorium

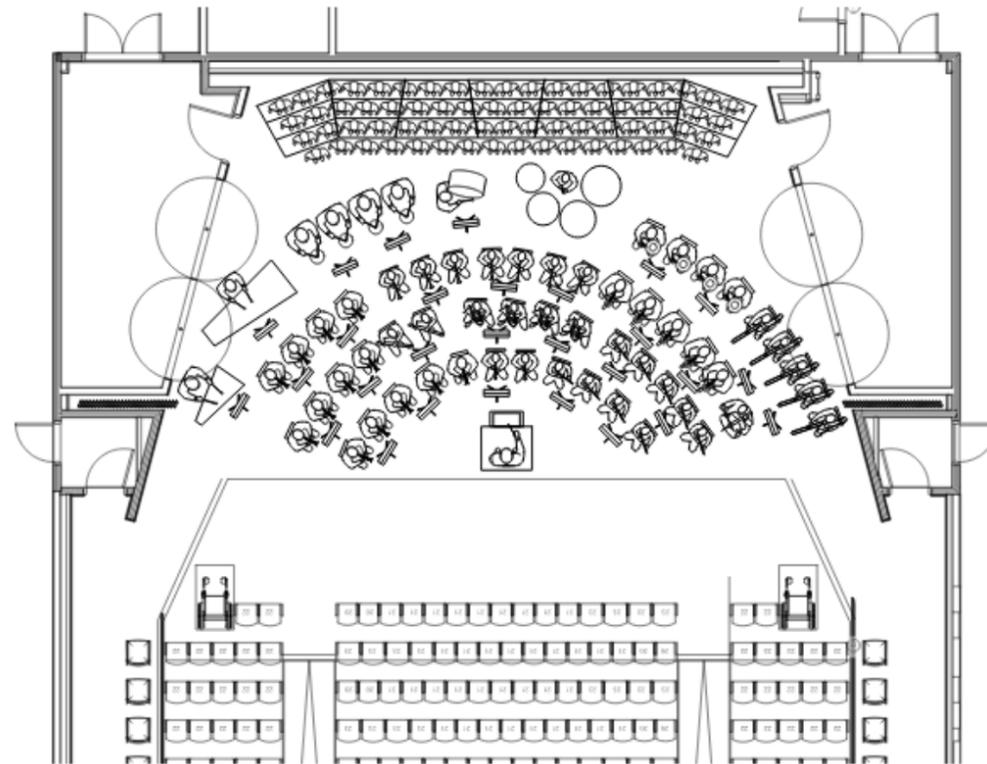




54 PERSON CHORUS  
60 PERSON BAND



54 PERSON CHORUS  
80 PERSON BAND



70 PERSON CHORUS  
60 PERSON BAND

MUSIC PROGRAMMING MEETING MAY 26, 2022

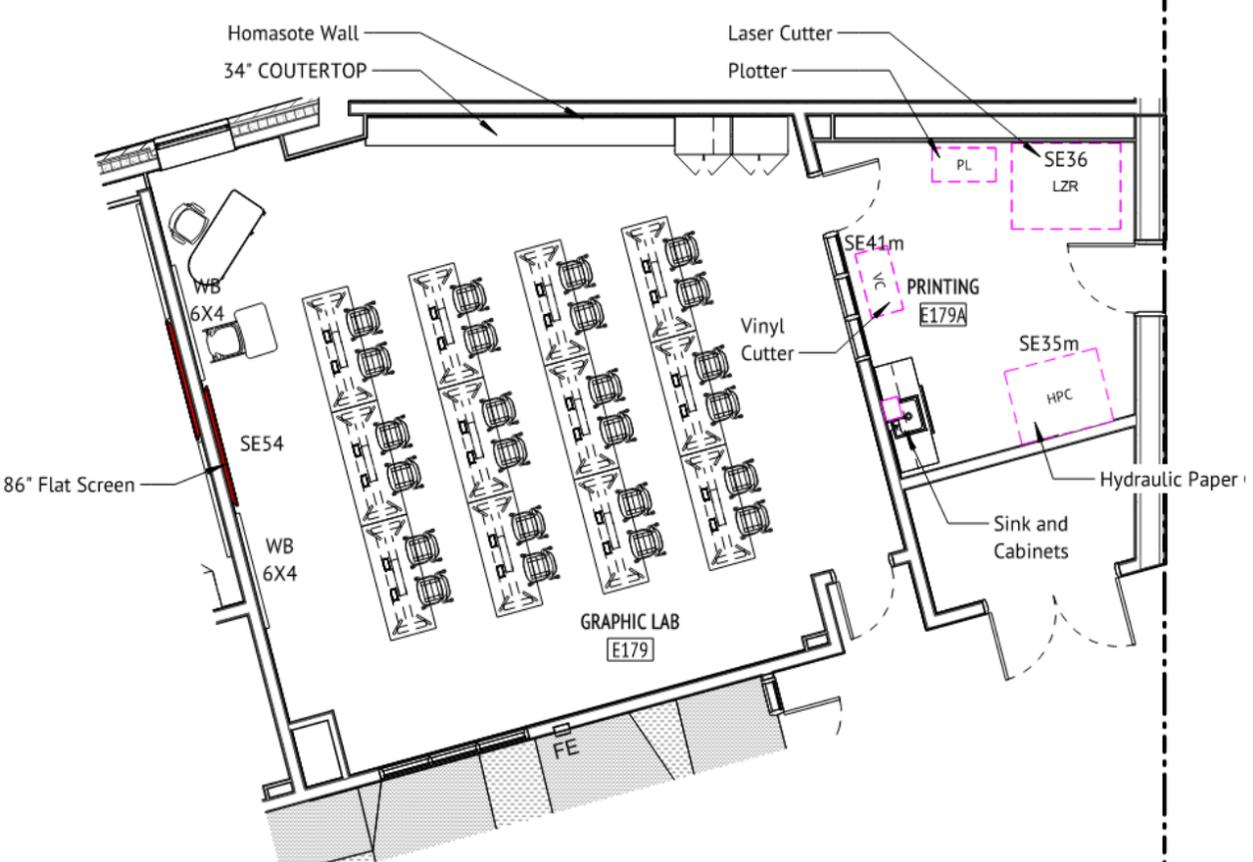
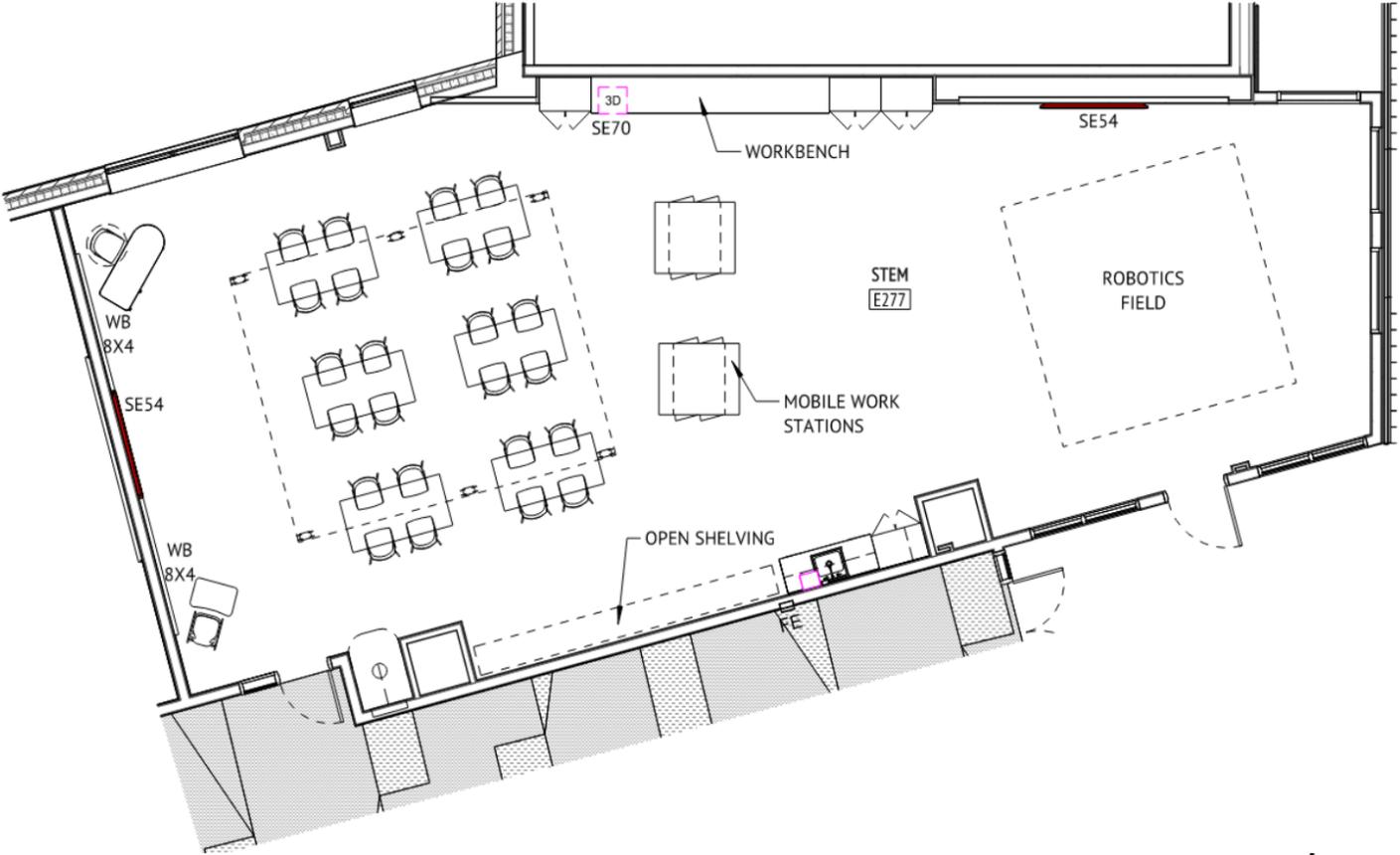
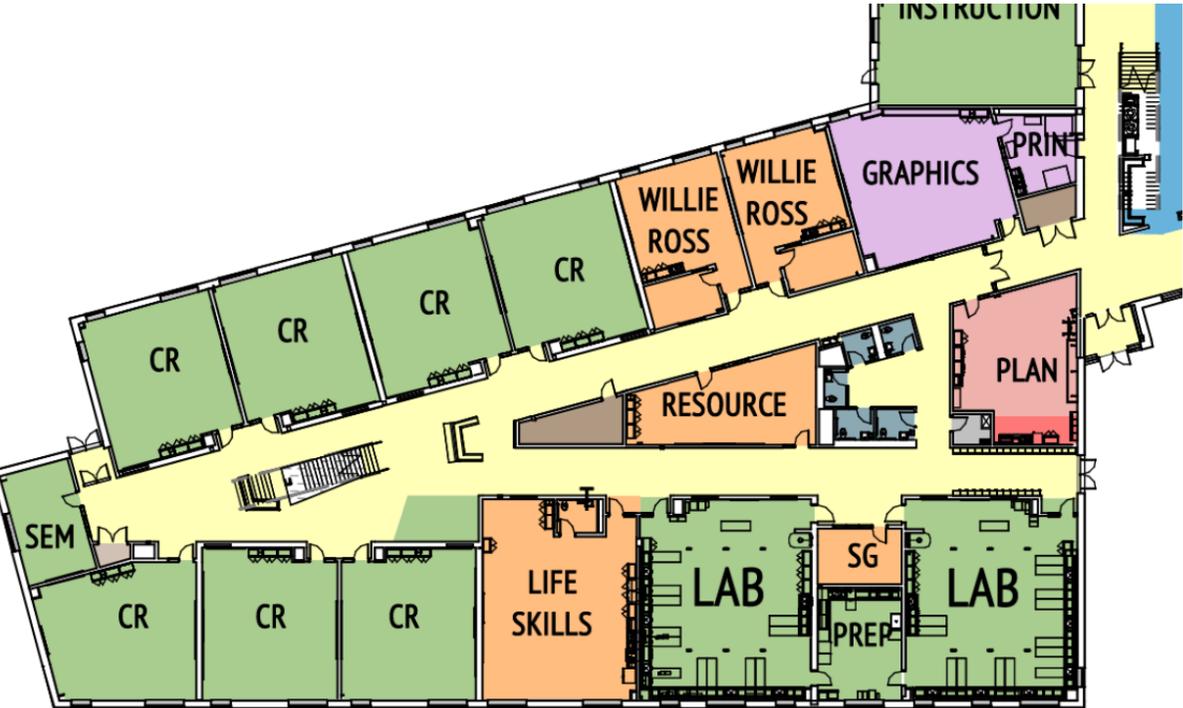
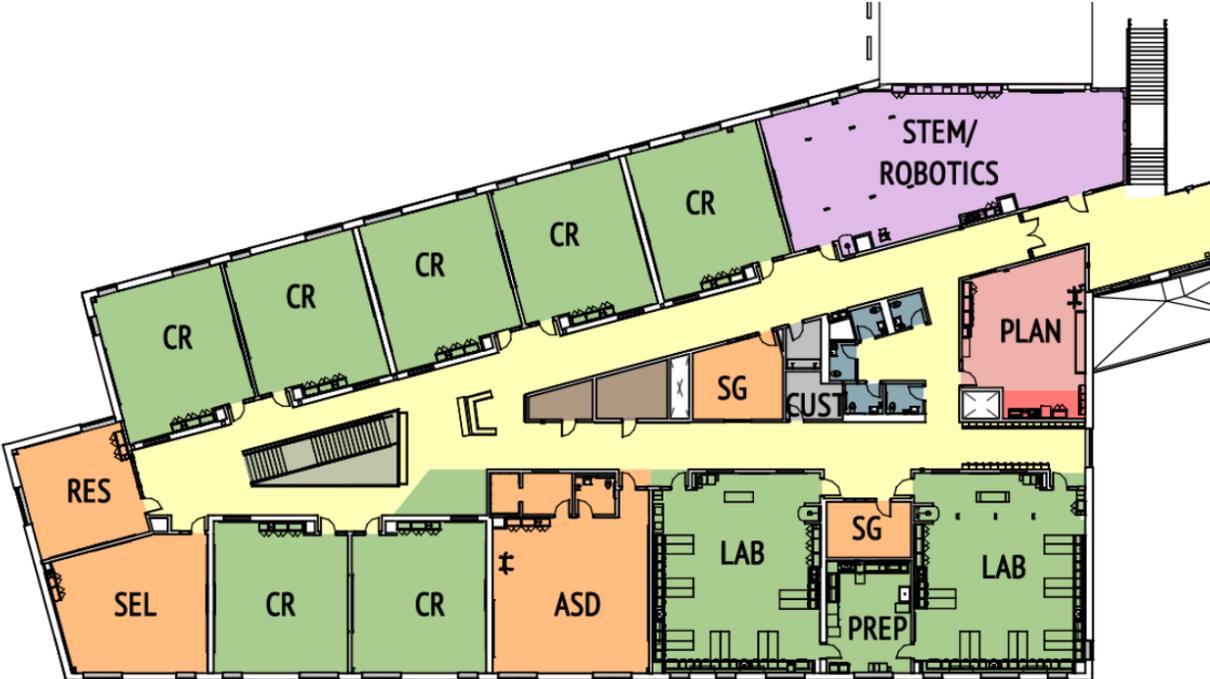
CHORUS SIZE

CURRENT FIGURE	15
REALISTIC FIGURE	45-50
HISTORIC FIGURE	75

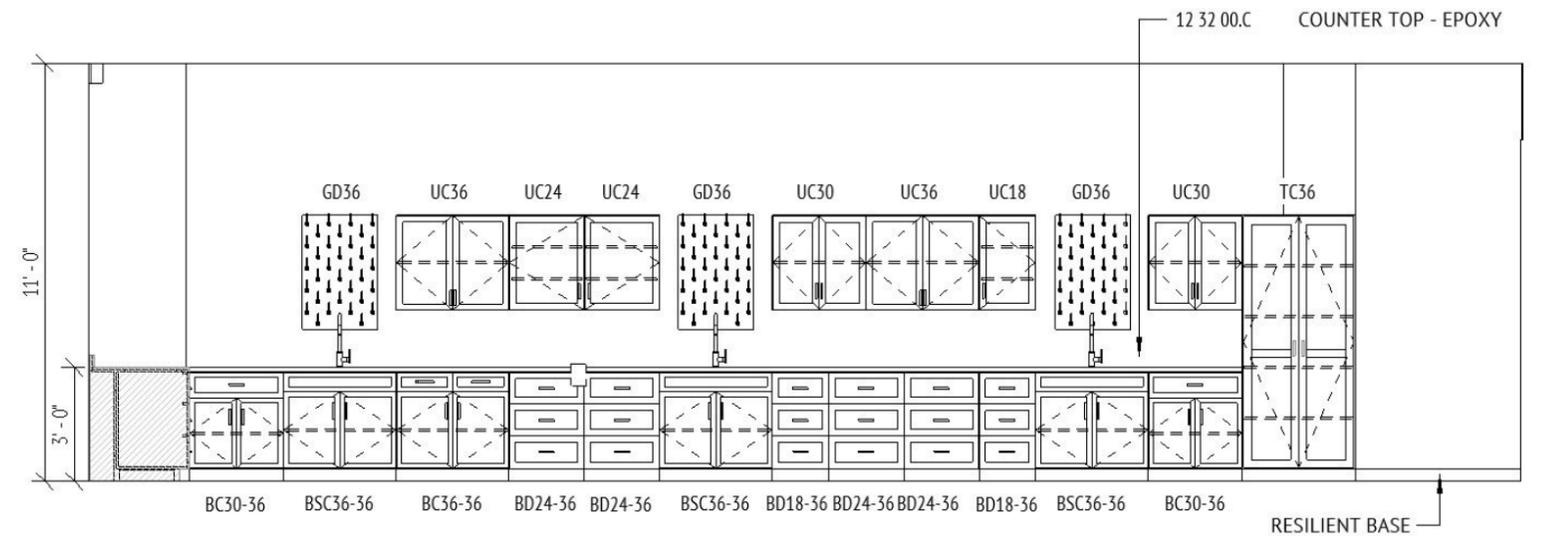
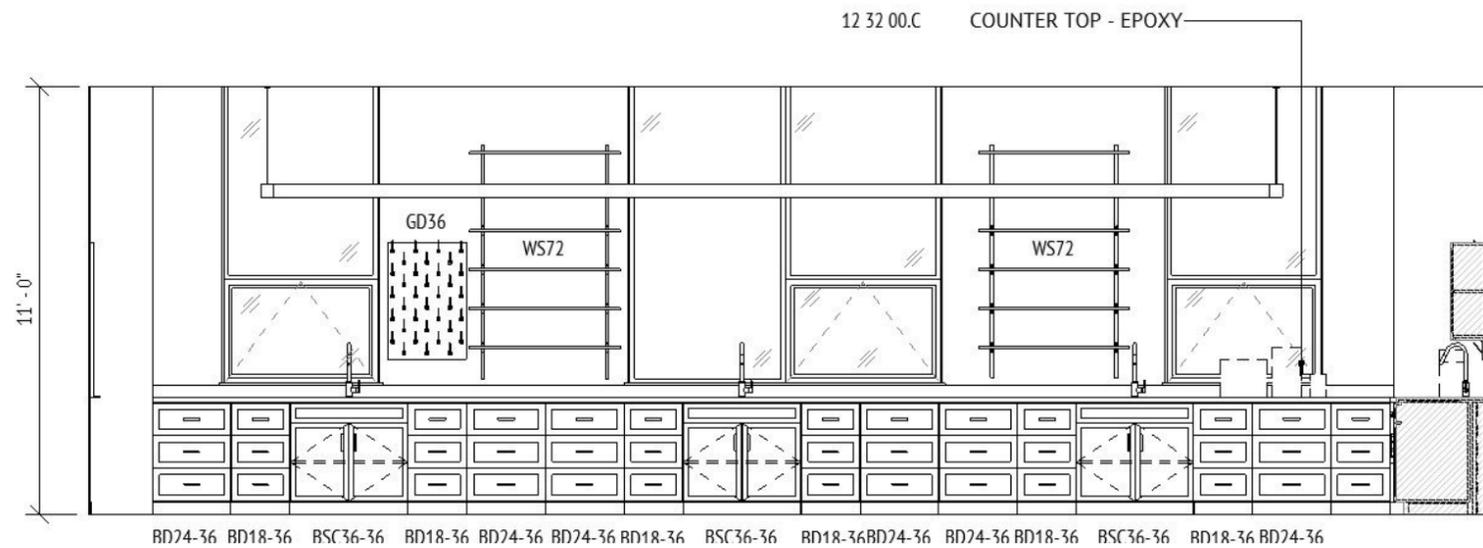
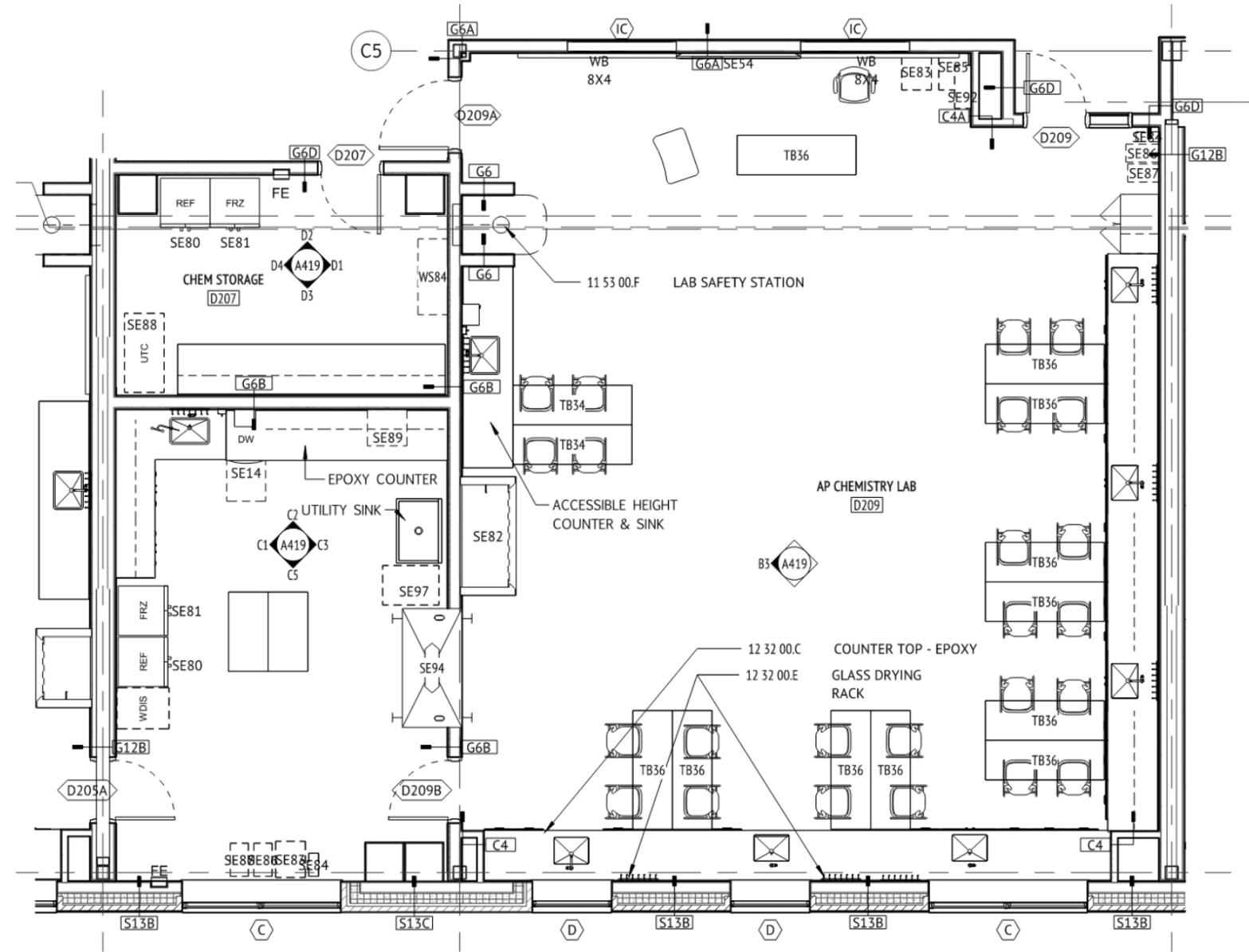
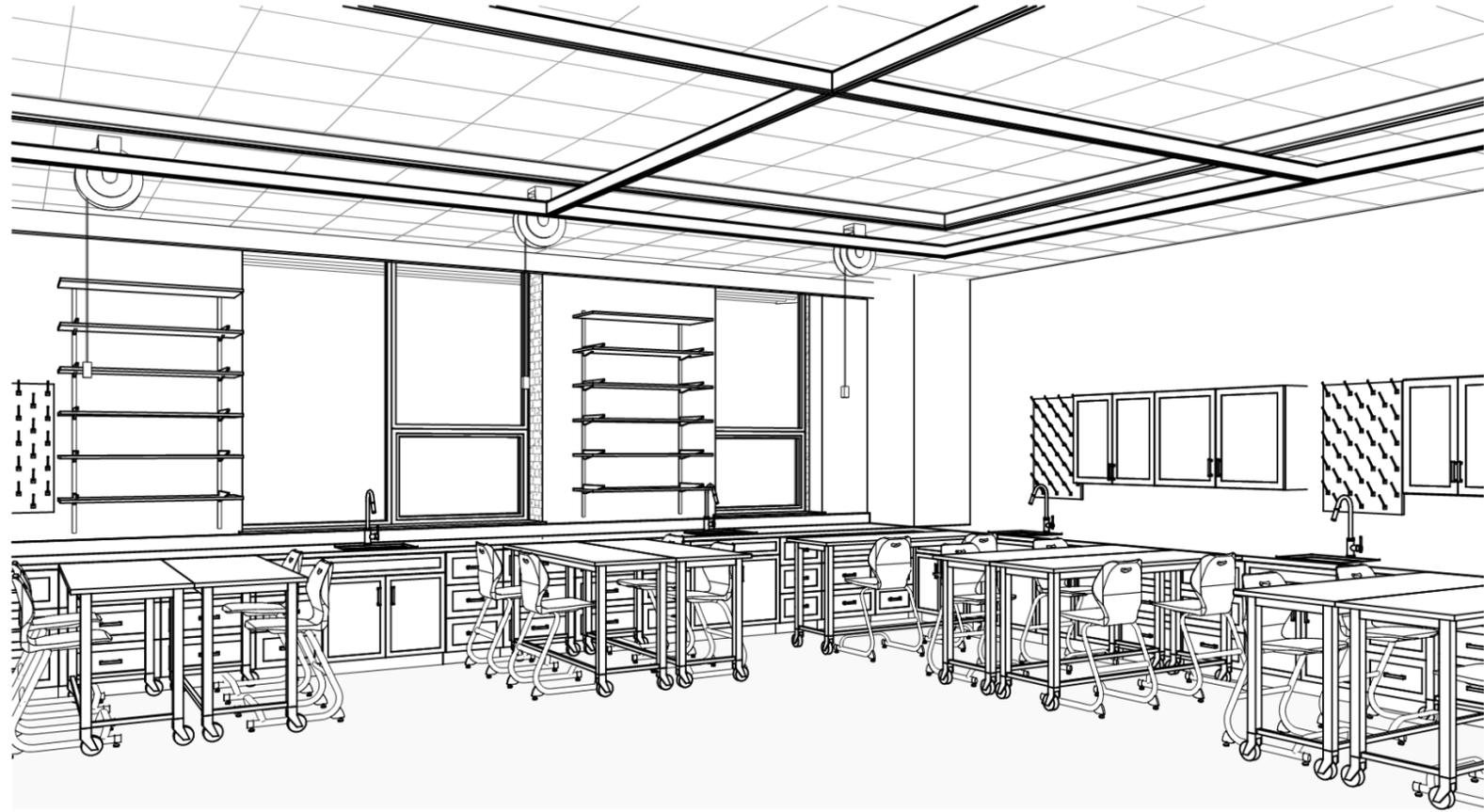
BAND SIZE

CURRENT FIGURE	40
TYPICAL FIGURE	80

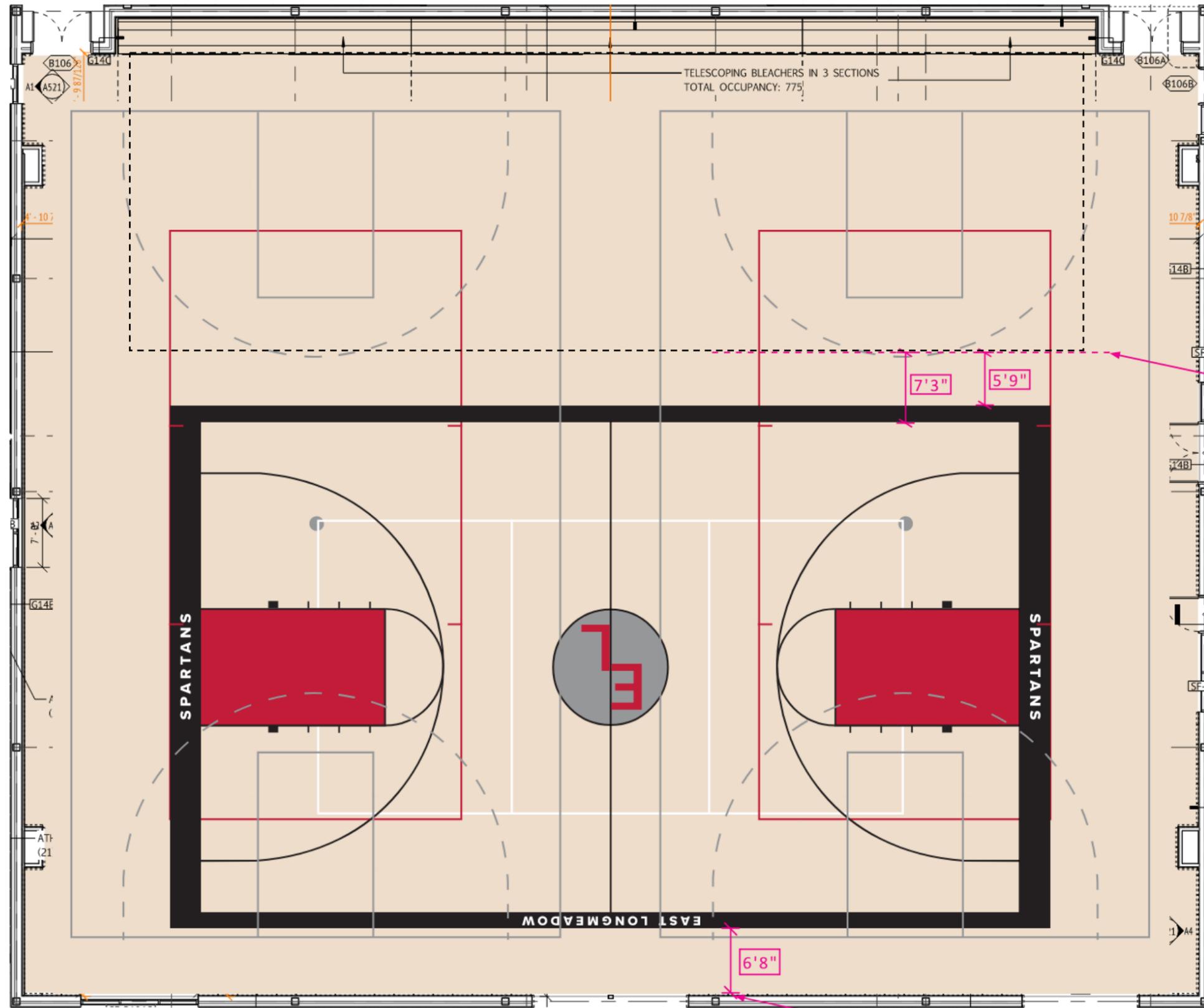
# STEM & Graphics



# Lab Updates



# Gym



THE BLEACHERS ARE 5'9" FROM THE GAME COURT BORDER

THE BLEACHER WALL FROM GAME COURT IS 6'8"

# **Building Walk - Through**

---

# CM Update

---

# Early Release Packages

CD	60% Assumed start date		4/1/2024	
EP 1	<b>Issue Early Package 1</b>		<b>4/19/2024</b>	
	Enabling			
	60% to JWA		6/19/2024	
	60% Package to estimators	12.50	6/24/2024	decreased by 2 days for July 4th
	Estimates Due		7/15/2024	
	Reconciled estimate by	2.50	7/17/2024	
	SBC Approval by		7/23/2024	Tuesday
	60% documents to JWA		7/22/2024	
	60% Package to MSBA	0.50	7/25/2024	pushed by 2 days (from Rev 5)
EP2	<b>Issue Early Package 2</b>		<b>7/26/2024</b>	pushed by 2 days
	Site, Concrete, Steel, Elevator			
		<b>16.50</b>		
	90% Assumed start date		7/26/2024	
	90% to JWA		9/20/2024	
	90% Package to estimators	10.00	10/2/2024	
	Estimates Due	2.50	10/21/2024	pushed by 1 day
	Reconciled Estimate		10/23/2024	
	SBC Approval by		10/28/2024	Monday
	90% Package to MSBA	1.00	10/29/2024	pushed by 2 days
EP3	<b>Issue Early Package 3</b>		<b>10/30/2024</b>	pushed by 2 days
	Mechanical, Electrical, Plumbing, FP			
		<b>13.50</b>		
	100% Assumed start date		10/28/2024	
	100% Package for bidding	5.00	12/2/2024	
	100% Package to MSBA	0.00	12/2/2024	
		<b>5.00</b>		

# EAST LONGMEADOW HIGH SCHOOL



## LOGISTICS DETAILS

### 01 PARKING/TRAFFIC

All vehicle access to the site will enter through the east drive. Existing parking remains open. The front bus loop will be closed.

### 02 SCHOOL/CENTRAL ADMIN

All access to the building (including central admin) is through the main entrance.

### 03 STADIUM ACCESS

The stadium will remain opened throughout the summer, along with 3 tennis courts.

### 04 NORDEN ST ENTRANCE

Norden Street entrance is closed to all public traffic.

### 05 JV BASEBALL/SOCCER

Both fields will be closed for the majority of the summer.

### 06 SUMMER CONCERT SERIES

Summer concert series (2024) will be held on site.

## SUMMER 2024



# EAST LONGMEADOW HIGH SCHOOL



## LOGISTICS DETAILS

**FALL 2024**

### 01 BUS LOOP

The west entrance will be widened to safely separate the school traffic from the construction traffic.

### 02 STAFF/VISITOR PARKING

A new temporary parking lot will be established over the summer and be open for staff and visitors.

### 03 STUDENT PARKING

The student parking lot will remain open during the 2024-2025 school year.

### 04 NORDEN ST ENTRANCE

Norden Street entrance is closed to all public traffic. Access to the central admin office is available through the main entrance.

### 05 JV BASEBALL/SOCCER

Both fields will re-open for the start of the school year.

### 06 STADIUM ACCESS

The stadium will remain opened along with 3 tennis courts.



---

# Motions and Approvals

- Designees for Change Order Approval
-

---

Thank you!

---

JWA | SMMA