Vision & Goals

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The Modernized CHS will draw inspiration from its context to create a vibrant campus that centers students and staff. The design will celebrate the school's role as the heart of the CHS community, a vital part of the neighborhood, and an enduring presence in SE Portland.

- Develop academic and extracurricular excellence with intercultural understanding
- Promote health, wellness, and climate resiliency
- Improve student safety in and around the sites
- Create a welcoming, inclusive environment that supports students and staff
- Acknowledge the Indigenous presence of the site
- Enhance CHS's role as a civic presence and community resource
- Be good stewards of local taxpayer dollars and balance district-wide facility needs

Student & Staff Experience

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ISSUE Limited **permanent or consistent** spaces

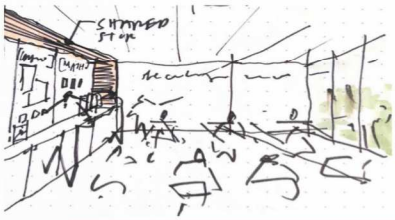
ASPIRATION **Dedicates student-centered spaces** to anchor marginalized communities and foster a sense of belonging.

DESIGN STRATEGY

A RANGE OF SPACES FOR STUDENT USE

- Levels of enclosure
- Distributed & centralized locations
- Dedicated storage
- Variety in materials & colors
- Areas for display and personalization





DEVELOPMENT: Design iteration & student feedback

ISSUE Current experience feels institutional, which **does not feel safe or welcoming for all**

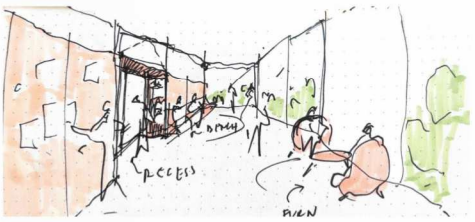
ASPIRATION The new school will create an **inviting atmosphere that is easy to navigate, balanced with safety features**

DESIGN STRATEGY

BEST PRACTICES FOR SAFE + INVITING INTERIORS

- Signifies welcome
- Invites personalization
- Acoustics + lighting variety
- Active + supervisable
- Appropriate visibility + transparency, with options for securing spaces



DEVELOPMENT: Design iteration & PPS feedback

ISSUE Current school creates **a stressful environment that impacts culture**

ASPIRATION **Supports pause and rest** so students can thrive

DESIGN STRATEGY

MOMENTS OF PAUSE THROUGHOUT BUILDING

- Hallway benches
- Adjustable lighting
- Varied acoustics
- Views to nature
- Biophilic design




DEVELOPMENT: Design iteration & PPS feedback

ISSUE Native students/ community members **feel invisible**

ASPIRATION **Acknowledges the Native American origins of this land and current presence of Native peoples**

DESIGN STRATEGY

POTENTIAL PLACES FOR NATIVE COMMUNITY

- Reflect important spatial organizations
- Orient to sun's path
- Express natural materials
- Use native plants
- Display cultural symbols

DEVELOPMENT: NA listening session, workshop

ISSUE Current building does not support the needs of many school communities

ASPIRATION Provide options and resources to **uplift and support all students** without stigma or isolation

DESIGN STRATEGY

BEST PRACTICES FOR INCLUSIVE, COMFORTABLE, AND SAFE SPACES

- Easy to locate services
- No hidden spaces
- Welcoming non-gendered changing spaces within locker rooms



DEVELOPMENT: Design iteration & PPS feedback

ISSUE The **work to shift perspectives** falls to marginalized communities

ASPIRATION **Encourage all students to experience different cultures and worldviews across whole school**

DESIGN STRATEGY

WINDOWS (REAL & VIRTUAL) TO SHARE CULTURE

- Student-curated display
- "Kitchen table" spaces
- Art gallery
- Permanent representation
- Framework for adding new items






DEVELOPMENT: Workshop on Representation & Display

Comments or Questions

Program Proposals

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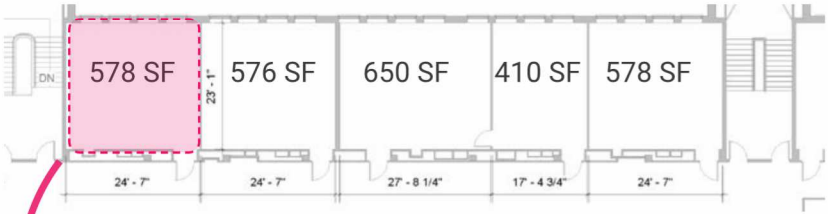
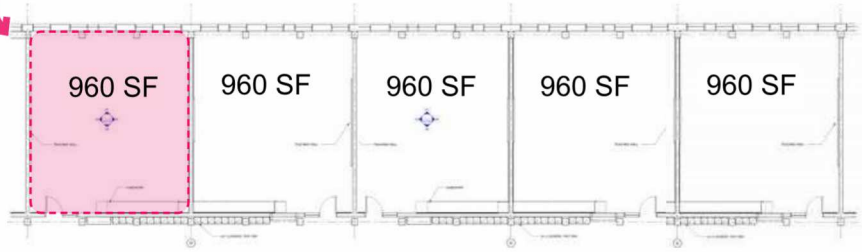
General Education Classrooms

	Existing CHS	Ed Spec	100% SD V1	**Current Proposal**
	41	41	44	**41**

Existing CHS:



Proposed Design:



Future Conversations with Teachers:
Understanding teaching styles and departmental relationships.
The support spaces you need outside the classroom.
Storage needs and preferences.

Comments or Questions

Science Labs

	Existing CHS	Ed Spec	100% SD V1	**Current Proposal**
	10	11	12	**11**

3 Chemistry
3 Biology
3 Physics
2 Environmental

Future Conversations with Science Teachers:
Lab configurations - Fixed islands?
Organize labs by subject or allow flexibility to teach anything?

Comments or Questions

Typical CHS Science room today

Science room at Lincoln HS

Program Proposals

Career and Technical Education

	Existing CHS	Ed Spec	100% SD V1	**Current Proposal**
	4,600sf	6,000sf	11,000sf	**11,000sf***
Construction				
Culinary Lab + Classroom				
Mass Communications				
Computer Classroom				
Video Production				
Digital Media				
Computer Classroom				
Silk Screen				
Dark Room				
Product Design				
Maker Space				

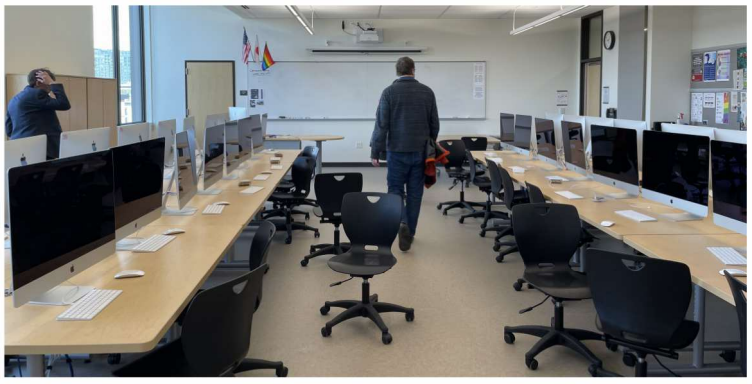
*includes 5000sf that the Ed Spec allocates to Technology Classrooms

Future Conversations with Teachers:
Understanding project workflow and activities.
Specific equipment, storage needs, sinks, and power.

Comments or Questions

Lincoln High School, Culinary Arts

Lincoln High School, Graphics Arts & Communications Lab



Program Proposals

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Physical Education & Athletics

	Existing CHS	Ed Spec	100% SD V1	**Current Proposal**
Large Gym	12,000sf	13,000sf	13,700sf	**13,700sf***
Small Gym	N/A	5,700sf	5,700sf	**5,700sf**
Weight/Fitness Room	2,995sf	2,500sf	2,970sf	**2,500sf**
Mat/ Dance Room	1,990sf	2,700sf	3,475sf	**2,700sf**
Raised Track	N/A	optional	in plan	**additive alternate**

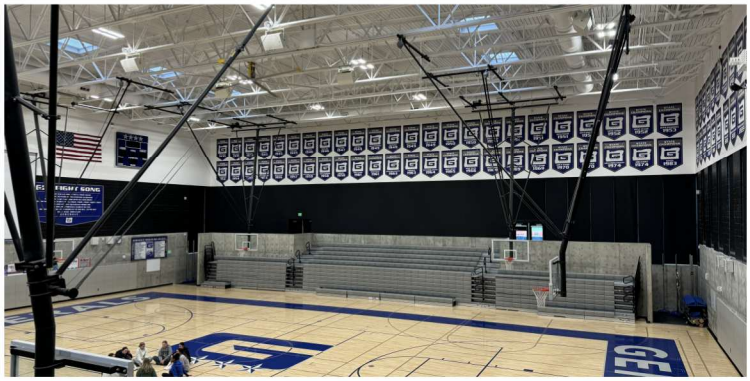
*exact layout is being studied to confirm bleacher capacity and run-out space

Future Conversations with Staff & Coaches:
PE storage, PIL storage,
How to support teaching stations?
Fitness room layout.

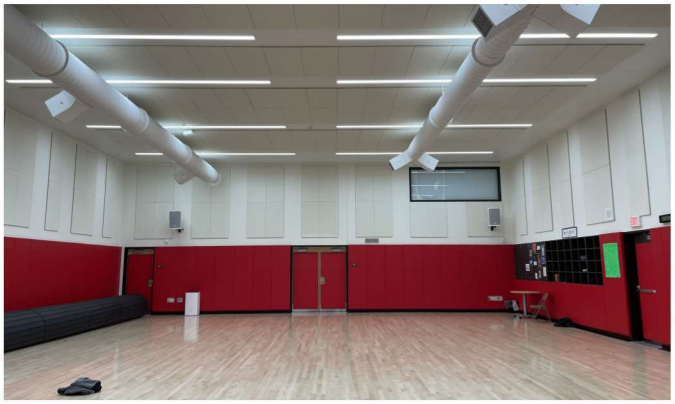
Comments or Questions

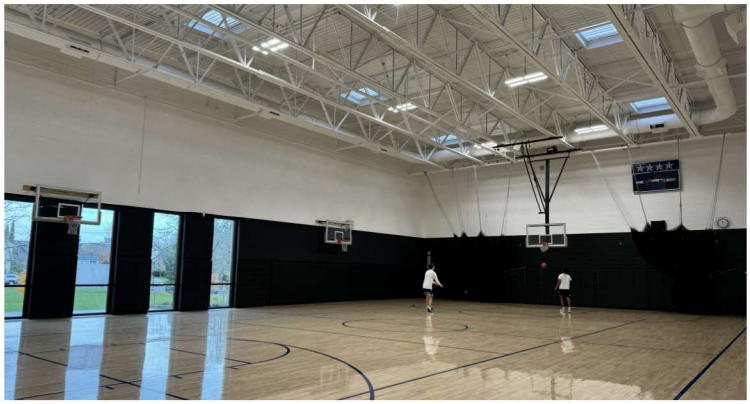
McDaniel High School, Gym

Grant High School, Large & small gyms



Lincoln High School, Mat & Dance Room





Program Proposals

Fine & Performing Arts

	Existing CHS	Ed Spec	100% SD V1	**Current Proposal**
Art Rooms	4	2	3	**3**
Band	1,800sf	2,200sf	2,450sf	**2,200sf**
Choir	1,100sf	optional	1,500sf	**1,500sf**
Theater + stage	12,000sf 1,379 seats	8,500sf 500 seats	10,100sf 500 seats	**9,350sf** **~500 seats**
Black Box classroom	1,040sf	1,600sf	1,600sf	**1,900sf**

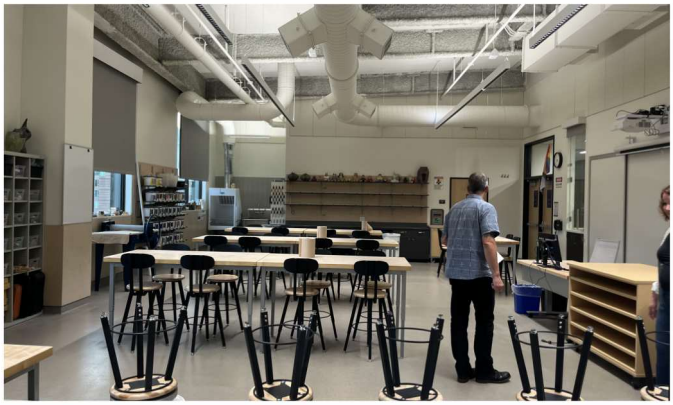
Future Conversations with Teachers:
Adjacencies
Storage
Lighting, Acoustics, Technology

Comments or Questions

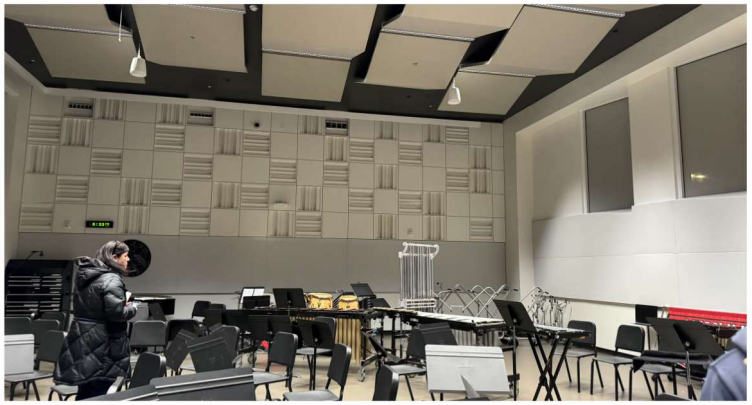
Lincoln High School, Theater

McDaniel High School, Theater

Lincoln High School, Art Room



Lincoln High School, Band Room



Program Proposals

Support Spaces

	Existing CHS	Ed Spec	100% SD V1	**Current Proposal**
Meeting Rooms	3	5	4	**5+**
Group Meeting (Prayer Room)	no	yes	yes	**yes**
Partner/ Community Space (Caring Closet)	yes	yes	yes	**yes**
Health Clinic	yes	yes	yes	**yes**
Teen Parent Center	no	yes	yes	**yes**
Multipurpose Room (Multicultural Room)	no	yes	yes	**yes**

Future Conversations with Staff:
Front office & Counseling spaces

Comments or Questions

New Cleveland High School

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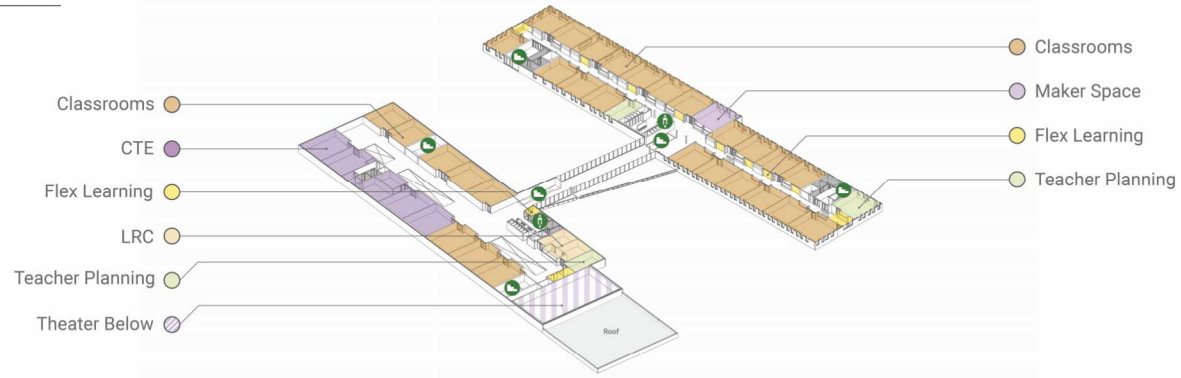
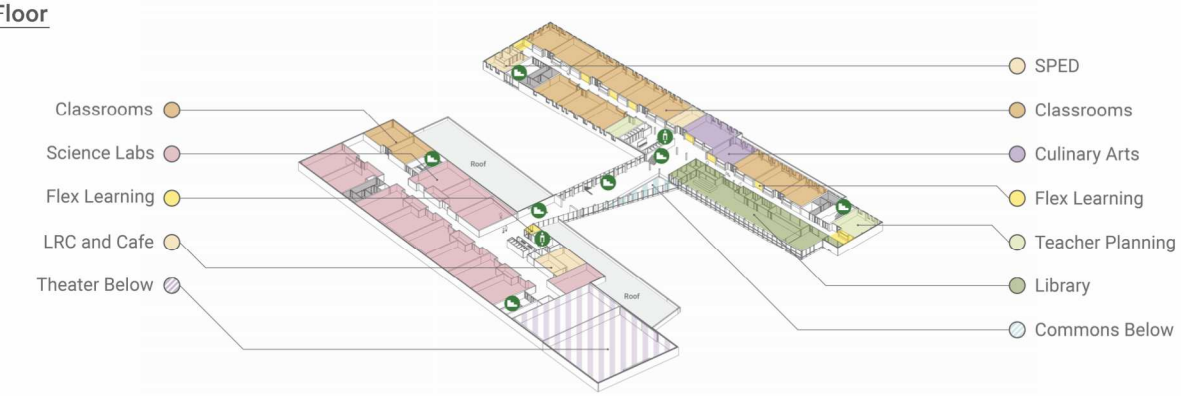
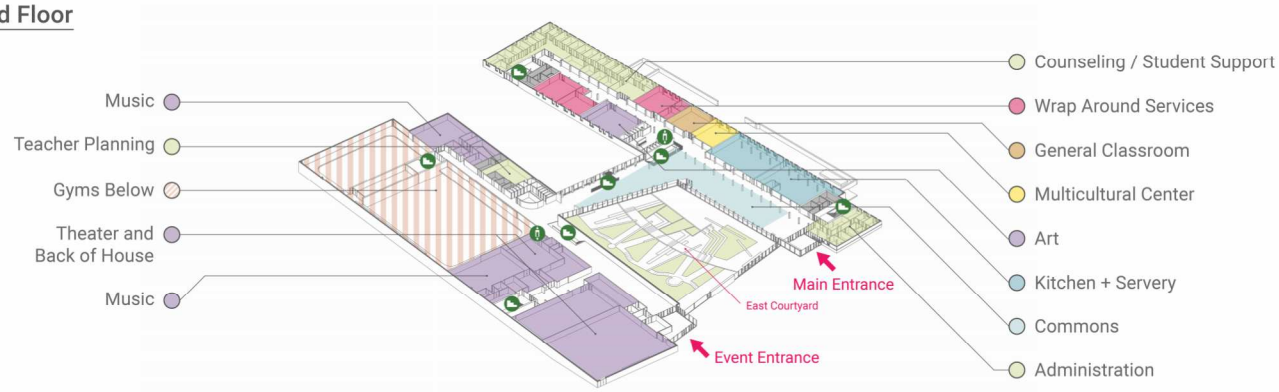
Fourth Floor



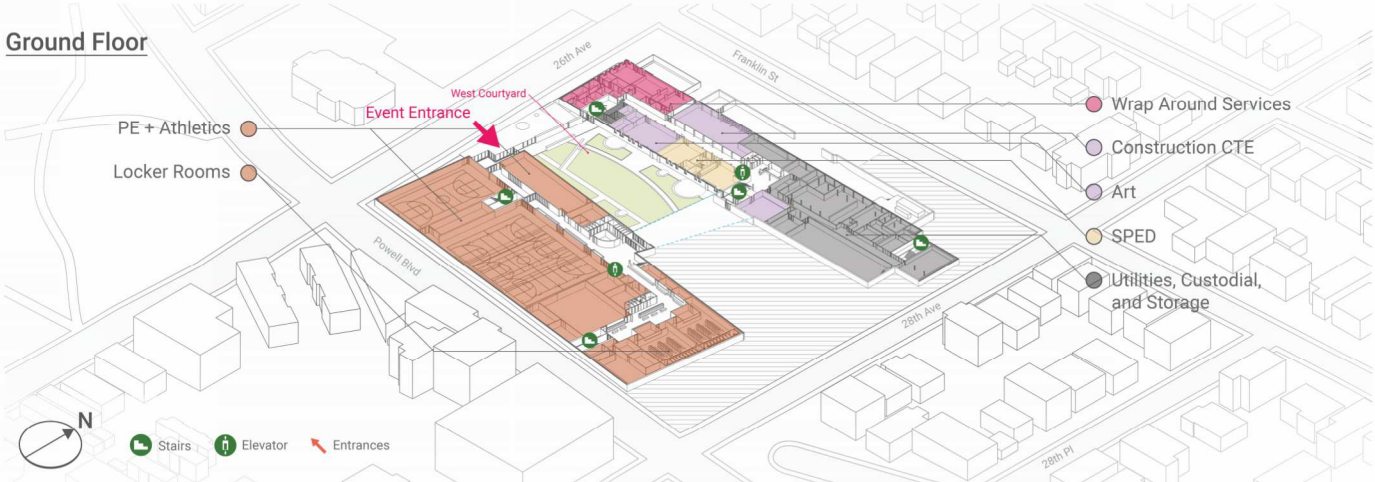
Third Floor



Second Floor

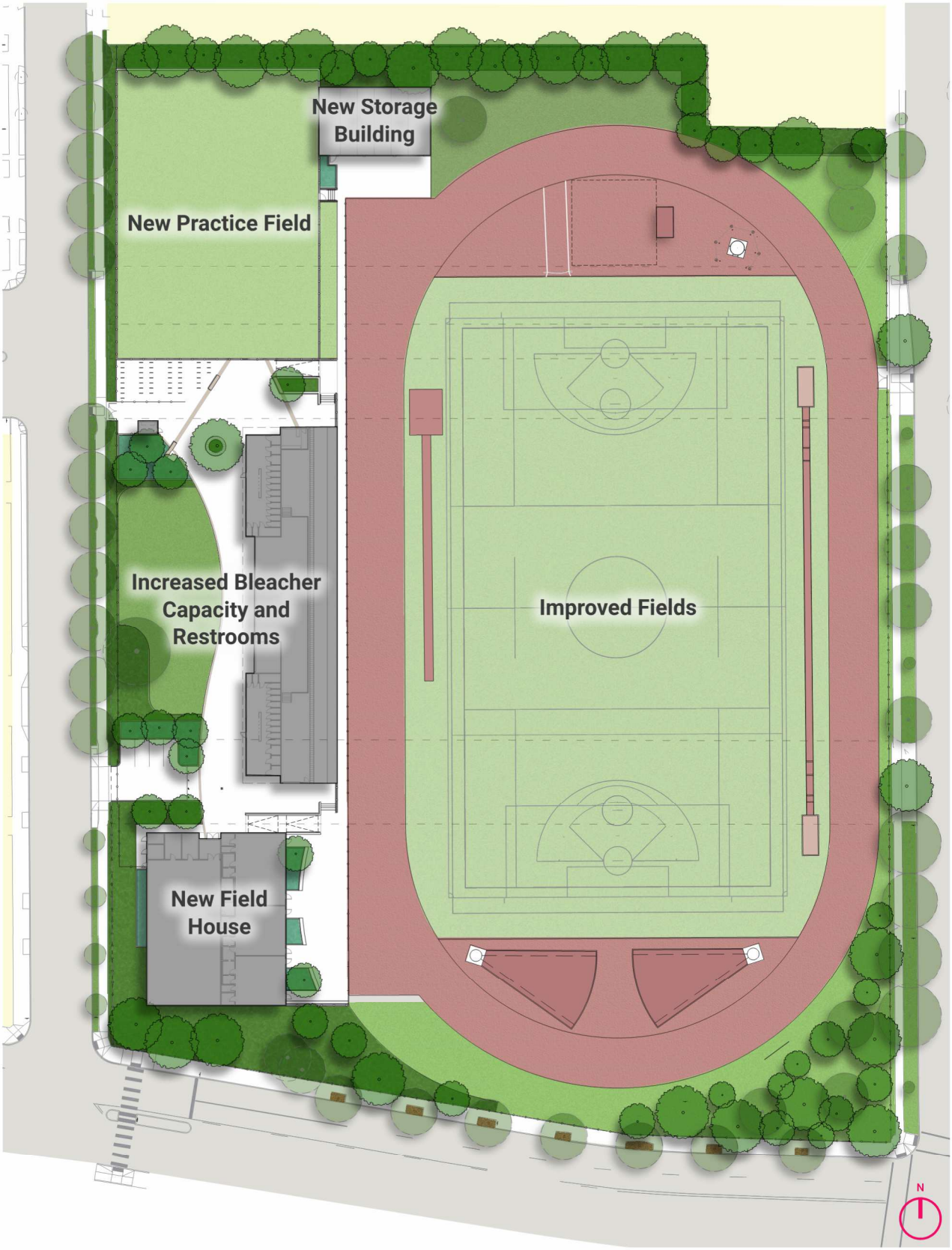


Ground Floor

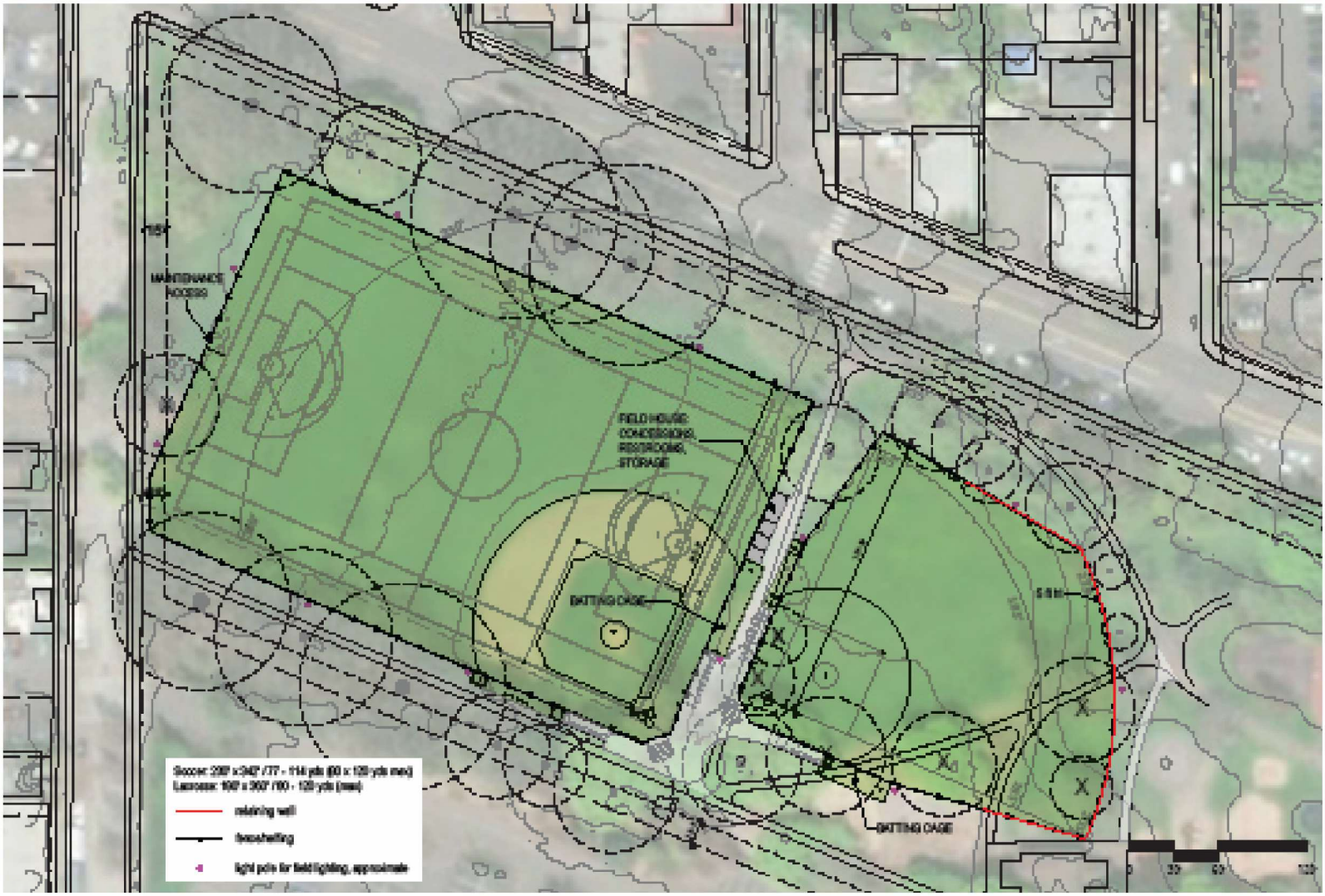


Site Design

Cleveland Stadium Site



Field Study | Option 1

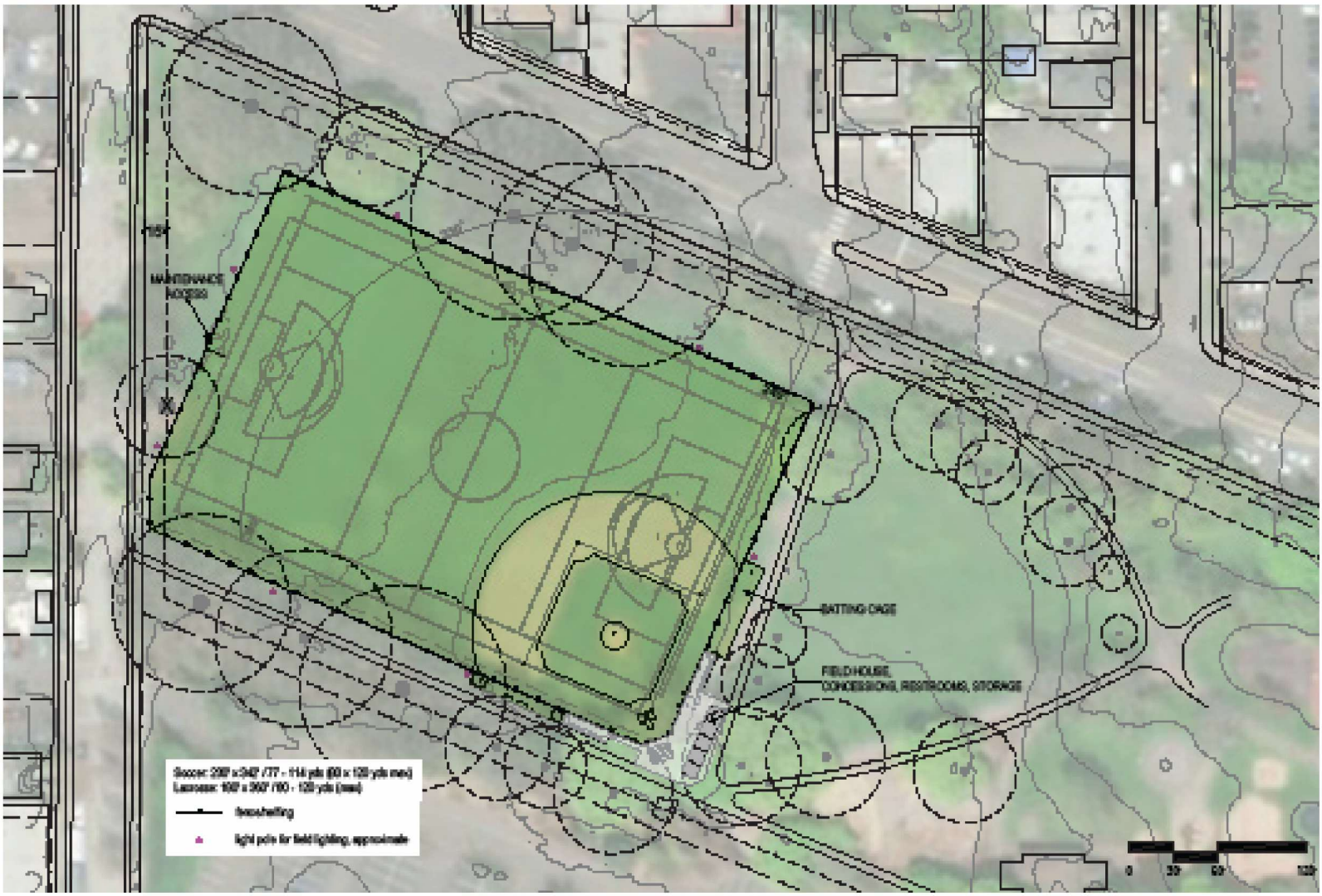


Details

- Baseball and softball fields colocated at Powell Park
- Shared concessions, restrooms and storage building
- Soccer and lacrosse striping overlap baseball field
- 7-9 trees impacted
- Both baseball and softball outfields short at Powell Blvd

Comments or Questions

Field Study | Option 2

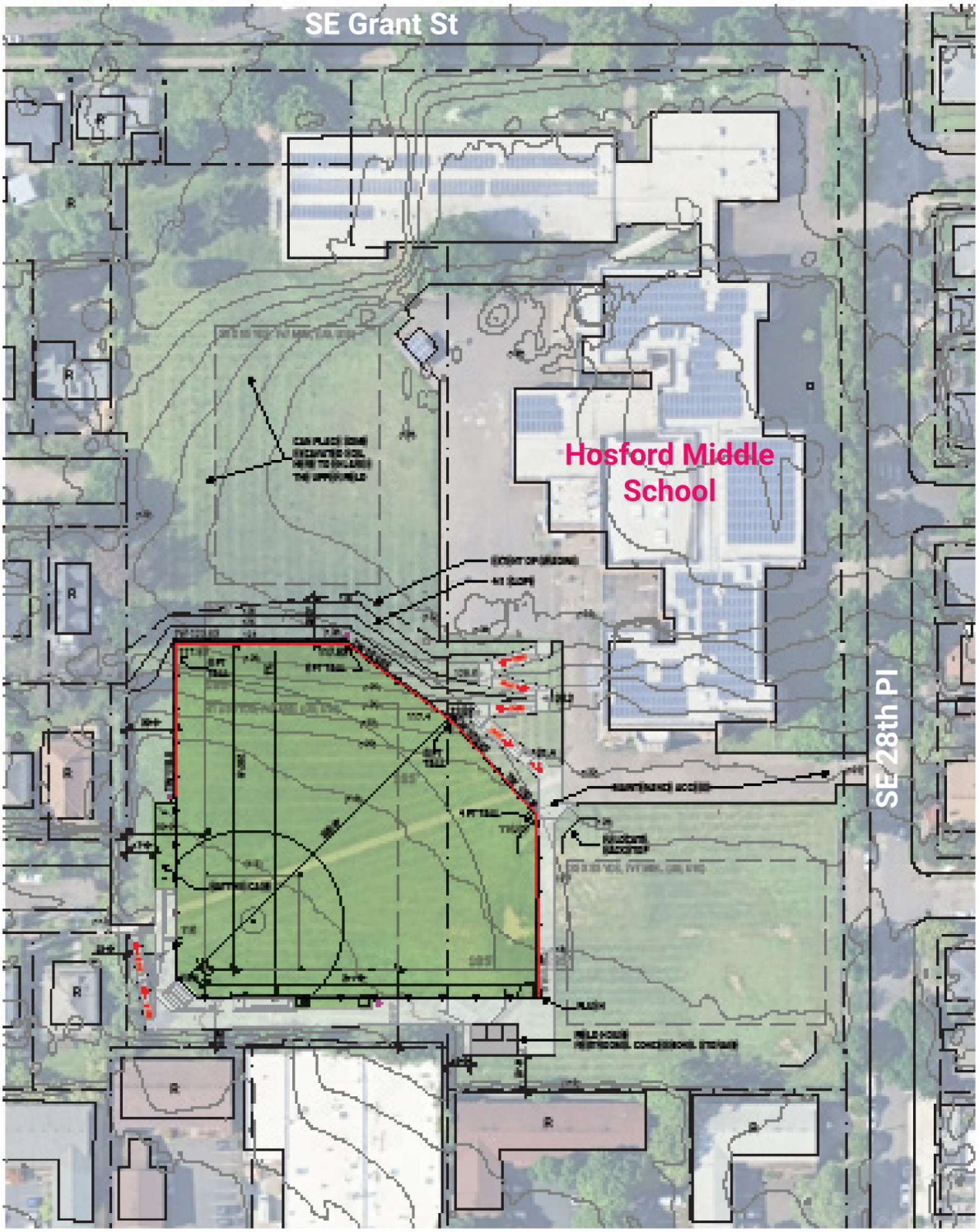


Details

- Baseball field located at Powell Park and softball field located at Hosford Middle School
- Baseball and softball fields to have separate concessions, restrooms and storage building
- Soccer and lacrosse striping overlap baseball field
- 1 tree impacted
- Full size softball outfield at Hosford

Comments or Questions

Field Study | Option 2



Comments or Questions

Site Design

Cleveland High School Sites

Main School Site

Building Updates

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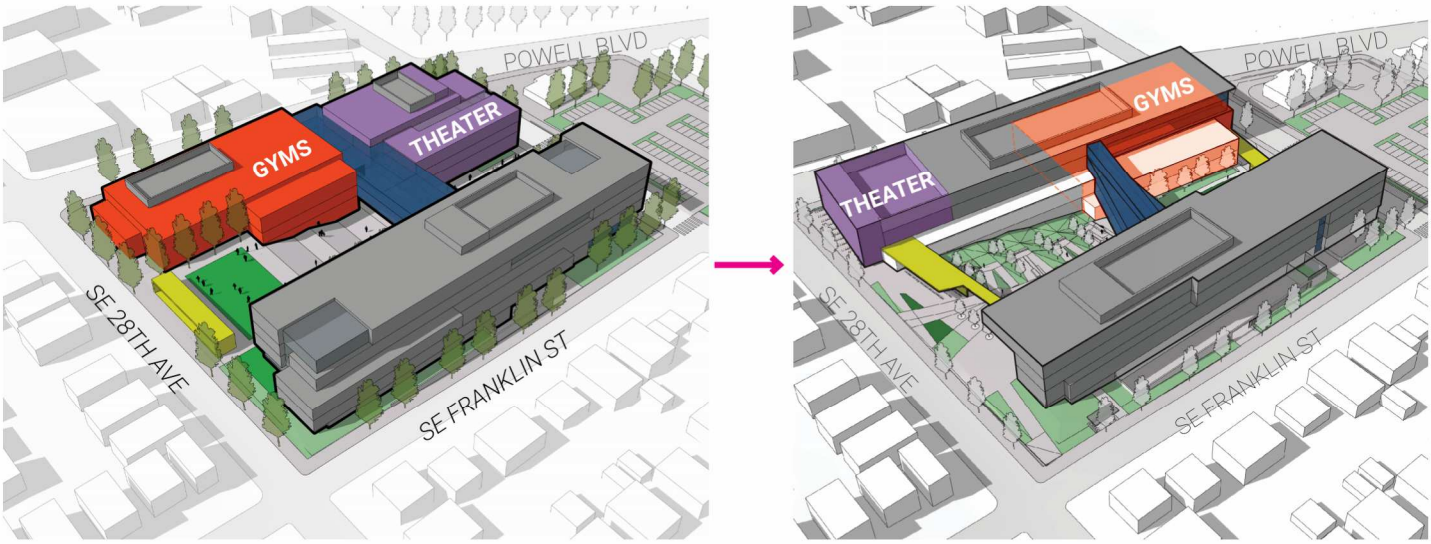
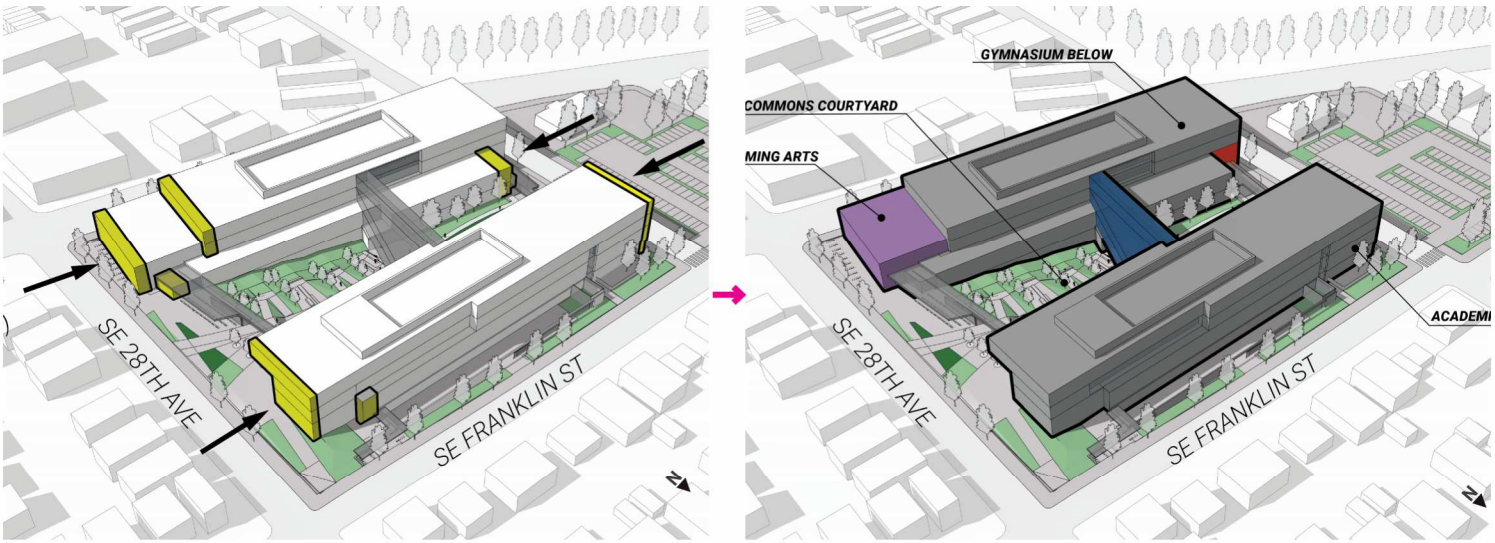
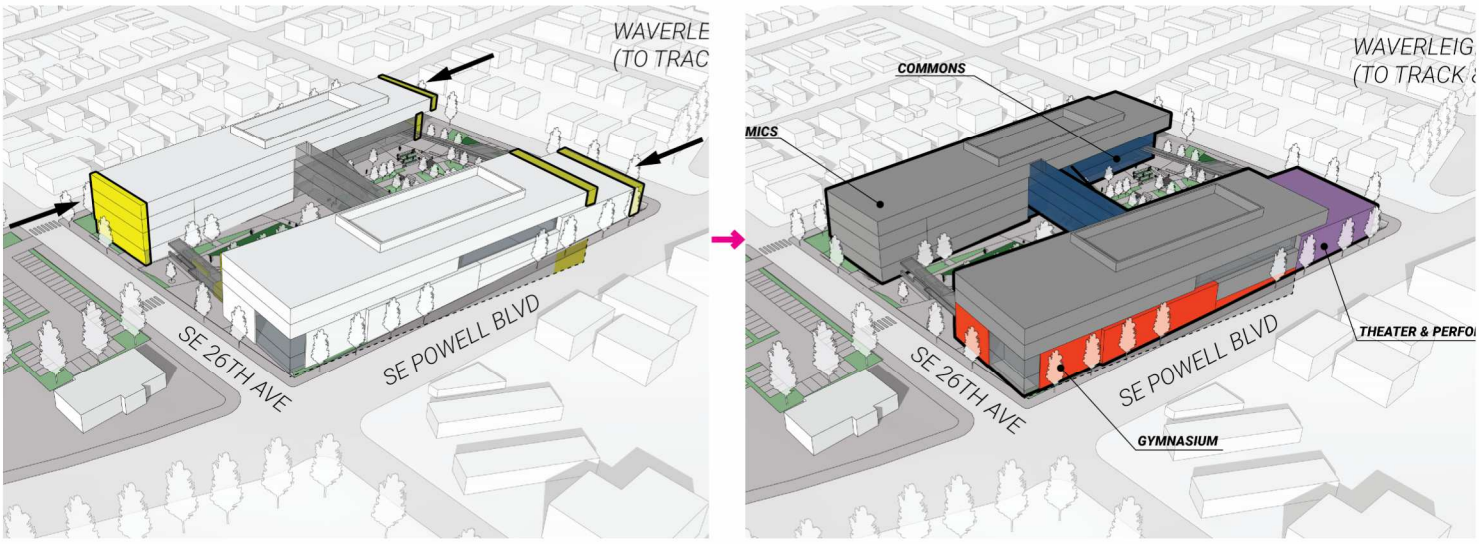
November 2024: Optimizing building layout



March 2025: Proposed size reductions





Cost

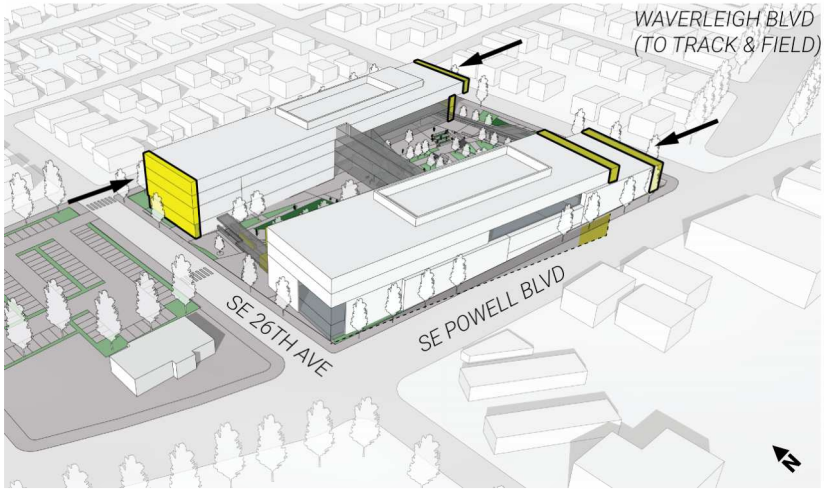
CHS Strategy

Earlier changes:

> Optimized building form

> Optimized HVAC system, structural system

> Proposed 3-year construction period



Current proposals:

> Reduce building to 295,000sf

> Smaller Teen Parent and Health Centers

> Less excavation

> Construction efficiencies

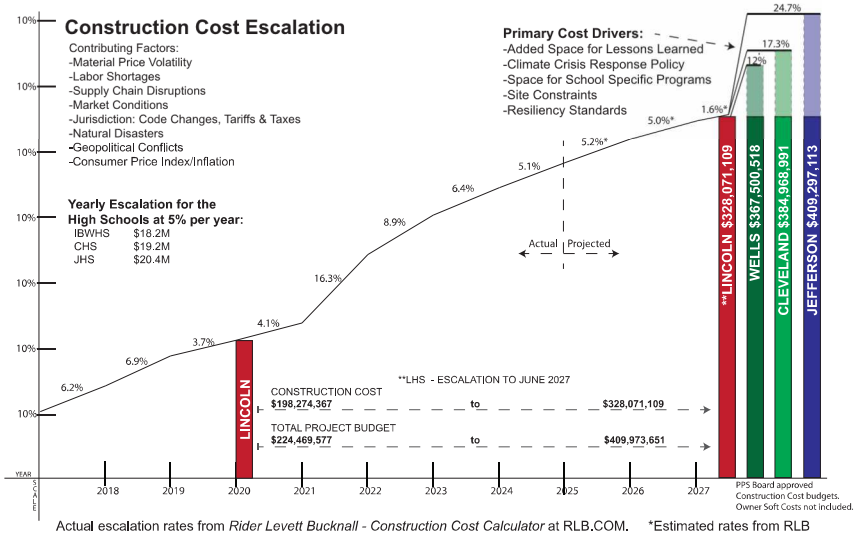
> Smaller field house & storage at Cleveland Stadium

> No raised loading dock

FAQs about costs and escalation

Q: Why are the current buildings more expensive than Lincoln High School?

A: Escalation causes the same goods and services to cost more over time. The chart at the right shows actual market conditions in Portland since 2018.



Q: How are we developing our cost numbers?

A: Our CM/GC contractor, Skanska USA Building, and a third party estimator, Gamut Project Solutions, both developed detailed estimates from the project documents. This effort established a reconciled project cost estimate that is a working cost model for the project. As we propose changes to the design, this cost model is then adjusted and refined to establish new cost amounts to reflect savings in the project.

Q: What makes CHS more expensive than some of the schools in the Cornerstone Report?

A: The Cleveland site has inherent costs that the other projects do not have: an extremely small building site adds additional cost for construction logistics and building methods and the soil conditions require costly improvements to stabilize the ground for earthquake resistance.

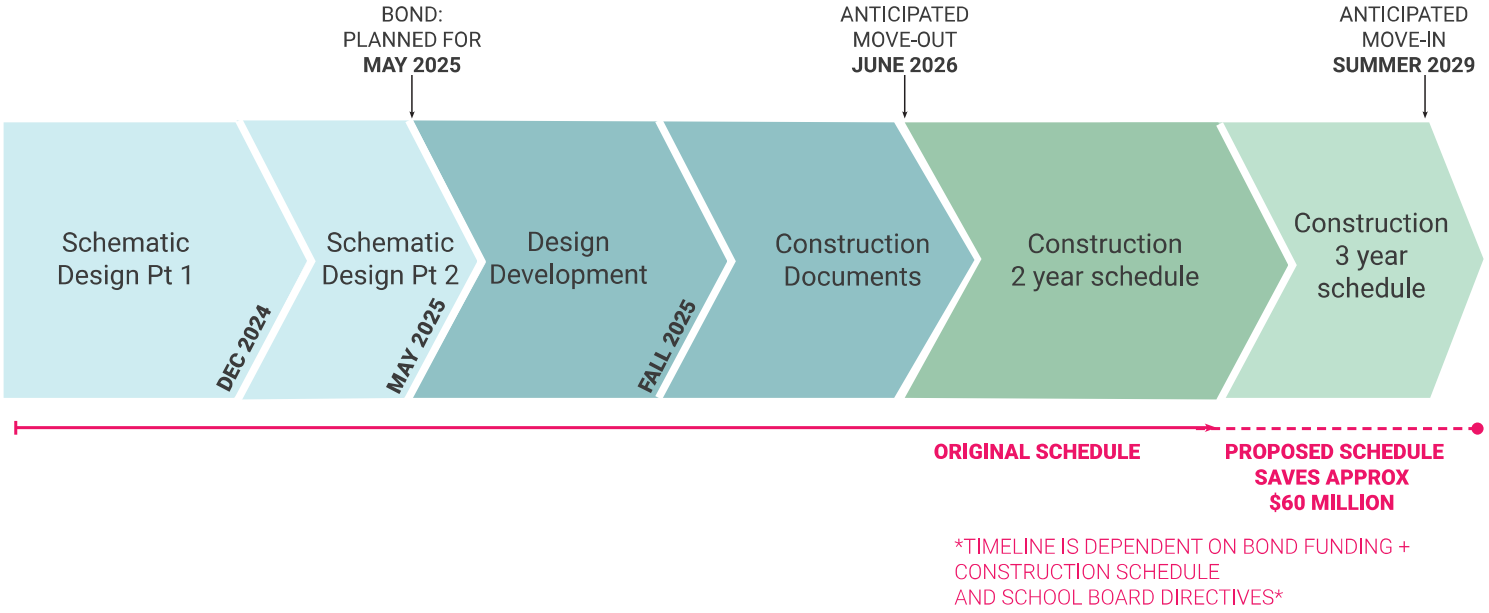
Q: If the CHS site costs more to build on, will we get more budget?

A: Yes, the overall project budget is approximately $20M to $30M more than the Ida B. Wells project.

Q: What is the impact of new tariffs on the construction cost?

A: It is expected that tariffs and related market volatility will increase project costs. At this time we do not know the magnitude of these potential costs.

Project Schedule



FAQs about schedule and swing site

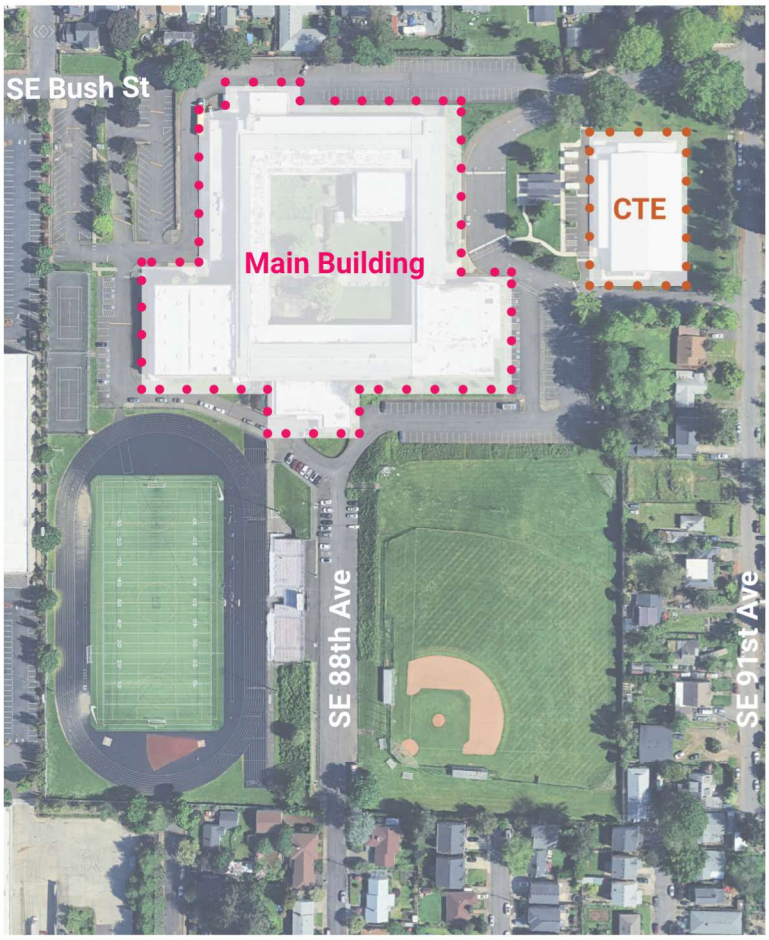
Q: Why is the construction going to take 3 years when other schools have been built in 2 years?
A: Due to the site constraints and restrictions on construction logistics, we require more time to build the project. Other school projects such as Lincoln, Benson, Jefferson, and Ida B Wells are 3-year construction durations.

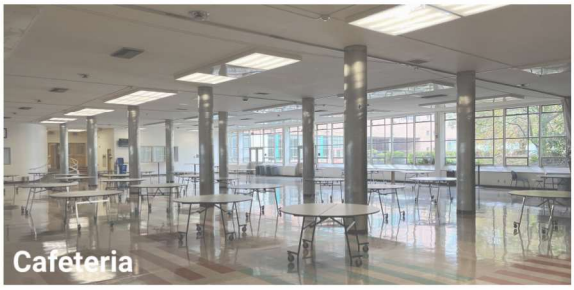
Q: What will happen to the CHS student population during the relocation to Marshall High School?
A: Historically, enrollment at high schools during construction has somewhat decreased. Once a modernized high school is complete, the district has seen enrollment return and often exceed levels prior to construction.

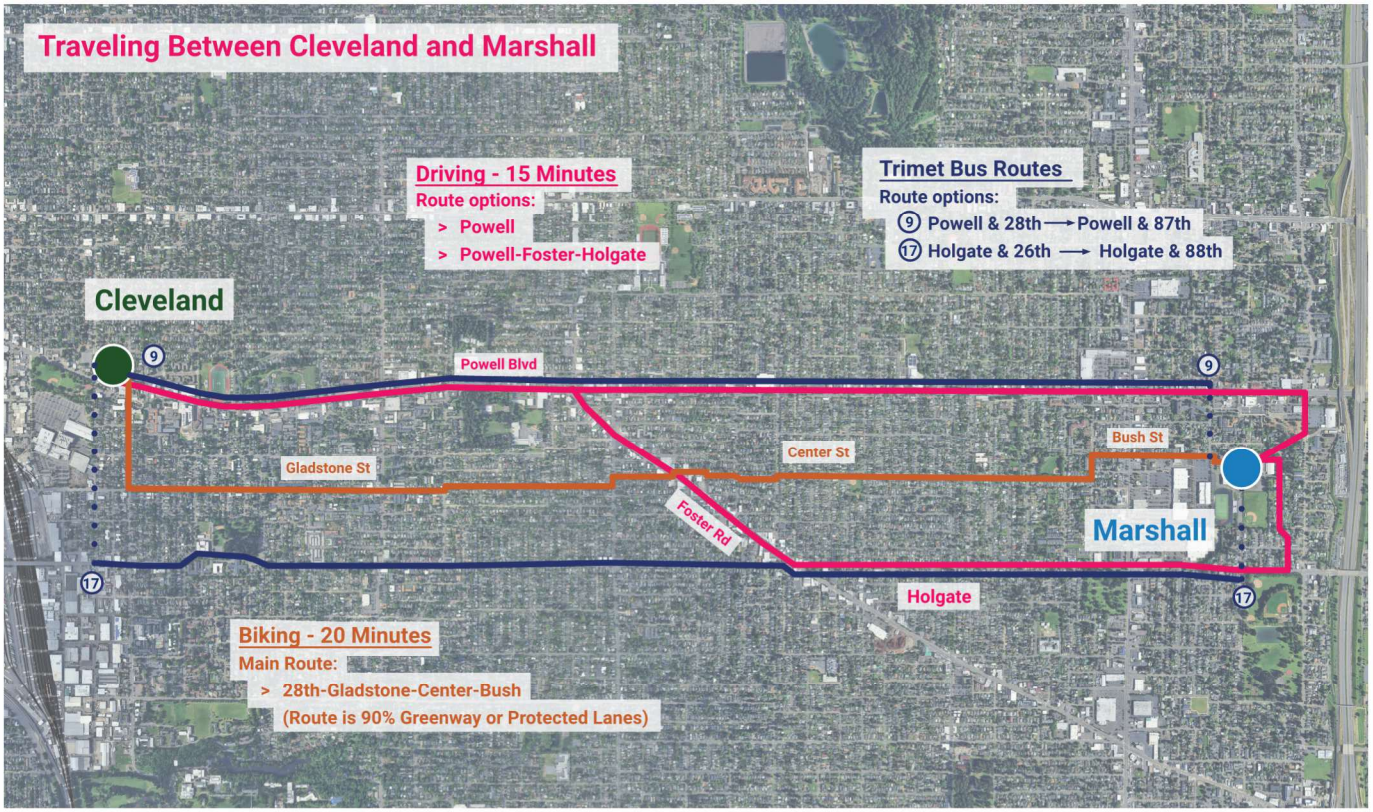
Q: How will CHS students get to the Marshall campus during construction?
A: PPS will provide transportation assistance, based on need, for students to get to and from school and events while attending school at the Marshall campus.

Q: Will the Cleveland Stadium or athletics fields be ready for students to use before Fall 2029?
A: The project team is studying ways that the stadium improvements and field improvements for baseball and softball can be completed before the main building. More information on this will be provided as project planning develops.

Marshall High School - Swing Site







Design Study Concepts

Climate Response

PPS **Climate Justice and Sustainability** goals

- Design and construct new **low-carbon schools and renovations** that are **energy-efficient, resilient, and adaptable.**
  - **Projects will be certified LEED Gold**, with an aspirational target of LEED Platinum.
  - **Prohibit the installation of fossil fuel infrastructure** in all new buildings.
  - **Increase energy efficiency and maximize the use of renewable energy sources (operational carbon).**
  - **Limit the amount of refrigerant used.**
  - Transition to **building materials produced with less carbon** and that are more sustainable **(embodied carbon)**.
  - Improve **resilience to climate-related emergencies.**
- **Reduce the demand for new materials and resources**, and procure materials, products, and services in a manner that **integrates climate considerations, fiscal responsibility, and equity priorities.**

Learn more about **Climate Justice and Sustainability** here!

What is **embodied carbon?**

- Embodied carbon is the **carbon that is produced during the construction of a building**.
- Embodied carbon calculations **account for all aspects of the construction process** including production of building materials, transportation of materials, and on-site construction activities.
- Structural materials like **concrete and steel are often the largest contributors** to the embodied carbon in a building.
- When replacing or renovating a building, **the reuse of high embodied carbon materials can reduce the carbon impact** of the modernized building.

How do we **quantify carbon?**

$kgCO_2e/ft^2$

- Carbon is quantified by weight using **kilograms.**
- The primary gas that is measured is **carbon dioxide.**
- Many other greenhouse gases are also measured. The atmospheric warming effects of these gases are converted to the **equivalent** warming effects of carbon dioxide.
- To compare the carbon impact of differently sized buildings, we calculate the carbon intensity of the building per unit of area. This is the amount of embodied carbon per **square foot.**

Ways to **reduce embodied carbon**

- **Use alternative, local, lower embodied carbon building materials** in carbon intensive building systems (structure, exterior cladding, finishes, etc)
  - **Low carbon concrete mixes for foundations and site paving** can have 30-40% less embodied carbon than traditional mixes.
  - Steel can be sourced from **electric arc furnaces that can utilize renewable energy** to refine the steel.
  - **Mass Timber construction** can be sustainably sourced and replace steel and concrete with a local, renewable resource.
- PPS construction standards **target a minimum of 75% of construction and demolition materials to be recycled** or diverted from a landfill.

Hybrid Mass Timber as a structural alternative

- **Mass Timber construction** uses engineered wood panels and columns designed to bear heavier loads than traditional light wood framing and has a **lower embodied carbon** impact than steel or concrete construction
- Panels and columns are **pre-fabricated from smaller pieces** of wood using glue, nails, or dowels, and delivered to the site as a "kit of parts"
- **Local materials and manufacturing** can be used to support local industries.
- **Responsible wood sourcing** can further lower the carbon impact and make the manufacturing more sustainable
- **Mass Timber products include** Cross-Laminated Timber (CLT), Dowel-Laminated Timber (DLT), Mass Plywood Panels, Glue-Laminated beams, and other heavy timber.

Design Study Concepts

Climate Response

PPS **Climate Justice and Sustainability** goals

Improving Interior Environment

>Building orientation and window placement for **high quality daylighting**

>Tight building envelope, good ventilation, and MERV 14 filters for **improved interior air quality**

>Carefully choosing building materials and eliminating dangerous material ingredients for a **healthy interior environment**

>Limiting background noise from building systems, the exterior, and other spaces to **improve classroom acoustics**

>Provide **quality views of nature and the city** from the building

Reducing Impact to Urban Environment

>Bioswales to **treat and infiltrate stormwater on-site**

>Landscaping and roofing materials to **reduce contribution to the urban heat island effect**

>Prioritize lights and lighting controls that **reduce light pollution**

>Use fixtures and systems to **reduce building water usage**

>Careful and **limited use of refrigerants in mechanical systems**

Reducing Transportation Impacts

>**Secure bicycle parking** near the main entrance

>**Access to public transit** with safe places to wait

>**Electric vehicle charging** for visitors and PPS vehicles

What is **operational carbon?**

>Operational carbon is the **carbon that is produced during the operation of the building** throughout it's lifetime.

>Operational carbon calculations account for energy use of the building, **how the energy is created**, and other ongoing sources of carbon like building maintenance.

>**Building systems that are powered by fossil fuels** lock the building into using high carbon energy for the life of the building.

>Tight building envelopes, high efficiency mechanical systems, all-electric equipment, and building materials that require less maintenance, can **all contribute towards reducing the operational carbon of the building**.

What is **grid decarbonization?**

>The 2021 Oregon Clean Energy Targets bill requires state **electric grids to completely decarbonize by 2040.**

>**Carbon emitting energy sources will be replaced** with renewable energy sources like solar, hydropower, and wind.

>Electric building systems that are powered by the grid will **produce less operational carbon over time** as the grid adopts renewable sources.

Strategies to reduce operational carbon

>**All Electric Systems** allow the operational carbon impact of the building to go down over time as the electricity grid converts to renewable energy sources.

>**A robust building envelope** allows the building to use less energy, increased thermal comfort, and increased interior air quality.

>**Energy efficient systems** like heat pump mechanical systems, LED light fixtures, and efficient water systems allow the building to make the most use of limited resources.

>**Solar panels** can make use of the buildings roof area to further reduce the buildings energy use.

>**Building orientation** maximizing windows with northern and southern exposure improves daylighting and energy efficiency.