



PROJECT OVERVIEW

Student Design Capacity

1,700

Building Area

+/- 281,370 SF

Area is the design target based on the PPS Education Specifications

Construction Cost

Renovation + Addition	Full Replacement
\$160,794,952	\$124,503,000

Project Cost*

Renovation + Addition	Full Replacement
\$251,397,302	\$186,829,722

* Project cost based on recommended construction schedule.

Final project cost will be based on Board of Education-approved construction schedule.

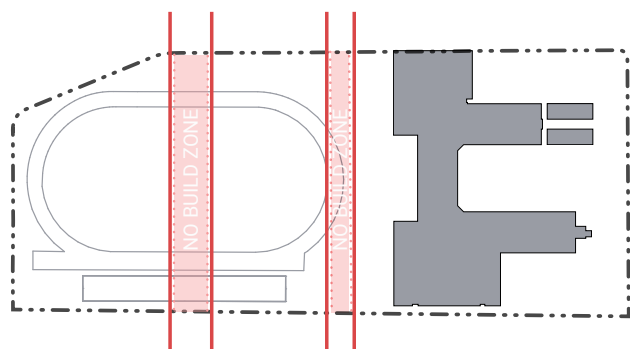
PROJECT INTENT

Lincoln High School (LHS) is being reviewed along with Madison and Benson High Schools and Kellogg Middle School as part of an overall bond program to modernize and improve district facilities. LHS serves about 1,700 students in the Central City and Northwest Portland. The existing building contains approximately 180,000 SF (100,000 SF short of the Educational Specifications) making it the smallest high school facility in the District with the most students. Located in the Goose Hollow neighborhood, the 11-acre site is bordered by I-405 to the east, Salmon Street to the north, the 18th street Max corridor to the west and existing commercial development to the south.

Key Challenges

The LHS site faces distinct challenges, among them:

- There is no viable off-site swing option, requiring a temporary swing school to be built on the existing track and field. This is one of the biggest challenges to renovating and expanding the existing school.
- Location within the Central City 2035 plan requires compliance with numerous design criteria enforced by the Design Commission, including pedestrian access through the site, no surface parking, and placing new construction along the property line to define an active street edge.
- LHS is situated in a constrained site in a dense urban setting.
- Two major utility easements run through the site creating “no build zones” in the old 16th and 17th Avenue right-of-ways. These easements contain major storm water infrastructure that cannot be built upon or relocated.



- Sloped site topography requires extensive grading for accessibility and potential retaining walls.
- Poor soils conditions require deep foundations regardless of the location on the site.
- Very few of the spaces in the existing school are in compliance with the Educational Specifications.

- The school is 100,000 SF below required area for a comprehensive PPS high school:
Existing Lincoln High School: 180,912 SF
2017 Required Ed Spec: 281,370 SF
- Existing mechanical, electrical, plumbing, data and fire protection systems are outdated and require full replacement.
- Portions of the existing structural system can be retained, but will require full seismic upgrade.

Due to these significant challenges, the Due Diligence team studied and analyzed two Full Replacement options in addition to a Renovation + Addition option under this effort. Building a new school on the west side of the site would allow students to stay in the existing school during construction and eliminate the need and cost for a temporary swing school.

MPC Process

The goal of the Pre-Design Diligence Study was to reach beyond the initial master planning study (completed in July 2016) into early design diligence with more detailed investigations of the three development options: Renovation + Addition, Full Replacement: Horizontal, and Full Replacement: Vertical. The design team received input on the development options from the Steering and Master Planning Committees at regular meetings throughout the three month study.

Due Diligence

The design team’s scope included the following due diligence analysis under this effort:

- Health and safety analysis of existing facilities
- Existing space and site analysis
- Program verification per Ed Spec for comprehensive high school for 1,700 students
- Land use planning and code compliance
- Site survey and geotechnical analysis
- Assessment of existing building systems (mechanical, electrical, data, plumbing fire protection)
- Develop building concepts and site design options
- Provide civil, landscape structural, mechanical, and electrical systems narratives for each design concept
- Develop construction logistics and phasing scenarios
- Develop cost estimates for each option.

ARCHITECTURAL DESIGN

The goals for each of the three development options were to address concerns for health and safety as well as school security, to provide student-centered facilities, to meet the Ed Specs in quality and quantity, to minimize disruptions during construction, to promote long-term operational efficiency, and to meet these goals cost-effectively.

Renovation + Addition: Wrapper

The Renovation + Addition option is comprised of 27% renovated space and 73% new addition. The existing C-shaped classroom wings of the school are preserved, while the existing gym and auditorium are demolished, as they cannot be expanded to meet the Ed Spec. The scheme includes “wrapping” the renovated portion with new construction, including a new classroom wing to the east, the new gym to the north, the new auditorium to the south, and new commons and education support spaces to the west. The design team also investigated requirements for a swing site on the west side of the site to provide temporary facilities during construction.

Full Replacement: Horizontal

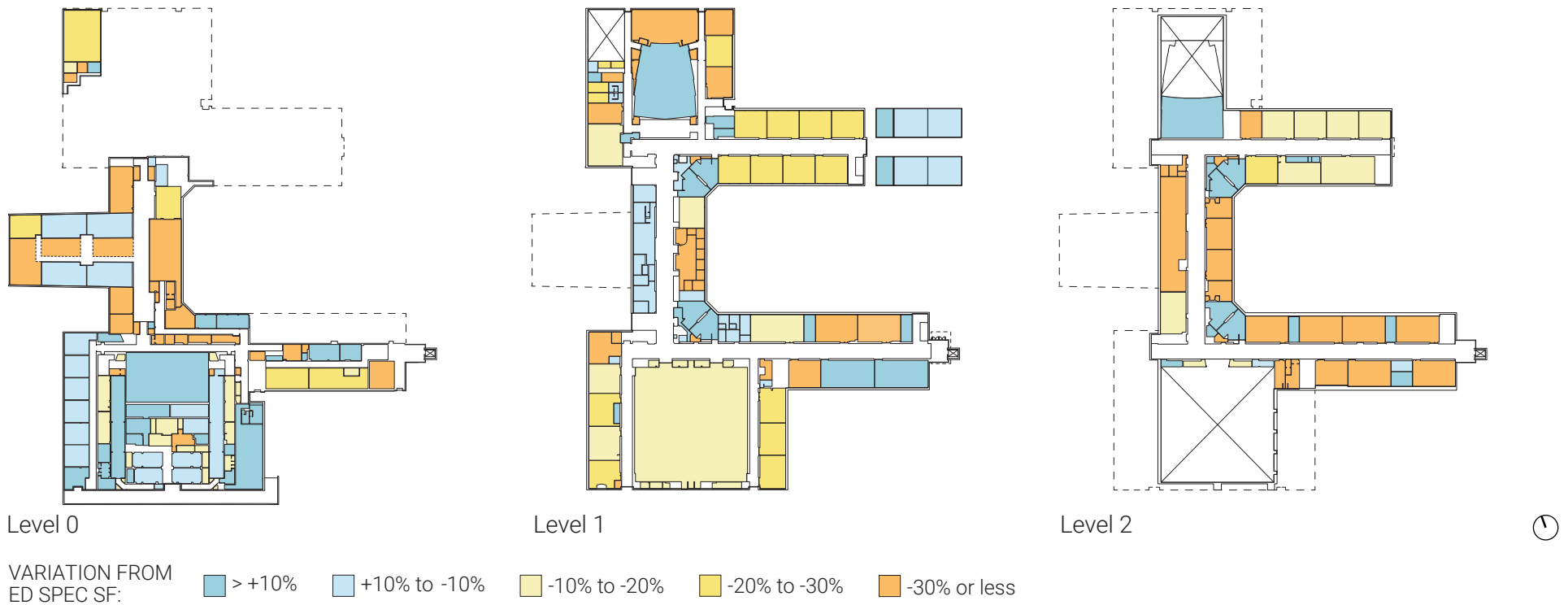
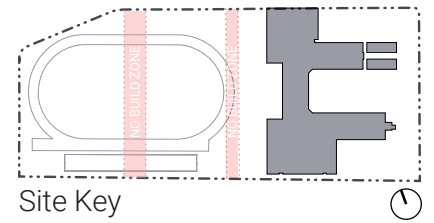
This option entails the construction of a new 5-story facility on the west side of the site, allowing students to remain in the existing facility during construction. The horizontal scheme provides a “loop” of instructional spaces on the north half of the facility. Performing arts is located to the west edge of the site along SW 18th Ave., with the auditorium to the southwest of the site to provide loading access. The gym and athletics facilities are located to the southeast of the facility to provide connectivity with the track and fields.

Full Replacement: Vertical

This option includes construction of a 9-story wing that consolidates instructional spaces to the northwest portion of the site along Salmon St. with education support spaces on the lower floors. Like in the Horizontal scheme, performing arts are located to the southwest (providing loading access for the auditorium) and athletics spaces are located in the southeast corner of the facility to promote access to the track and fields. Students can remain in the existing facility on the east side of the site while the new facility is constructed on the west side.

LINCOLN HIGH SCHOOL / EXISTING CONDITIONS

Existing Lincoln High School: **180,912 SF**
 Required 2017 Ed Spec: **281,370 SF**



Existing Facility

- Requires extensive HVAC & plumbing replacements and seismic strengthening.
- Many instructional spaces do not have access to natural light, including 11 Classrooms, the Gym and Weight Room.
- 34 of 44 Gen-Ed Classrooms are $\geq 10\%$ below PPS Ed Spec. Proposed program requires 10 additional Gen-Ed Classrooms.
- All 10 existing Science Labs are $\geq 10\%$ below PPS Ed Spec. Proposed program requires 3 additional Science Labs
- ADA Accessibility is challenging and inconvenient. Single elevator is remotely located. Not all lower level spaces are ADA accessible, including Weight Room, Band Room, Practice Rooms, and Stage.
- Theater Stage, Gym, Media Center, and Cafeteria do not meet current PPS Ed Spec.
- Several Ed Spec required program areas do not exist in the current building, including an Auxiliary Gym, Teacher Offices, Technology Access labs, Extended Learning Areas, Partner & Community Uses, and Wrap-Around Service Providers.

Health & Safety Findings

- Existing structural system does not meet code and requires strengthening to meet current seismic requirements
- Hollow tile interior walls have the potential for collapse during a seismic event
- Poor ADA accessibility
- No fire sprinkler system. Existing fire protection system does not meet NFPA 2013 standards
- Existing water piping system contains lead and copper in excess of acceptable levels and needs to be replaced
- Most HVAC equipment is past its useful life and needs to be replaced for improved air quality
- Data, telecommunications, and security systems are outdated and need to be replaced
- Emergency power system is corroded and does not meet code, creating a potential safety hazard
- Numerous locations of hazardous materials/asbestos that require removal

Other Findings

- Soft fill soils, require deep foundations for all options
- Virtually none of the current space configuration is in compliance with the educational specifications
- Interior walls, finishes and systems need to be replaced in their entirety
- The gymnasium and performing arts portions of the building cannot be renovated and need to be fully replaced
- Electrical system is outdated, undersized, and needs to be replaced

Main Building (1952)

- 2 stories + Basement (25' above grade)
- 176,412 SF
- 60 Classrooms

Modular Expansion (2016)

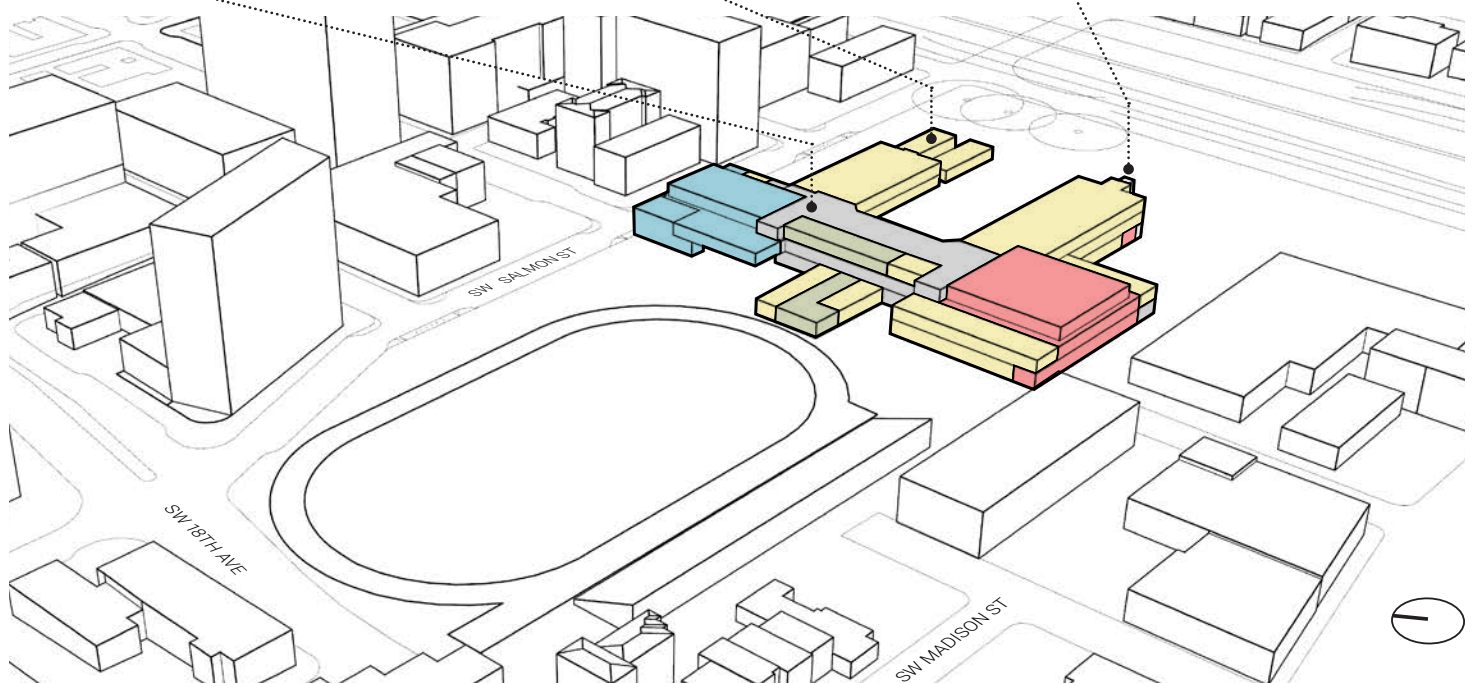
- 1 story (15' high)
- 4,500 SF
- 4 Classrooms

Elevator Addition (1998)

- 2 stories + basement (25' above grade)

Legend

- Administration & Support
- Commons & Media Center
- Instructional
- Athletics
- Performing Arts
- Core



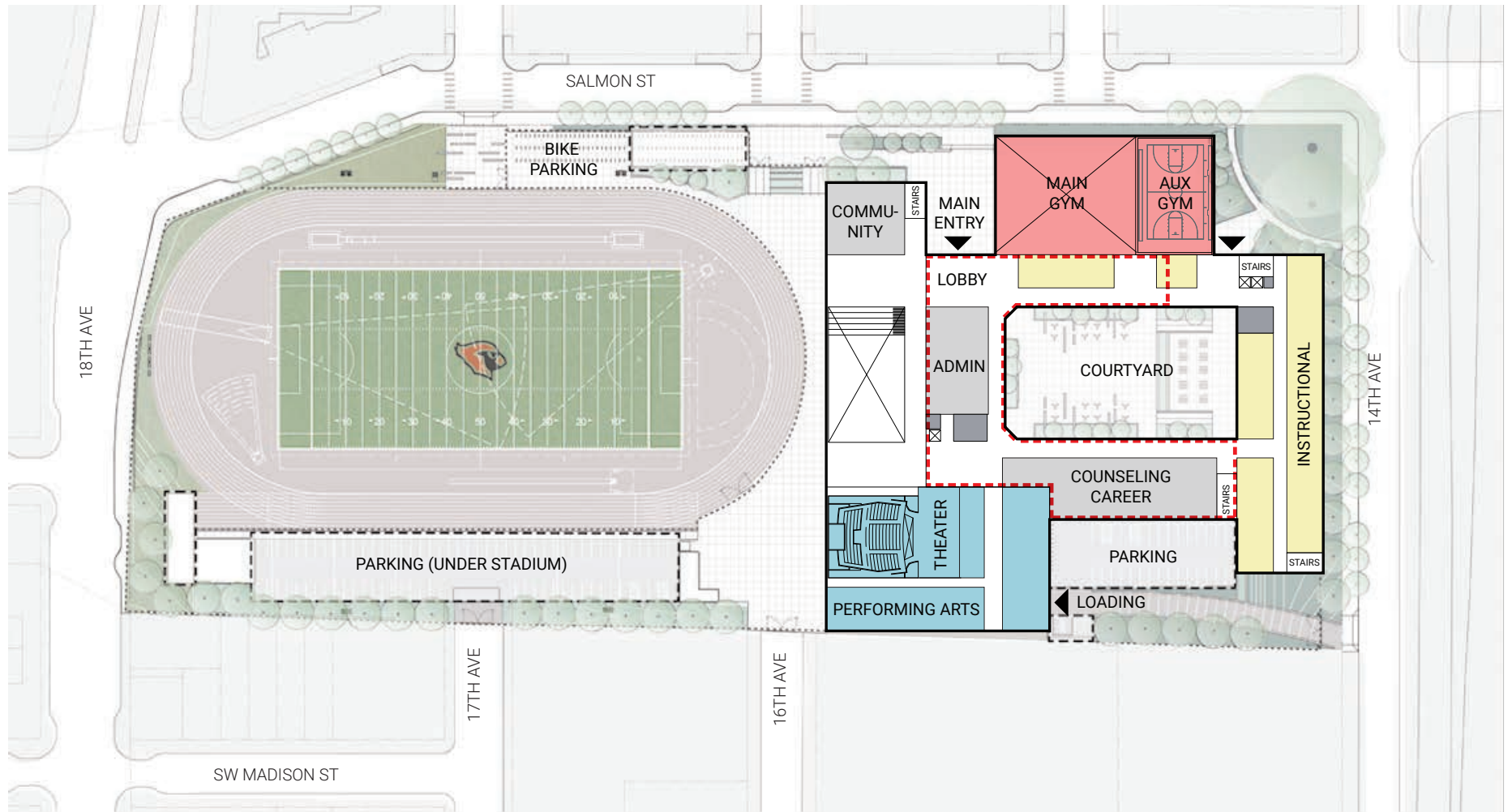
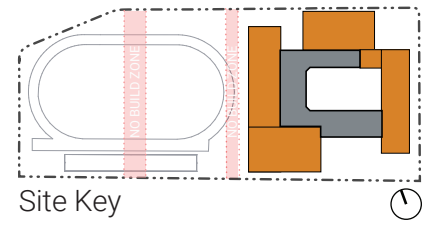
Massing Diagram

LINCOLN HIGH SCHOOL / RENOVATION + ADDITION

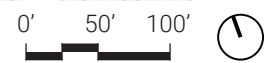
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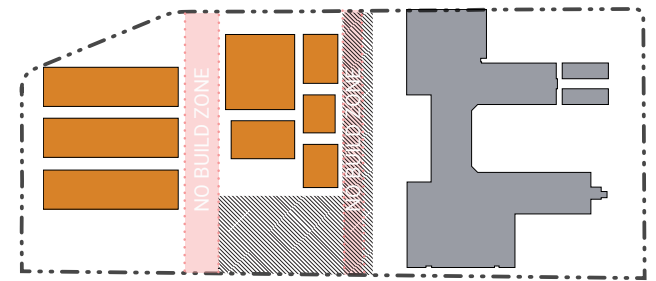


Site Plan + Ground Floor Level



Renovation & Addition: Wrapper

- The option is composed of 27% renovated space and 73% new addition.
- The renovated space is equal to 49% of the existing school (51% is demolished).
- Existing Gym and Performing Arts demolished due to structural and site constraints.
- Renovated portion requires extensive roof & HVAC systems replacement and seismic upgrades.
- Renovated area requires full gut and replacement of interior walls to meet Ed Spec standards.
- Program meets current PPS Ed Spec
- All Floors ADA Accessible
- Requires temporary high school swing facility to be constructed on-site during construction.



Swing Site Plan

Field and Stadium

- Parking under seating (72 spaces)

Classroom & Commons

- 2 stories + Basement (30' high)
- Gen Ed Classrooms, Athletics, Commons & Community Partners

Athletics

- 2 stories (45' high)
- Main & Auxiliary Gyms

Renovated Building

- Admin & support
- Media Center
- Small Instruction Spaces

Performing Arts Wing

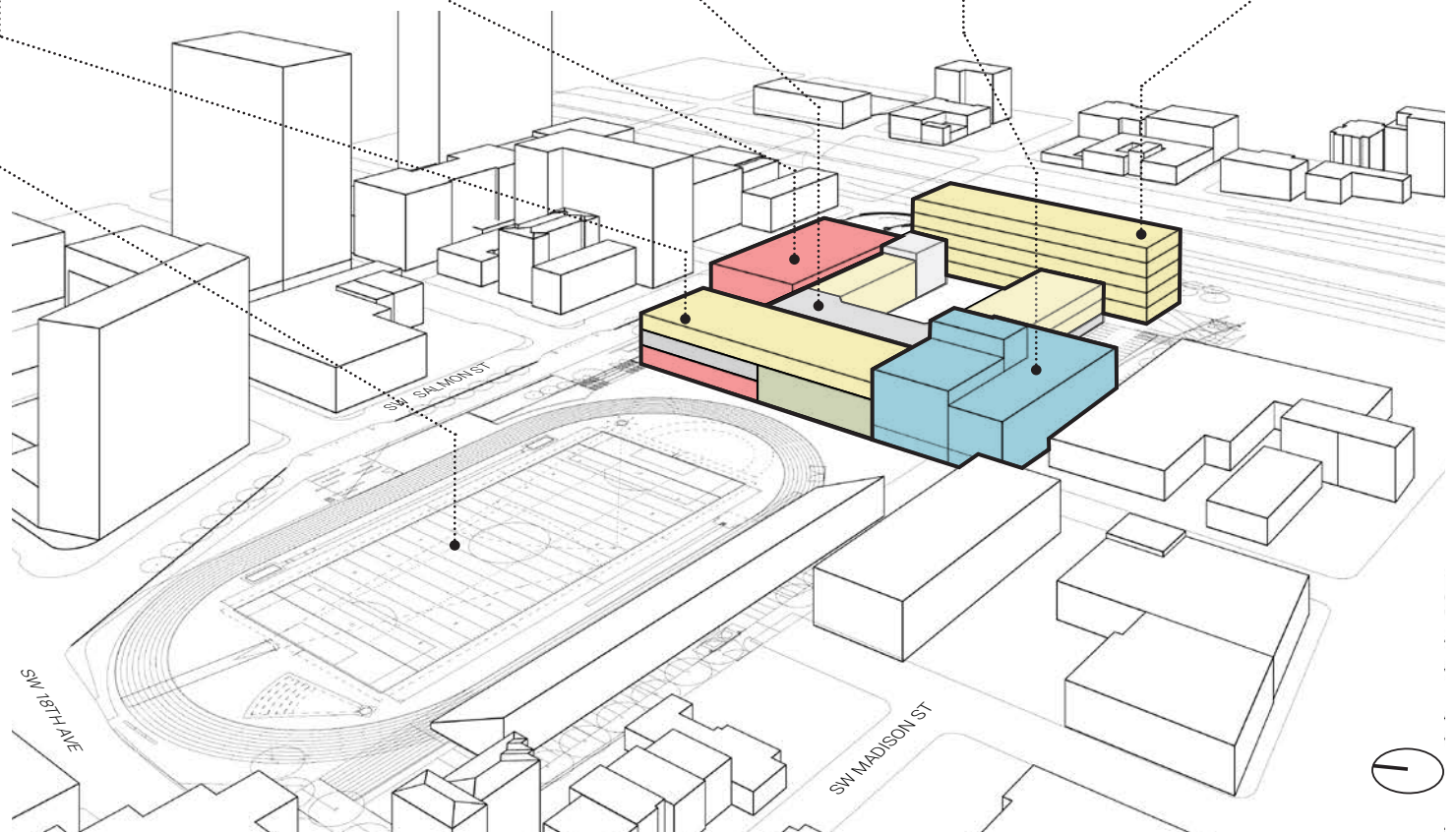
- 1 story + theater balcony (45' high)
- Loading access from parking lot (28 spaces)

Classroom Wing

- 5 stories (75' high)
- Gen Ed Classrooms & Science Labs

Legend

- Administration & Support
- Commons & Media Center
- Instructional
- Athletics
- Performing Arts
- Core
- Renovated Area



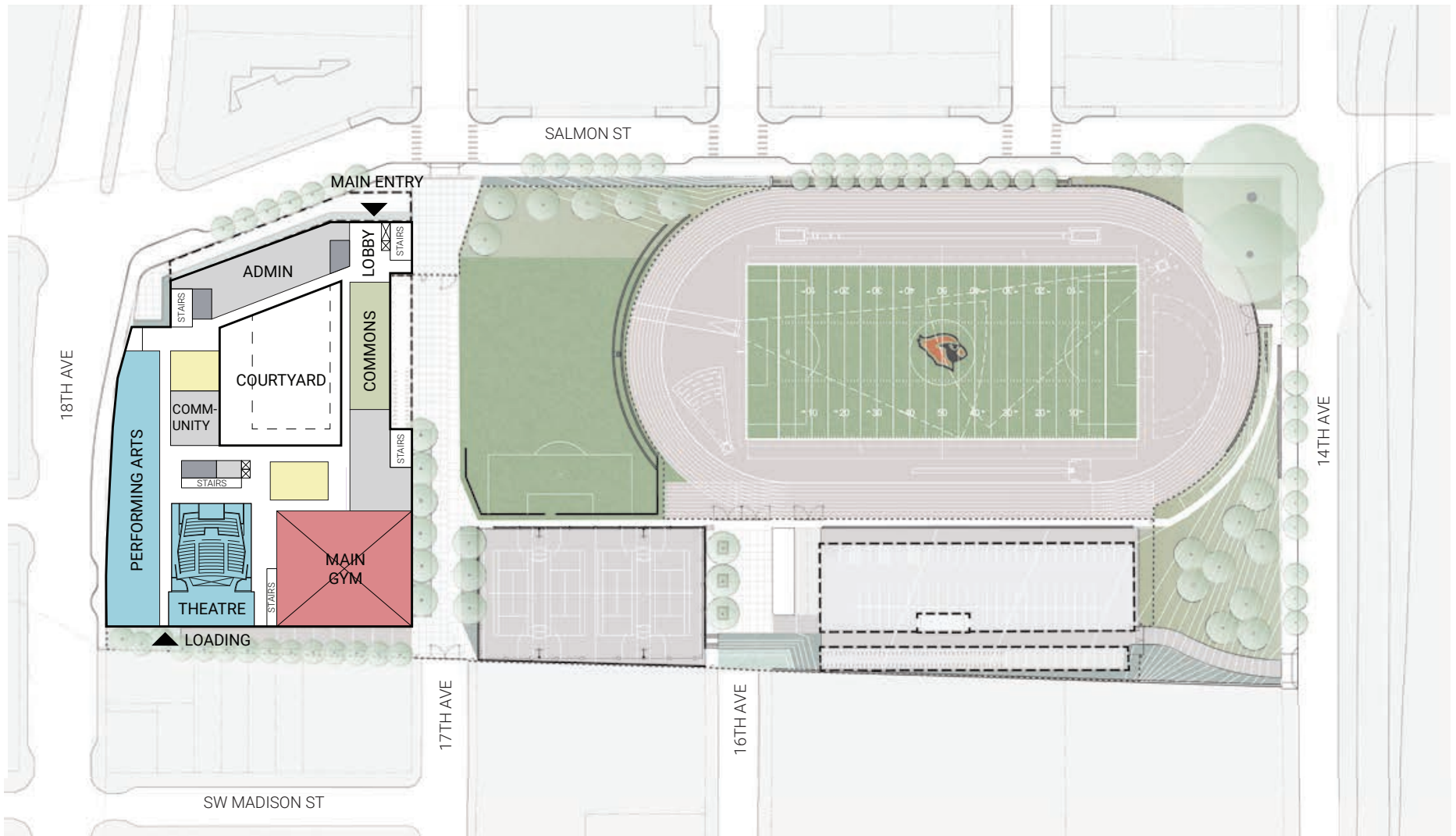
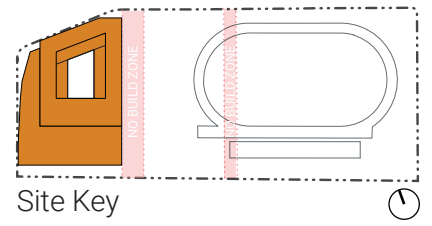
Massing Diagram

LINCOLN HIGH SCHOOL / FULL REPLACEMENT: HORIZONTAL

Construction Cost: **\$124,503,000**

Project Cost*: **\$186,829,722**

* Project cost based on recommended construction schedule. Final project cost will be based on Board of Education-approved construction schedule.



Full Replacement: Horizontal

- Program meets current PPS Ed Spec
- All Floors ADA Accessible
- On West parcel of site
- Separation of Bus Drop-off and Parking
- Main entry on SW Salmon Street
- Performing Arts and Athletics share loading on south edge of property
- Central courtyard

Instructional Wing

- 5 stories (75' high)
- Gen Ed Classrooms & Science Labs

Performing Arts

- 2 stories (30' high) at street level

Athletics

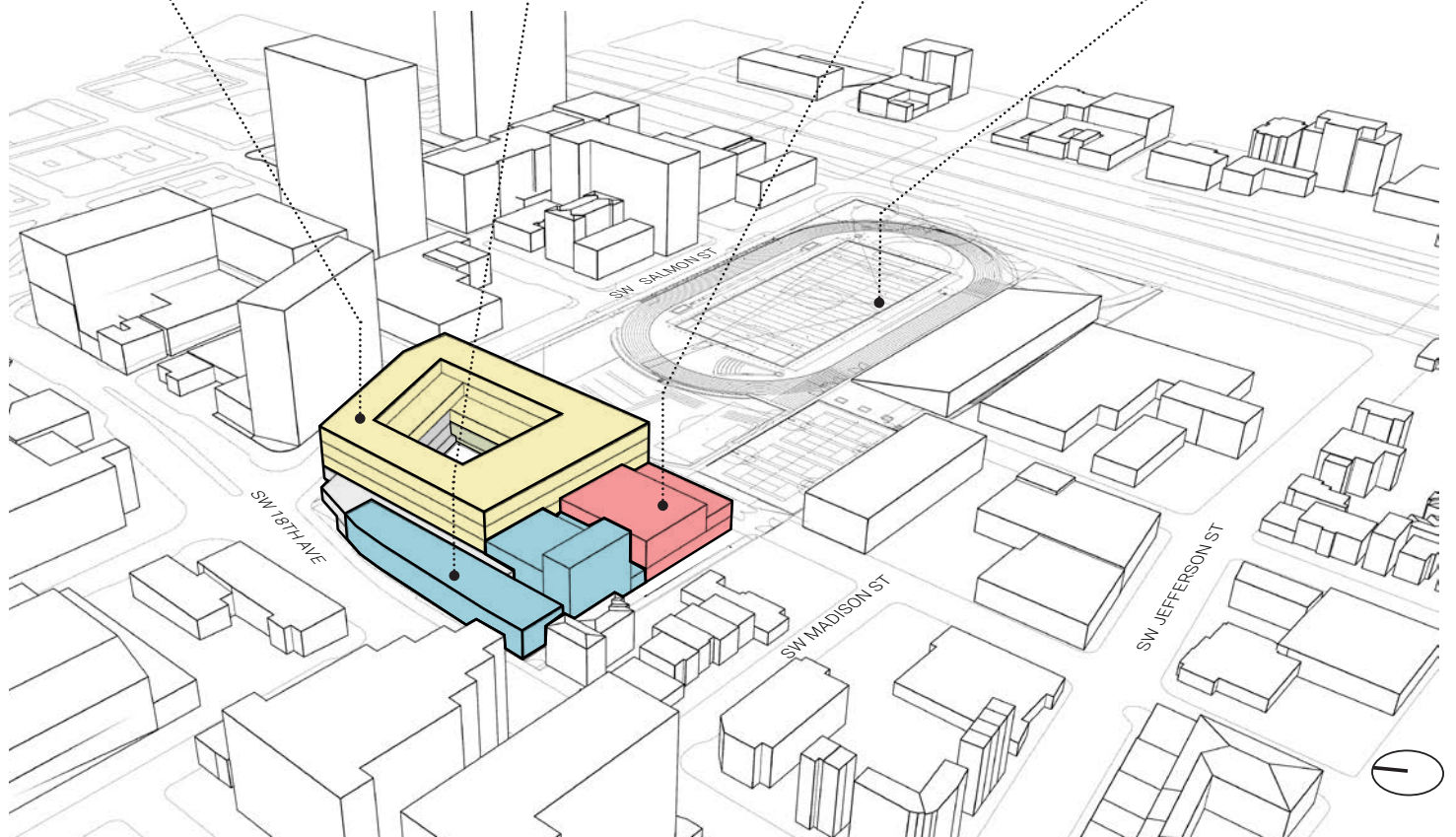
- 3 stories (45' high)
- Adjacent to field
- Aux Gym on top of Main Gym

Field and Stadium

- Parking under seating (100 spaces)

Legend

- Administration & Support
- Commons & Media Center
- Instructional
- Athletics
- Performing Arts
- Core

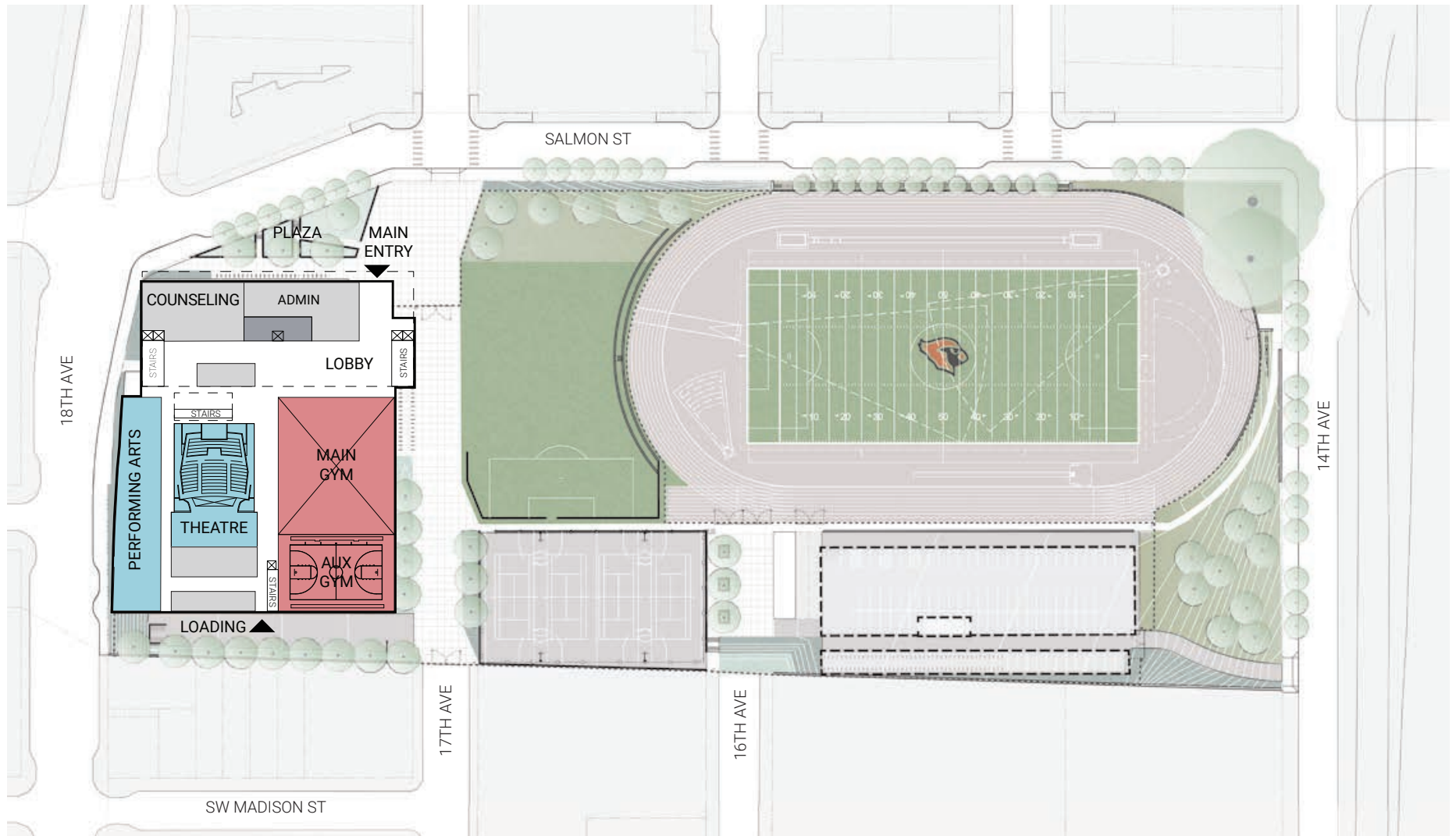
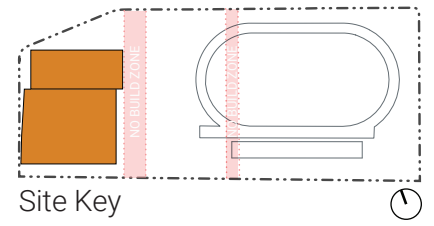


LINCOLN HIGH SCHOOL / FULL REPLACEMENT: VERTICAL

Construction Cost: \$124,503,000

Project Cost*: \$186,829,722

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Site Plan + Ground Floor Level



Full Replacement: Vertical

- Program meets current PPS Ed Spec
- All Floors ADA Accessible
- On west parcel of site
- Separation of Bus Drop-off and Parking
- Main entry on SW Salmon Street
- Performing Arts and Athletics share loading on South edge of property
- Large Plaza on SW Salmon Street

Instructional Wing

- 9 stories (135' high)
- Gen Ed Classrooms & Science Labs
- Commons & Media Center

Performing Arts

- 2 stories (30' high) at street level

Athletics

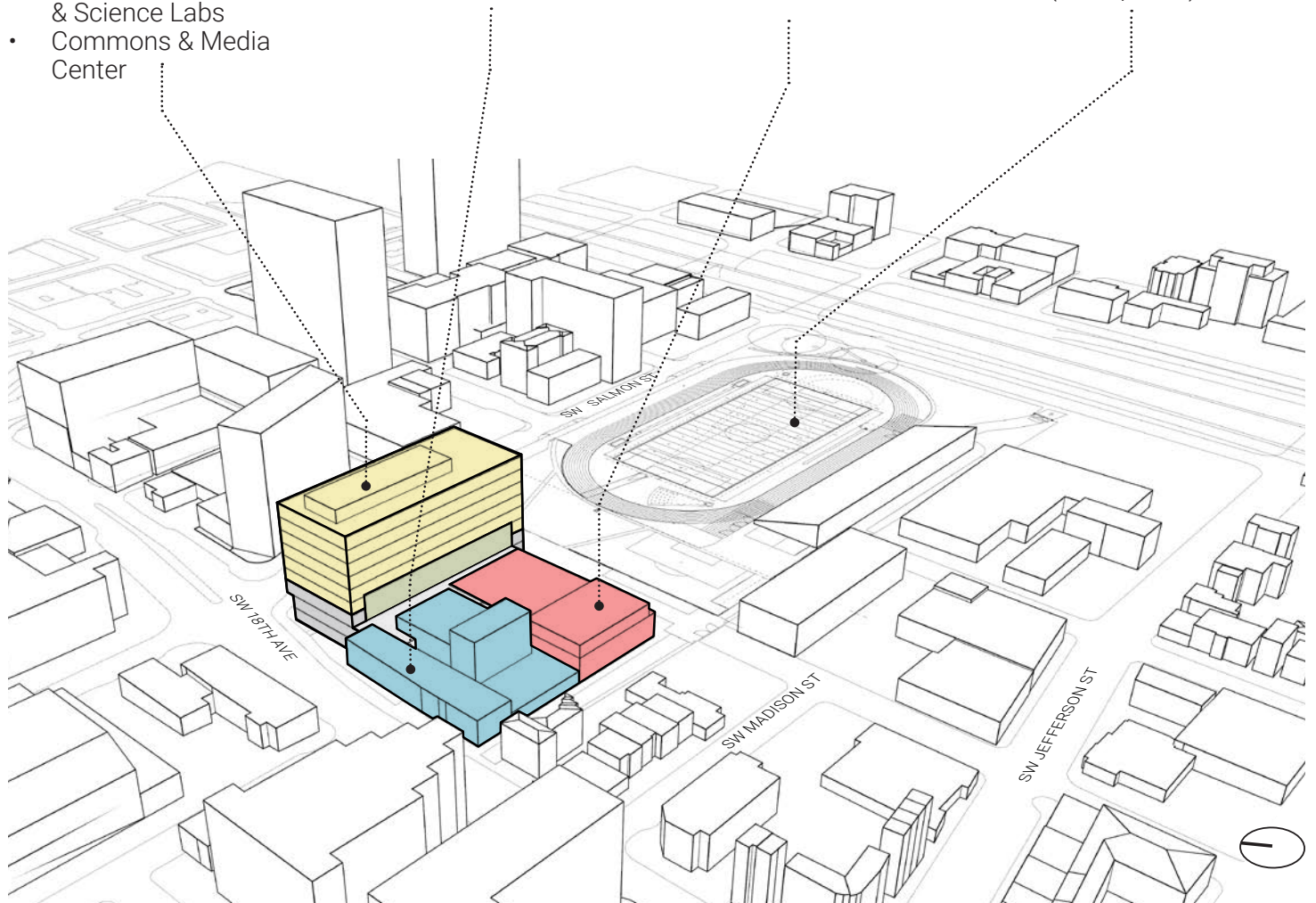
- 3 stories (45' high)
- Adjacent to field

Field and Stadium

- Parking under seating (100 spaces)

Legend

- Administration & Support
- Commons & Media Center
- Instructional
- Athletics
- Performing Arts
- Core



Massing Diagram