

# Executive Summary

March 10, 2017

## Project Overview

	Construction Cost	Project Cost
Renovation and Addition:	\$38.3 Million	\$56.3 Million*
Full Replacement:	\$32 Million	\$45 Million*

The costs provided have been supplied by PPS.

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

**Student Design Capacity**  
675

Total Building area of 105,112 SF plus 4,000 SF was the final decision by the Portland Public School Board

**Building Area**

105,112 SF (excluding 4,000 SF covered play)

## Project Intent

The purpose of this report is to document the building and site development options for middle school (grade 6-8) operations at the Kellogg School site on SE Powell Blvd. Oh planning+design, architecture (OHP+D) has collaborated with Portland Public Schools (PPS) and a team of professional consultants to develop two pre-design options [Renovation and Addition & Full Replacement] for budgetary and scheduling components as identified by PPS. Both pre-design options will meet the District's priorities to address Health and Safety (H&S) issues at these existing building facilities and improve the learning environment for this new middle school.

Kellogg Middle School has not been used as a school facility by PPS since 2007. During this time, the District has performed limited maintenance on the grounds which were maintained for neighborhood use. In 2015, OHP+D was responsible for assessing the site and documenting deficiencies to determine the condition and requirements for rehabilitating the existing site back to a basic functioning condition.

### Key Challenges

The major deficiencies of the existing school site and building as discovered in the 2015 Kellogg Middle School - Assessment Report (July 31, 2015) and this due diligence phase include:

- Extensive seismic strengthening required for existing main building deficiencies: unreinforced masonry walls, hollow clay tile walls, roof-wall diaphragm connections, and unbraced parapets
- Extensive Health and Safety upgrades to existing mechanical, plumbing, and fire suppression systems and interior finish deficiencies: water quality, air quality, asbestos containing materials, lead-based paint, mold and moisture damage, fire/life safety alarms and sprinklers, ADA accessibility, building envelope insulation (thermal comfort)
- Size of classrooms, gymnasium, media center, cafeteria, and kitchen do not meet current Educational Specifications
- Educational Specifications adjacency requirements are not met for the cafeteria and extended learning spaces
- Site constraints: 6.18 acre site with rigid edges must meet bus, vehicle, and pedestrian access requirements, requires a more vertical design solution where possible, playfields are below typical PPS standards

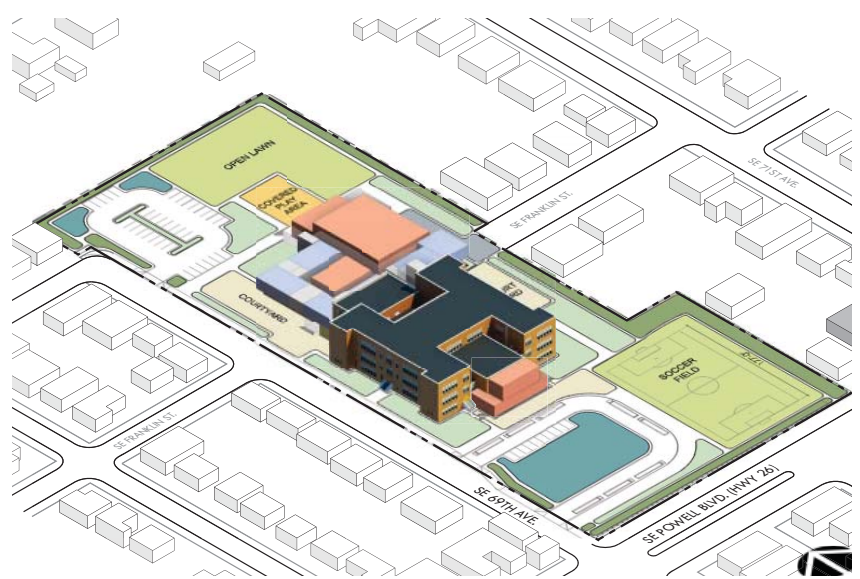
### Process

The Kellogg Middle School team met with PPS representatives from the Office of School Modernization and the Office of Teaching and Learning to establish project goals. During this due diligence process, progress meetings were held every other week to coordinate the final deliverable with other PPS due diligence projects that are developing concurrently. As the pre-design options were developed, information was provided to PPS's cost consultant to determine budgetary impacts. This process has resulted in a report which documents a path forward for two feasible developments on the site for a PPS middle school.

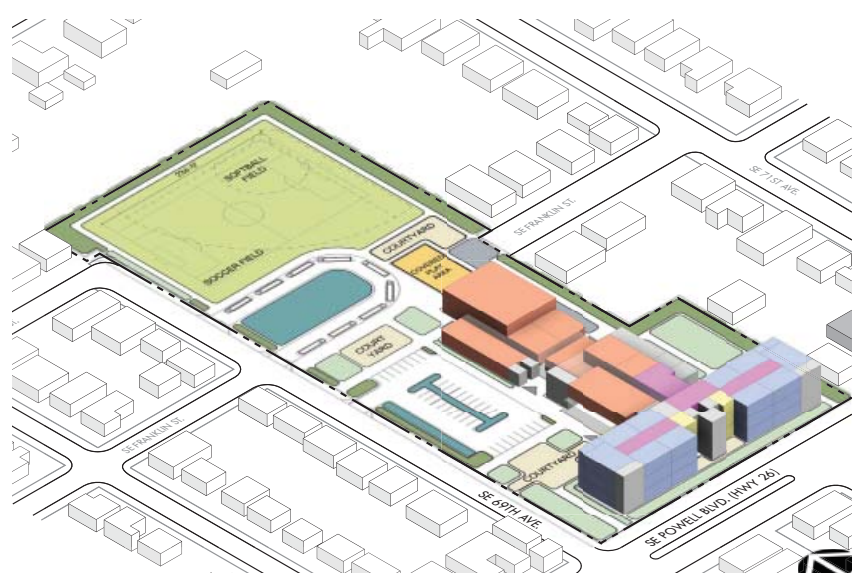
On January 24th, 2017, the Portland Public School Board voted and confirmed that the square footage of the Full Replacement and Renovation and Addition was to be 109,112 SF (105,112 SF Building and 4,000 SF Covered Play). Refer to Appendix section 6.5 for the information presented at the meeting.

### Due Diligence

The 2015 Assessment Report document was utilized as a basis of understanding the overall condition of the existing building and systems. After review of this document, site visits were conducted on November 22, 2016 and followed-up by consultant site investigations. Although the school boundaries are currently pending by the PPS District wide Boundary Review Advisory Committee (DBRAC) which will define which Elementary Schools will feed into the new middle school, the design team received existing building documentation, district design standards, and Middle School Educational Specifications from PPS. Meetings were conducted with PPS project management, Office of Teaching



Renovation and Addition



Full Replacement

# Architectural Design/Geotechnical Engineering/Civil/ Landscape Architecture/Structural Summary

& Learning (OTL), and Office of School Modernization (OSM).

In both options all stormwater, parking, and landscape must be improved to meet current City of Portland development standards.

## Architectural Design

The goal for both the Renovation and Addition and the Full Replacement options is to meet all current building codes, provide water tightness, ensure health and life safety, confirm accessibility to all users under the Americans with Disabilities Act, and respect, consider, and promote the local neighborhood, its residents, and the existing context in SE Portland. Both options will meet PPS's design and educational specifications standards within a functional, safe, and sustainable middle school and grounds.

### Renovation and Addition

The Renovation and Addition option includes 61% renovation and 39% new construction to facilitate the District's health, safety and design standards while incorporating the programmatic and educational goals for new middle schools in the District. The existing 1917 school will be rehabilitated to a minimum LEED (Leadership in Energy and Environmental Design) Silver level of certification, receive seismic strengthening to meet current building code, and meet the programmatic and education goals of the District. The existing 1987 addition and 1952 annex will be demolished. A new addition will be designed to a minimum LEED Silver level of certification and mitigate building programming deficiencies.

### Full Replacement

The Full Replacement option (100% new construction) includes the removal of all the existing buildings and construction of a new school facility. This middle school will be designed to minimum LEED Gold level of certification, the programmatic and educational goals of the District, and current building code and seismic requirements.

## Geotechnical Engineering

A geotechnical report has been provided as a separate document to PPS. Information relevant to this report has been summarized where necessary.

## Civil

In both options, all site work, stormwater and sewer systems, parking configurations, and landscaping must be improved to meet current City of Portland development standards. A preliminary analysis of the existing site development and utility systems has been evaluated for elements such as the asphalt paving, water supply, sanitary sewer, and storm drainage. Conceptual design assumptions have been tabulated for new development of each of these systems. In both options, the design assumptions for the civil site work are the same regardless of whether the Renovation and Addition or Full Replacement options are selected.

## Landscape Architecture

The parking lot and bus loop are separated for both options which will aid in the safety of the students. Wayfinding for both the Renovation and Addition and Full Replacement options is safe and efficient. Various outdoor uses are well connected and the wayfinding between parking lots and bus loops to the entryways is direct and safe for both options.

The sports fields and communal outdoor courtyards in the current Renovation and Addition site layout are more segmented with a non-regulation size soccer field to the south requiring a fence along SE Powell Blvd. For this site configuration, there is not adequate room for a regulation softball field.

The current Full Replacement site layout has larger sports fields including a regulation soccer and softball field. For both options the covered play area is intended to have basketball and volleyball amenities.

Planting areas for both options is very similar. High vegetative screens are provided along the property lines while low vegetative screens are provided between streets and parking lots. As many trees as possible will be saved for both options. However the replacement option will cause more trees to be removed than the Renovation and Addition option.

Ample area is designated for on-site stormwater treatment in areas directly adjacent to the parking lot and bus loop for both options. Stormwater planters will be planted per the City of Portland's requirements.

## Structural

The renovation and addition option will be based on retaining and retrofitting the original 1917 portion of the building while replacing the 1987 addition and annex with new building components. The buildings will be seismically separated with the retrofitted section of the building being designed to the ASCE 41-13 Basic Building Performance Objective for Risk Category III structures and the new addition being designed to an Immediate Occupancy performance level by designing it for risk category IV forces in ASCE 7-10.

The Full Replacement option will be designed to current code (OSSC 2014/IBC 2012/ASCE 7-10) for risk category III buildings. To service the community as an emergency refuge the gym portion of the building will be seismically separated and designed for a target of Immediate Occupancy Performance by designing to a risk category IV force level which means it will have additional capacity in the lateral system. This will limit the damage in larger earthquakes and improving the chance that the building is operational after smaller events. The Full Replacement building is expected to be a structural steel brace frame building with a typical non-bearing stud wall exterior facade. The foundations will be typical spread and strip footings. To achieve the higher performance for the gym the lateral system and associated foundations will be 20-30% larger than the rest



# Mechanical/Plumbing/ Electrical Summary

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of the building.

## Mechanical

All existing mechanical ventilation systems must be replaced for the Renovation and Addition and the Full Replacement option. Various mechanical systems have been investigated for use in both building schemes. Descriptions and diagrams for each of these may be found in Chapter 6 [Appendix], but for the purpose of pricing and further development during the pre-design phase this document will focus on Displacement Ventilation with Perimeter Finned Tube as the basis of design.

The mechanical scope for both options will include all new systems. Both conceptual designs are intended to provide a facility that meets current District standards, as well as the latest adopted editions of applicable codes, including but not limited to:

- Oregon Mechanical Specialty Code
- Oregon Energy Efficiency Specialty Code
- Oregon Elevator Specialty Code

## Plumbing/Fire Suppression

Due to the age and condition of the existing plumbing fixtures and associated piping, all of the existing plumbing must be replaced for both options. This recommendation of replacing the existing plumbing includes the underground building and site piping.

Due to the age, size, and type of material of the combined 3" domestic/fire suppression service to the building, the 3" water service should be divided into two separate water services

Because the building is only provided with sporadic sprinkler protection and fire hose cabinets, the building fire suppression system will be replaced with a fully automatic sprinkler system in accordance with NFPA 13. When the automatic sprinkler system is installed the fire hose cabinets will no longer be required.

The plumbing scope work for both options will include all new systems. Both conceptual designs are intended to provide a facility that meets current District standards, as well as the latest adopted editions of applicable codes, including but not limited to:

- Oregon Plumbing Specialty Code
- Oregon Energy Efficiency Specialty Code
- Oregon Elevator Specialty Code
- NFPA Codes

## Electrical

The existing electrical distribution system, which was last replaced in 1979, is nearing the end of its useful life and must be replaced. The existing building lighting, consisting of luminaires using outdated (fluorescent) lamping and missing or damaged



Existing Main Building Parapet Coping and Windows



Existing Roof and Rooftop Mechanical System



Existing Skylight and Building Systems

# Fire Alarm/Hazardous Materials/LEED/ Food Services/Cost Consultant Summary

lensing, must be replaced. The telecommunications distribution in the building is outdated and must be replaced.

The electrical work for both options will include all new systems. Both conceptual designs are intended to provide a facility that meets current District standards, as well as the latest adopted editions of applicable codes, including but not limited to:

- Oregon Electrical Specialty Code
- Oregon Energy Efficiency Specialty Code
- Oregon Elevator Specialty Code

## Fire Alarm

The existing fire alarm system condition was surveyed and was found to be obsolete. The fire alarm must be replaced in both options. The new system would be installed to meet District standards, as well as the relevant section of the latest adopted editions of applicable codes. The system would consist of a fire alarm control unit connected to addressable alarm initiating devices located throughout the school in all areas except classrooms and single person offices. Fire alarm speakers would be provided throughout for voice alarm communication and fire alarm strobes would be installed in common use and public areas per ADA requirements for visual alarm notification.

## Hazardous Materials

An environmental inspection of the existing 1917 building has been performed to document the following existing conditions:

- **Asbestos:** All asbestos containing materials must be removed if impacted by renovation or prior to demolition of the structures. Asbestos has been identified in vinyl floor tile and mastic, linoleum flooring, pipe insulation, science countertop, fire doors, window caulking and duct seam tape. Suspect materials include roofing and kitchen cooler insulation. The majority of the asbestos containing materials were in good condition with the exception of various areas of floor tile that had sustained water damage.
- **Lead based paint:** All paint should be considered lead containing. Extensive water damage has been sustained causing peeling paint in various locations. Dust wipe analysis results showed lead dust levels exceeding the EPA Renovation Repair and Painting regulatory limit of 40 micrograms per square foot. This testing was a screening and additional testing is recommended should renovation occur. Depending on the future use of the facility, cleaning to the EPA regulatory level may not be required (ie. no children under 6 present).
- **Mold and Moisture:** Extensive moisture incursion has been experienced and should renovation occur would require removal of walls and floors that have sustained major damage. The water infiltration has affected many interior and exterior walls, vents and floors. Visible signs of water damage and mold growth is evident. Results of airborne mold testing showed elevated levels within the building and species that would indicate a continual water infiltration.

It could not be determined at this time the extent of mold contamination that may exist in the HVAC system of the

building. Further testing is recommended to completely identify the extent of contamination, remediation process and reuse of existing equipment.

- **Radon:** Testing is underway and results are pending.
- **Polychlorinated Biphenyls (PCBs) & Mercury Light Tubes:** Mercury vapor tubes were identified in various locations of the buildings and ballasts that contain polychlorinated biphenyls (PCBs). Fluorescent tubes located in each fixture may contain low levels of mercury. These tubes must be carefully removed to reduce the risk of breakage and packaged for proper disposal and the ballasts incinerated or disposed of appropriately.

## LEED/Sustainable Design

Portland Public Schools is recognized nationally and internationally for its commitment to sustainability, both within the classroom and operations. The Kellogg Middle School project offers an excellent opportunity to showcase this commitment in a prominent location along SE Powell Boulevard. The choice between Renovation and Addition or Full Replacement offers in and of itself an interesting sustainability quandary. On the one hand, the Renovation and Addition could tell the story of reuse and take advantage of the embodied energy in the existing construction while meeting new technologies. On the other hand, the Full Replacement option provides a clean slate; allowing for emphasis on orientation, massing and building envelope with efficient technologies.

Regardless of which path is selected, the team is placing the utmost importance on a healthy, durable learning space that utilizes resources efficiently including energy and water.

The team aspires to earn the following LEED certifications per PPS design standards:

- Renovation and Addition: LEED SILVER
- Full Replacement: LEED GOLD

## Food Services

The Kitchen will be a complete replacement for either the Renovation and Addition or the Full Replacement option. The new kitchen will support a breakfast and lunch program (served in three lunch periods) for the Kellogg Middle School maximum population of 675 students. The Kitchen will function as a self-supporting operation and have storage for all deliveries to support the production schedule.

The kitchen location in the Renovation and Addition option results in challenges to the renovation of the existing building and installation of equipment and associated mechanical systems. Also, the site layout for deliveries and waste management does not allow for direct access to kitchen service spaces.

The Full Replacement option allows for maximum design flexibility for kitchen, servery and cafeteria location and the installation of equipment and mechanical system within a new building. Accommodations can also be made for more efficient energy operation and site delivery and waste management configuration.



# Existing Conditions Summary

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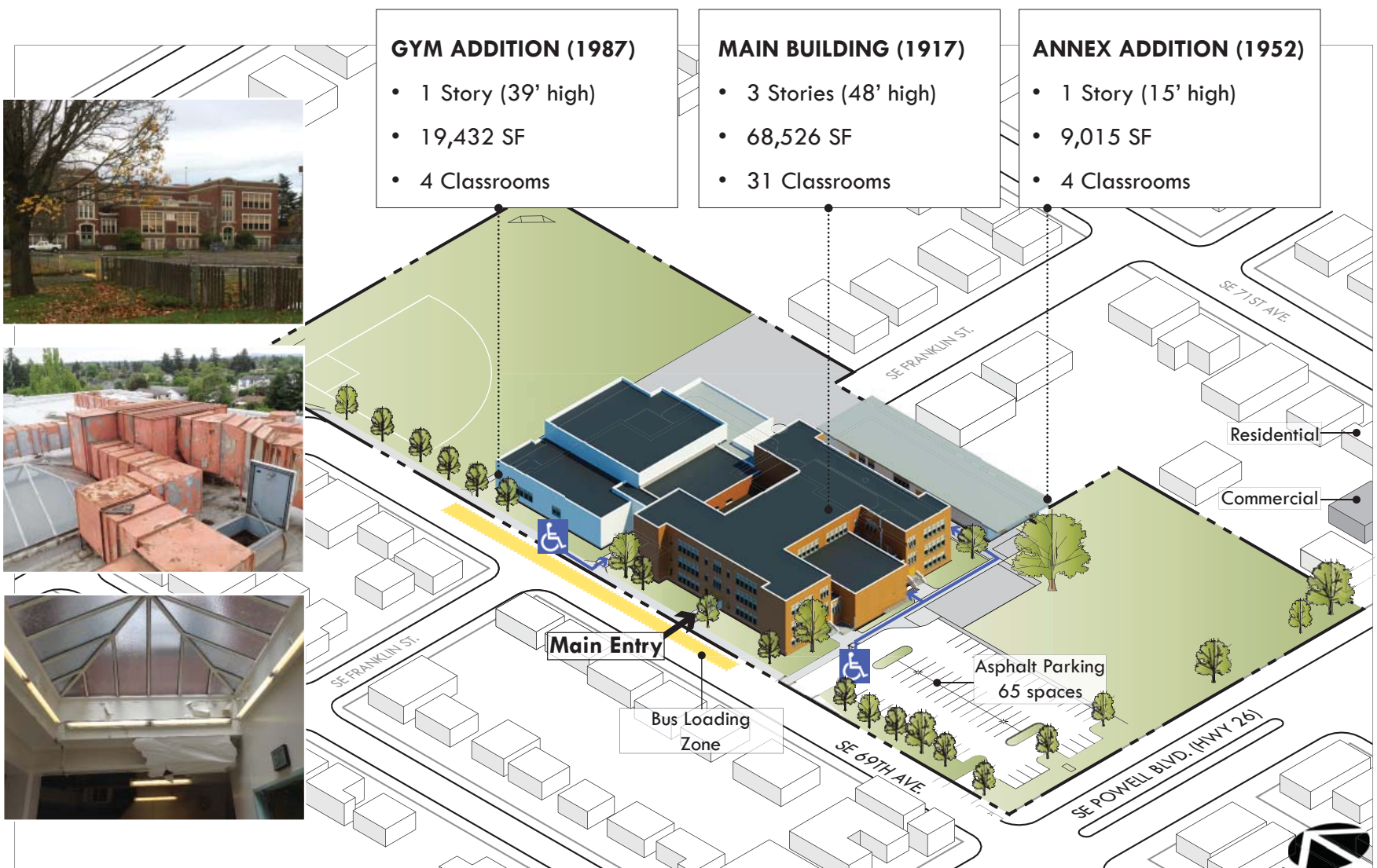
**EXISTING Kellogg Middle School SF = 96,973 SF**

**REQUIRED SF per 2015 PPS Middle School ED SPEC = 105,112 SF\***

\*105,112 includes educational specifications preferred programming increases but does not include educational specifications required 4,000 SF of site covered play, this total square footage was the final decision by the Portland Public School Board



- 2nd and 3rd Floors are not ADA Accessible
- Existing Health and Safety Issues [Asbestos, Lead Based Paint, Mold & Moisture, PCB's and Mercury Light Tubes]
- Requires Extensive Roof and HVAC & Plumbing Systems Replacement and Seismic Strengthening
- 26 of 39 Classrooms Do Not Meet Current PPS Ed Spec
- Gymnasium and Cafeteria Do Not Meet Current PPS Ed Spec
- See 2015 Assessment Report for Further Information

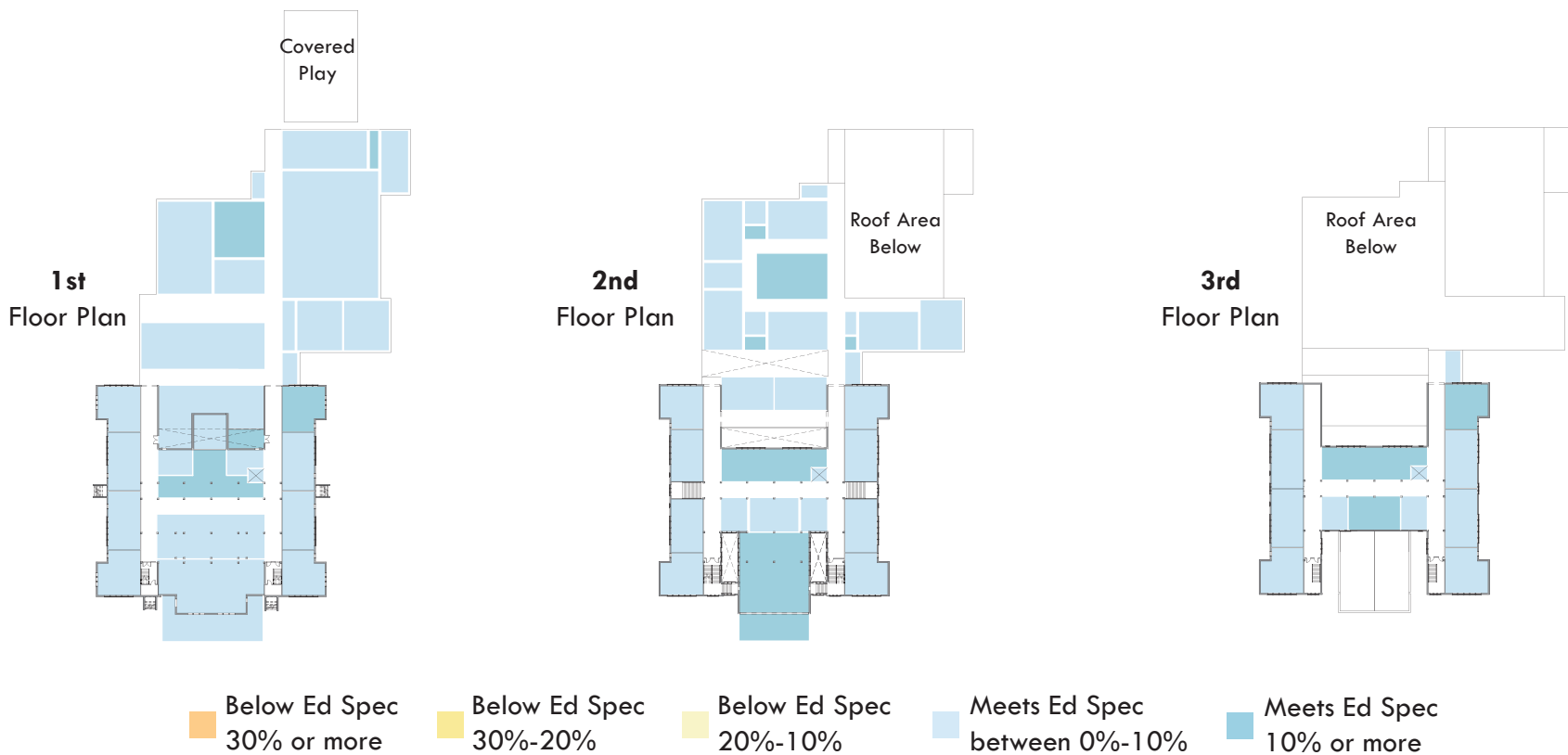


# Renovation and Addition Summary

**RENOVATION and ADDITION Middle School SF = 105,112 SF\***

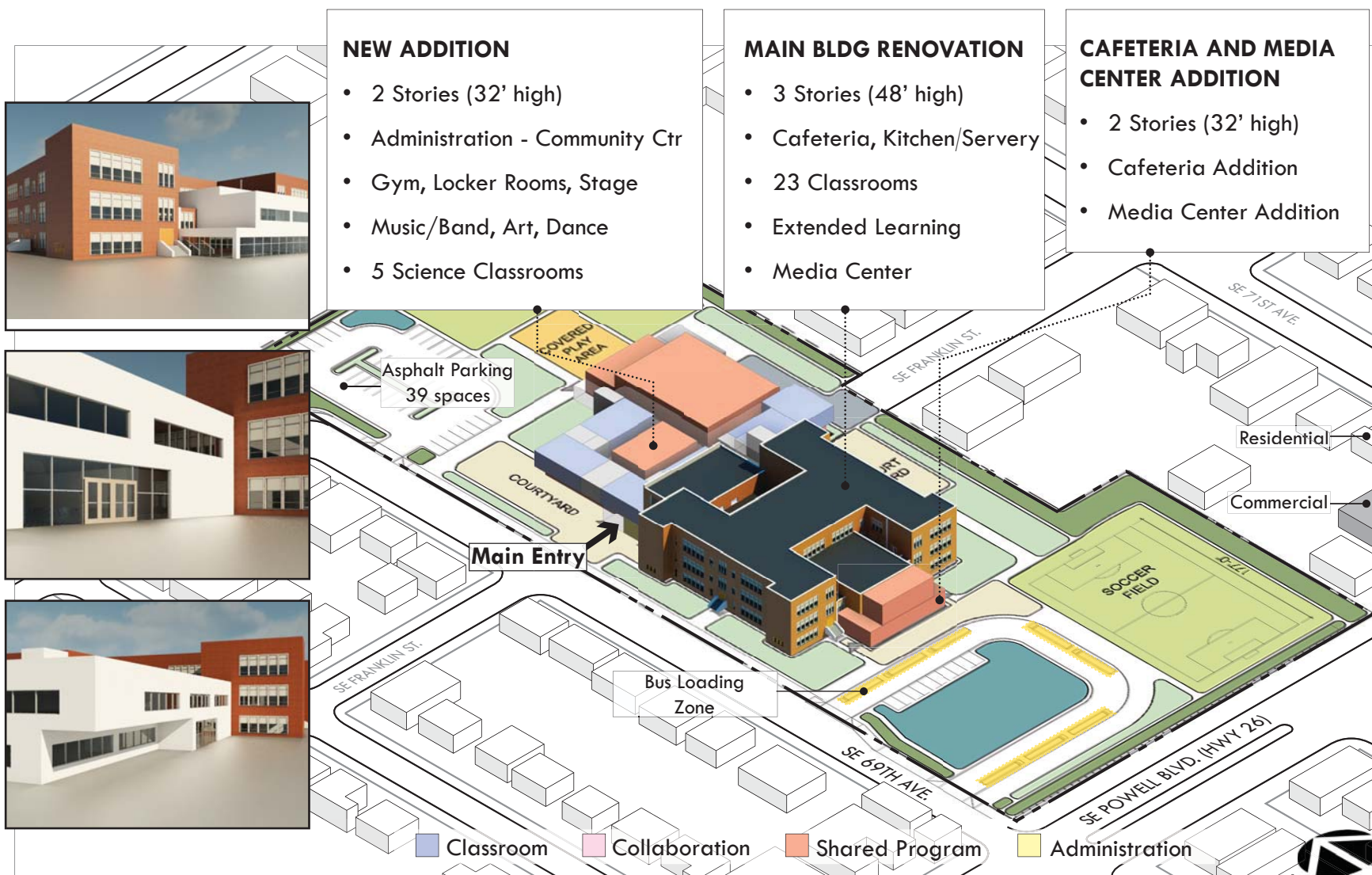
**REQUIRED SF per 2015 PPS Middle School ED SPEC = 105,112 SF\***

\*105,112 includes educational specifications preferred programming increases but does not include educational specifications required 4,000 SF of site covered play, this total square footage was the final decision by the Portland Public School Board



- 61% Renovation
- 39% New Construction (Addition)
- Building Design Remediate PPS Health and Safety Issues
- All Floors ADA Accessible

- New Roof, HVAC & Plumbing Systems, Seismic Strengthening
- All Program Meets Current PPS Ed Spec
- Secure Access to All Zones
- Separation of Bus Drop-off and Parking



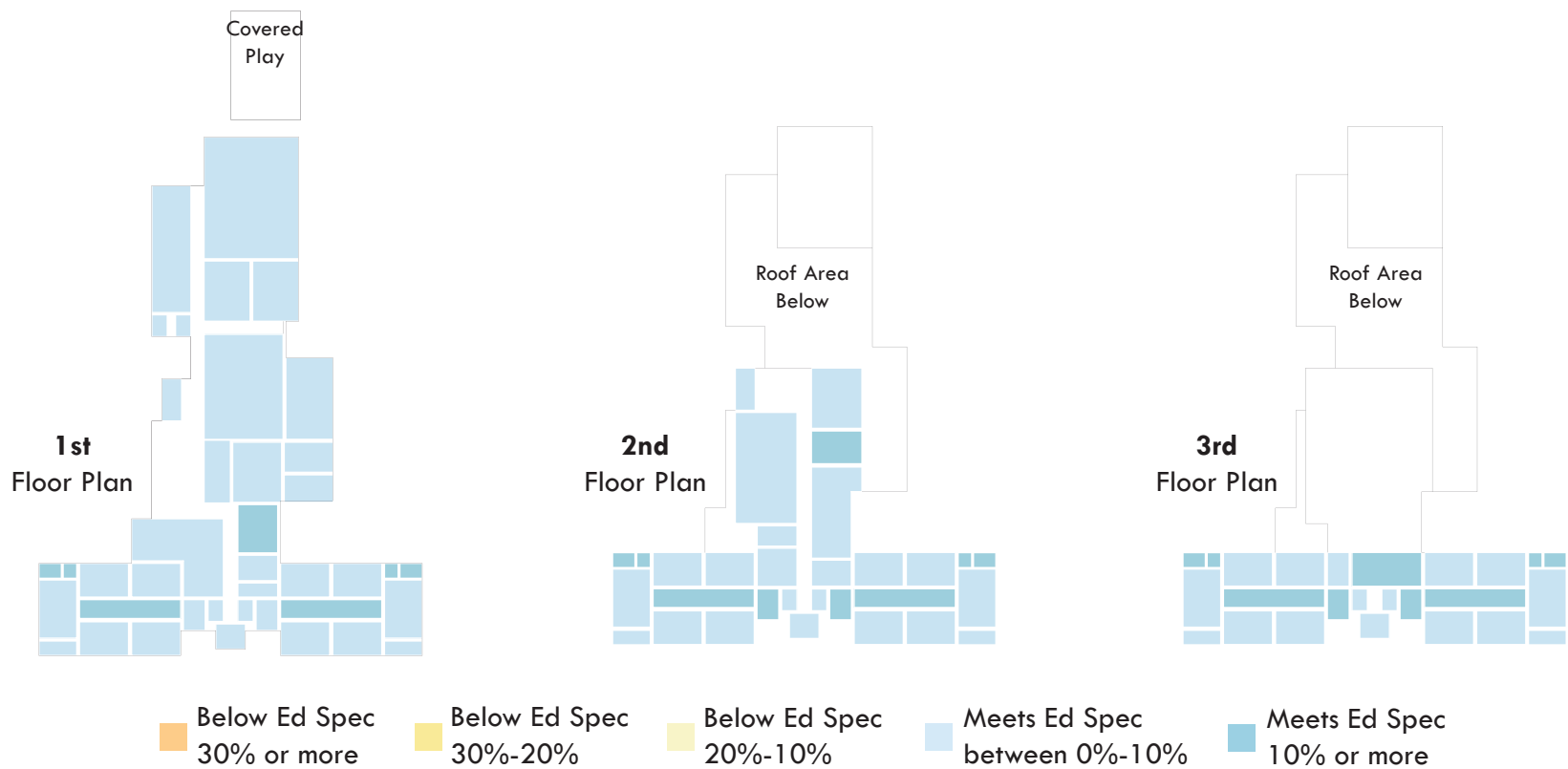
# Full Replacement Summary

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**FULL REPLACEMENT Middle School SF = 105,112 SF\***

**REQUIRED SF per 2015 PPS Middle School ED SPEC = 105,112 SF\***

\*105,112 includes educational specifications preferred programming increases but does not include educational specifications required 4,000 SF of site covered play, this total square footage was the final decision by the Portland Public School Board



- 100% New Construction
- Building and Systems are Designed to Meet PPS Health and Safety Priorities
- All Floors and Entries ADA Accessible
- All Program Meets Current PPS Ed Spec
- Program Zones per PPS Ed Spec
- Secure Access to All Zones
- 25 ft Building Setback Required from SE Powell Blvd.
- Separation of Bus Drop-off and Parking

