



CITY OF KIRKLAND
Planning and Community Development Department
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MEMORANDUM

To: Design Review Board
From: Jon Regala, Senior Planner
Date: September 8, 2014
File No.: DRV14-01332
Subject: EASTSIDE PREPARATORY SCHOOL EXPANSION – SCIENCE BUILDING & GYM
DESIGN RESPONSE CONFERENCE

I. MEETING GOALS

At the September 15, 2014 Design Review Board (DRB) meeting, the DRB should conduct a Design Response Conference and determine if the project is consistent with the design guidelines contained in the *Design Guidelines for Yarrow Bay Business District*, as adopted in Kirkland Municipal Code (KMC) Section 3.30.040.

During the Design Response Conference, the DRB should provide feedback to the applicant on the following topics:

- Building massing and articulation
- Pedestrian access
- Plaza design
- Landscaping
- Materials, colors, and details

II. BACKGROUND INFORMATION

The subject property is located at 10624 & 10626 NE 37th Circle within the Linbrook Office Park (see Attachment 1). The applicant, Jeff Boone with Public 47 Architects representing Eastside Preparatory School, is proposing to demolish two existing one-story buildings which occupy Lot 19 and 20 and replace them with a new four-story 56'-tall school building. The new building, approximately 29,000 square feet in size, would include science and fabrication classrooms and laboratories for chemistry, physics, and biology. The building will also include faculty space, and a multi-use learning area. The topmost story will include **the school's gymnasium and fitness center.**

The Linbrook final PUD (file PF-81-6) and final subdivision (file SF-81-7) were approved by the City Council on May 4, 1981 to allow for 24 office buildings and a bank. This combination of zoning approvals allowed for the creation of a zero-lot line office park development with the parking and driving areas placed in a common area tract.

In 2011, the subject property was included as part of a neighborhood plan update which resulted in the current Yarrow Bay Business District (YBD) zones. The new YBD zoning regulations now allows for zero-foot setbacks making the previous PUD obsolete for the Linbrook Office Park. In 2006, Buildings 15 – 24 and their associated parcels were purchased by Eastside Preparatory School (see Attachment 2). In the years following, Eastside Prep has expanded by remodeling the existing buildings.

III. SITE

The Linbrook Office Park is in the Yarrow Bay Business District 3 zone (YBD 3) and currently contains 24 primarily single-story office buildings and associated 395 stall surface parking lot. The subject property sits approximately six to eight feet lower than the adjoining NE 38th Place and gradually slopes down to the west. As mentioned previously, Eastside Prep owns and occupies Buildings 15 – 24 which are located in the southeast portion of the office park. Eastside Prep has 133 parking stalls reserved for the school use.

The following list summarizes the zoning designation, uses, and allowed heights of properties adjacent to the subject property (see Attachment 3):

- North:* YBD 2 – **55' maximum height.** Yarrow Bay office complex.
- NE/East:* YBD 1 – **65' maximum height.** South Kirkland Park and Ride (Partially in City of Bellevue)
- Southeast:* Office Building (City of Bellevue jurisdiction)
- South:* YBD 3 – **60' maximum height.** La Quinta Hotel.
- Southwest:* YBD 3 – **60' maximum height.** Office Building and restaurants.
- West:* YBD 2 – **55' maximum height.** Lake Washington Boulevard. Office buildings.

In addition, a large number of mature deciduous and several evergreen trees line NE 38th Street. A lawn area occupies an area between NE 38th Street and the parking lot. The parking lot contains associated minimal landscaping interior to the lot and perimeter landscaping along the south and southwest property lines. In the northwestern portion of the lot is Cochran Springs Creek which runs east to west. Additional photographs prepared by the applicant that show the existing school campus and surrounding properties are contained in Attachment 4.

IV. CONCEPTUAL DESIGN CONFERENCE

A Conceptual Design Conference was held on June 16, 2014. The DRB provided direction to the applicant in preparation for the Design Response Conference. At the meeting, the DRB discussed:

- A. How the design guidelines affect or pertain to the proposed development.
- B. Which guidelines applied to the proposed development; and
- C. The application materials that are needed for the Design Response Conference.

The DRB's feedback from the conference is summarized in Section V.B below under the DRB's discussion on the various design topics.

V. DESIGN RESPONSE CONFERENCE

The Design Review Board reviews projects for consistency with design guidelines for pedestrian-oriented business districts, as adopted in Kirkland Municipal Code Chapter 3.30. In addition to the standard guidelines contained in the *Design Guidelines for Yarrow Bay Business District*, the following information summarizes key guidelines which apply specifically to the project or project area. See also Section VI for information regarding zoning regulations and how they affect the proposed development.

A. Yarrow Bay Business District Design Guidelines

The following is a list of key design issues and/or design techniques that should be addressed with this project as identified in the design guidelines.

- Building Scale
 - Vertical and horizontal modulation
 - Architectural scale
 - Building articulation
- Pedestrian-Orientation
 - Plazas
 - Pedestrian friendly building fronts
 - Blank wall treatment
- Landscaping
- Building materials, color, and detail

See the adopted *Design Guidelines for Yarrow Bay Business District* (available online at: http://www.kirklandwa.gov/depart/planning/Online_Resources.htm) for the goals and related discussion on each topic.

B. Compliance with Design Guidelines

1. Scale

- a. DRB Discussion. The DRB expressed a preference for Massing Alternative #3 (see Attachment 5). Other recommendations and comments on the proposal by the DRB are summarized below.
 - A key vantage point identified by the DRB was from the site entrance. Other potential vantage points may include various areas along NE 38th Place, across the street to the north (South Kirkland Park & Ride site), and potentially from Northrup Way between the existing buildings. The building design should be mindful of these vantages.
 - The scaling and design of the project should update the existing office park aesthetic. The scale of this project will be very different given the **proposed height relative to the existing building's size**.
 - The building design should develop its own style given the proposed uses (science building and gym) and its context.
 - Blank walls were a concern. Additional details on building articulation should be provided especially at the north (near commons) and west facades (near play area).
- b. Supporting Design Guidelines. The *Design Guidelines for Yarrow Bay Business District* contain the following guidelines that address the use of these techniques:
 - *Within interior portions of sites orient buildings to plazas, common open spaces or major internal pedestrian walkways.*
 - *Configure development to provide focal points and opportunities for coordinated pedestrian and vehicular access.*
 - *Incorporate fenestration techniques proportionate in size and pattern for the scale of the building. This is particularly important on upper floors, where windows should be divided into individual units with each window unit separated by a visible mullion or other element. "Ribbon windows" (continuous horizontal bands of glass) or "window walls" (glass over the entire surface) do little to indicate the scale of the building and are thus discouraged, except in special circumstances where they serve as an accent element.*

- *Encourage vertical modulation on multi-story buildings to add variety. Vertical modulation may be particularly effective for tall buildings adjacent to a street, plaza, or residential area to provide compatible architectural scale and to minimize shade and shadow impacts.*
- *Incorporate horizontal building modulation techniques to reduce the architectural scale of the building and add visual interest. Horizontal building modulation is the horizontal articulation or division of an imposing building façade through upper story setbacks, awnings, balconies, roof decks, eaves, and banding of contrasting materials. Elevations that are modulated with horizontal elements appear less massive than those with sheer, flat surfaces. Recommended horizontal building modulation techniques include:*
 - *Roofline modulation and a change in building materials.*
 - *Step back building facades, generally above the second floor.*
- *Break up long continuous walls with a combination of horizontal building modulation, change in fenestration, and/or change in building materials. This is especially important for office buildings.*
- *Encourage a variety of roofline modulation techniques such as hipped or gabled rooflines and modulated flat rooflines. As a general rule, the larger the building or unbroken roofline, the bigger the modulation should be. In determining the appropriate roof type and amount of modulation, consider the distance from which the building can be viewed. For example, a large commercial building adjacent to a parking lot is capable of being viewed from a relatively large distance and will consequently necessitate greater roofline modulation.*
- *Encourage a combination of architectural elements that give buildings a human scale. Examples include arcades, balconies, bay windows, roof decks, trellises, landscaping, awnings, cornices, friezes, art concepts, street front courtyards and plazas outside of retail spaces. Window fenestration techniques described in Section 4 can also be effective. Consider the distances from which buildings can be viewed (from the sidewalk, street, parking lot, open space, etc.).*

Avoid blank walls near sidewalks, major internal walkways, parks, and pedestrian areas. Use the following treatments to mitigate the negative effects of blank walls (in order of preference):

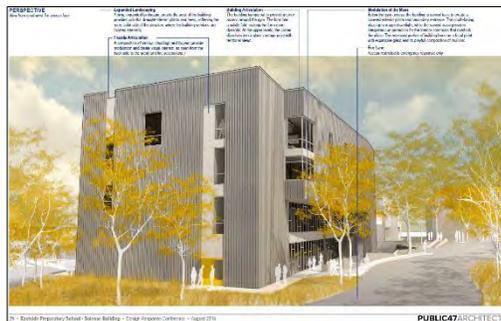
- *Configure buildings and uses to avoid blank walls exposed to public view.*
- *Provide a planting bed with plant material to screen most of the wall.*
- *Install trellises with climbing vines or plant materials to cover the surface of the wall. For long walls, use trellises to avoid monotony.*
- *Provide artwork on the wall surface.*
- *Provide architectural techniques that add visual interest at a pedestrian scale, such as a combination of horizontal building modulation, change in building materials and/or color, and use of decorative building materials.*
- *Provide decorative lighting fixtures.*

- *Where buildings are not located at the sidewalk, incorporate landscaping, a pedestrian plaza or open space between the building and the sidewalk or provide building façade treatment.*
 - *Incorporate transparent windows, pedestrian entrances, and weather protection along facades adjacent to a sidewalk or internal pathway. Weather protection features could include awnings, canopies, marquees, or other similar treatments.*
 - *Locate building entrances that open on to plazas.*
 - *Provide transitional zones along building edges to allow for outdoor seating areas and a planted buffer.*
- c. **Staff Analysis.** As requested by the DRB, the applicant has pursued Massing Alternative #3 and has provided detailed plans for review (see Attachment 6). **Also included in the applicant's design response were various** photo simulations, and perspective and section drawings as requested by the DRB.

The proposed building is 54' in height and measures approximately 131' by 74' at its outer perimeter. The building massing shown in the applicant's drawings are generally consistent with the Massing Alternative #3 presented at the Conceptual Design Conference except that building mass has been added to the top of the architectural bay element along the south façade (see diagram below – red box).



For comparison with the current design response proposal see the diagram below (see also Attachment 6, page 29).



Staff finds that the west building elevation, which faces the play area (see also diagram above), and as it wraps around to the northwest and southwest, appears more imposing than the other facades. This is due to a lack of modulation, glazing, little change in materials/colors and lack of human scale features, resulting in portions of the facade appearing as a blank wall.

While the DRB was agreeable to the massing alternative for this façade, they were also interested in how the building scaling, articulation, and blank wall treatment would be addressed at this façade in particular given that the new building will be taller than the other buildings within the school campus. Also unique is that the building will house a school and gymnasium.

Given these concerns, there are a number of techniques which can be applied to this façade given its larger mass. One technique that can be used to help achieve horizontal definition and moderate the vertical scale of buildings is to **clearly identify a buildings' top, middle, and bottom**. To better define a **buildings' top**, articulation of the roof form using strong eave lines, cornice, and/or parapet treatments can be used. When viewing the roof plan for the project, two areas have been identified for mechanical equipment (see Attachment 6, page 18). Given this and the building being **4' below height** limit, there may be flexibility in varying the roof form. To establish a stronger base, pedestrian scale elements using materials such as concrete stone, masonry, stucco, etc. can perhaps be incorporated at the ground level.

The DRB also identified key vantage points from the NE 38th Place entry and from Northrup Way between existing buildings. Another was suggested from across the street at the South Kirkland Park & Ride site. Photo simulations were provided except for the view from the South Kirkland Park & Ride site (see Attachment 6, pages 30-31). It appears that the new school building may be somewhat obscured from view due to the existing large mature trees that line NE 38th Place and the lower topography relative to the South Kirkland Park & Ride site (see Attachment 7).

The DRB should provide input on the following items:

- Determine if the building mass added at the top of the bay element along the south façade is acceptable.
- Review the west façade (facing the play area) and as it wraps to the northwest and southwest. Provide feedback in terms of addressing building scaling, articulation, and blank wall treatment.
- Are changes needed to the building when viewed from the key vantages: entrance at NE 38th Place and Northrup Way? If so, what additional details are needed from the applicant?

2. Pedestrian Access & Plaza Design

- a. DRB Discussion. The DRB supported the concept of emphasizing and/or strengthening the relationship to the existing commons area north of the proposed building. Additional details should be provided in terms of overhead weather protection associated with the new building.
- b. Supporting Design Guidelines. The *Design Guidelines for Yarrow Bay Business District* contain the following guidelines that pertain to pedestrian access:
 - *Provide convenient pedestrian access between the street, bus stops, buildings, parking areas, and open spaces.*
 - *Provide direct pedestrian access from buildings to abutting public sidewalks and major internal pathways.*
 - *Provide paved walkways through large parking lots. Separate walkways from vehicular parking and travel lanes by use of contrasting material which may be raised above the vehicular pavement and by landscaping.*

- *Provide safe and convenient pedestrian connections east to west through the business district consistent with Plate 34 of the Zoning Code (see Attachment 8).*
 - *Locate plazas in sunny locations.*
 - *Provide pedestrian plazas in conjunction with building and site spaces that are accessible to the general public, residents and transit users.*
 - *Provide weather protection along the primary exterior entrance of all businesses, residential units, and other buildings.*
 - *Design weather protection features to provide adequate width and depth at building entries.*
 - *Pedestrian covering treatments may include: covered porches, overhangs, awnings, canopies, marquees, recessed entries or other similar features. A variety of styles and colors should be considered and be compatible with the architectural style of the building and the ground floor use.*
 - *Back lit, plastic awnings are not appropriate.*
- c. Staff Analysis. The applicant has provided additional site plan information and perspective drawings that show a widened walkway and overhead weather protection at the primary building entrance that better relates and accesses the main Commons Plaza to the east. Details were also provided that show the location of the secondary entrance and smaller plaza area along the south facing façade. The DRB should provide input on these items.

Staff recommends that the applicant explore providing a pedestrian connection from the new building to NE 38th Place as supported by a number of the design guidelines listed above. The DRB, when deliberating and providing direction on this topic, should take into consideration the extent of their requested changes given the location of existing improvements and the scope of the proposed project.

3. Open Space & Landscaping

- a. DRB Discussion. The DRB requested a detailed landscape plan that explores additional landscaping opportunities along the fire lane south of the proposed building.
- b. Supporting Design Guidelines. KZC Chapter 95 requires that a landscape plan be approved as part of the design review process. The *Design Guidelines for Yarrow Bay Business District* contain the following guidelines that pertain to open space and the visual quality of landscapes:
- *Provide landscaping elements that add color and seasonal interest. This can include trees, planting beds, potted plants, trellises, and hanging plants.*
 - *Provide landscaping, plazas or building façade treatments to enhance the pedestrian experience. In general, buildings that have less pedestrian orientation will merit more landscaping and façade treatments to prevent blank walls.*
 - *Position plazas in locations adjacent to and visible from major streets, such as along NE 38th Place, major internal circulation routes, or where there are strong pedestrian flows on neighboring sidewalks. For large sites, development should be configured to create one or more focal*

plazas. To enhance visibility and accessibility, plazas usually should be no more than 3' above or below the adjacent sidewalk or internal pathway.

- *Design landscaping for the purpose and context in which it will be located. The auto oriented landscaping requires strong plantings of a structural nature to act as buffers or screens for pedestrians. The pedestrian landscape should emphasize the subtle characteristics of the plant materials. The building landscape should use landscaping that **complements the building's qualities and screens service areas or blank walls while not blocking views of the business or signage.***
 - *Encourage a colorful mix of drought tolerant and low maintenance trees, shrubs and perennials. Except in special circumstances, ivy should be avoided.*
- c. Staff Analysis. Landscaping should be placed in areas to help mitigate impacts of building massing and enhance the pedestrian/student experience along the building facades. Based on KZC Section 95.41 – *Supplemental Plantings*, a minimum of 6 trees and living plant material to cover 80 percent of the area to be landscaped within two (2) years is required. The DRB should provide feedback to the applicant on the proposed landscape plan based on these minimum requirements and the above listed guidelines.

4. Building Materials, Color, & Details

- a. DRB Discussion. This topic was not discussed in detail at the Conceptual Design Conference.
- b. Applicable Design Guidelines. The *Design Guidelines for Yarrow Bay Business District* contain the following guidelines that provide guidance on this topic:
- *Encourage the integration of ornament and applied art with structures and site environments. For example, significant architectural features should not be hidden, nor should the urban context be overshadowed.*

Emphasis should be placed on highlighting building features such as doors, windows, eaves, and ornamental masonry. Ornament may take the form of traditional or contemporary elements. Original artwork or hand-crafted details should be considered in special areas. Ornament may consist of raised surfaces, painted surfaces, ornamental or textured branding, changing of materials, or lighting.
 - *Use a variety of quality building materials such as brick, stone, timber, and metal to add visual interest to the buildings and reduce their perceived scale. Use masonry or other durable materials - especially near the ground level.*
 - *Avoid use of concrete block and large expansive tilt up concrete facades.*
- c. Staff Analysis. Attachment 6, pages 22-29 contains color elevation drawings and callouts for the proposed building materials. The majority of the building **is composed of 'vertical profiled metal cladding' with a charcoal/graphite color.** To provide a material change and/or to accent building features, 'flat panel cladding' and 'metal fins+ eyebrows' are used. Staff has asked the applicant to provide samples of the proposed materials at the public meeting. If the materials are not available, the applicant should provide photographs of the proposed materials that show how they have been used in existing projects. The DRB should provide feedback to the applicant regarding the proposed

materials and colors as they relate to moderating building massing, providing articulation, and defining an appropriate architectural scale.

VI. KEY ZONING REGULATIONS

The applicant's proposal is also subject to the applicable requirements contained in the Kirkland Municipal Code, Zoning Code, Fire and Building Code, and Public Works Standards. It is the responsibility of the applicant to ensure compliance with the various provisions contained in these ordinances. Attachment 9, Development Standards, is provided to familiarize the applicant with some of these additional development regulations. These regulations and standards are not under the review authority of the DRB and will be reviewed for compliance as part of the building permit review for the project.

Zoning regulations for uses in YBD 3 are found in the use-zone chart (see Attachment 10). The following regulations are important to point out as they form the basis of any new development on the site.

- A. **Permitted Uses:** In addition to a school use, other allowed uses in this zone include retail, restaurants, office, and stacked dwelling units.
- B. **Setbacks:** Except for a 20' setback along Lake Washington Boulevard, there are no required setbacks for the subject property.

Staff Comment: Eastside Prep is located in the south/southeast portion of the Linbrook Office Park with frontage only along NE 38th Place. Therefore, there are no required setbacks for the proposed school/gym building. The property line should be shown on the building permit floor plan drawings to confirm its relationship to all floors of the building for code review purposes.

- C. **Height:** The YBD 3 zone allows a maximum height of 60' measured above the average building elevation. In addition, General Regulation 2 for the YBD 3 zone (KZC Section 56.18.2) allows the following height exceptions:
- Decorative parapets may exceed the height limit by a maximum of four feet; provided, that the average height of the parapets around the perimeter of the structure shall not exceed two feet.
 - For structures with a peaked roof, the peak may extend eight feet above the height limit if the slope of the roof is equal to or greater than four feet vertical to 12 feet horizontal.

Staff Comment: Preliminary height calculations show that the proposed building is approximately 4' below the maximum height allowed. With the building permit application, the applicant should provide the height calculation site plan as a layer atop the survey information so that staff can confirm the topography and midpoint segments used. Staff's final review of the height calculation will occur with the building permit review.

- D. **Lot Coverage:** YBD 3 zoning regulations allow 80% lot coverage.

Staff Comment: Preliminary lot coverage calculations show that with the proposed changes, the entire Linbrook campus is at approximately 72% lot coverage. The applicant should submit final lot coverage information with the building permit application. Lot coverage information needs to include the entire Linbrook campus. Staff's final review of the lot coverage calculation will occur with the building permit review.

- E. **Parking:** Parking for school uses is established on a case-by-case basis based on the actual parking demand on existing uses similar to the proposed use.

Staff Comment: The proposed expansion triggered a review of required parking. The City Transportation Engineer **has reviewed the applicant's parking utilization** study and has determined that the existing parking supply (133 parking stalls) is adequate to meet the projected demand of 123 parking stalls (see Attachment 11). The projected parking demand is **based on the school's maximum enrollment** capacity of 352 students.

The applicant should submit an updated site/parking plan that reflects the current parking configuration with the building permit application. The site/parking plan should clearly show how each parking stall is being utilized (i.e. staff, student, bus, etc.). Staff will confirm compliance with the number of required parking stalls as part of the building permit review process.

- F. **Tree Retention Plan.** A tree retention plan was submitted for review by the City's Urban Forester (see Attachment 12). The following comments were made by the City's Urban Forester:

The arborist report is accurate. Trees #531, 532, 533, 534, 542, 543, 544 and 545 are moderate retention value trees. They are not in a required yard or landscape buffer. Trees #535, 536, 537, 538, 539, 540, 541 and 546 are low retention valued because the development impacts, particularly excavation and access to the excavation site, are unavoidable to complete the improvements. There will be additional impacts to the tree[s] in that the structure will be 4 stories tall. This will limit light but also exposure to wind. The root exploration may reveal disease or a structural root pattern which must be altered in a way that would destabilize these trees. Replacement tree species should include both evergreen and deciduous species to replicate the trees removed.

Staff Comment: As stated above, the trees have been typed as having either a low or moderate retention value given that they are not in a required setback or landscape buffer and are located very near the project/construction area. No high retention value trees were identified. Four of the trees identified for retention have been targeted for additional root exploration once construction begins by a certified arborist. If it is determined that the proposed construction will destabilize the trees, it is recommended that they be removed. **The City's Urban Forester is in agreement with the applicant's arborist findings.**

The applicant's arborist report should be submitted with the building permit application and its findings/conditions be incorporated into the appropriate plan sheets of the building permit plan set. The DRB should therefore focus its review on the **applicant's** landscape plan, in particular the proposed plant species and locations. A minimum of 6 trees should be planted along with plant material which will cover 80 percent of the area to be landscaped within two (2) years.

VII. PUBLIC COMMENT

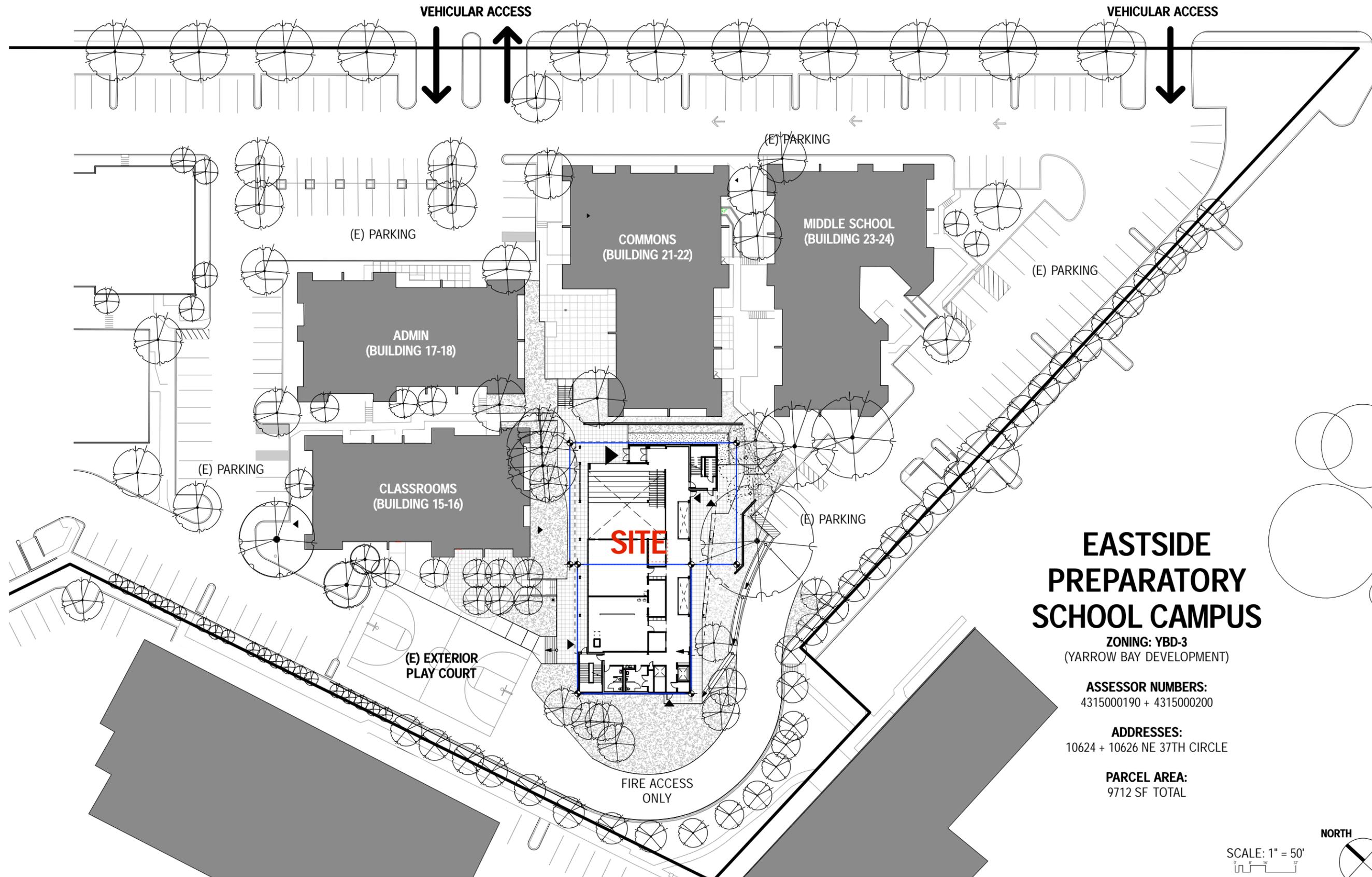
Public notice regarding the DRB meeting on this project was distributed on August 28, 2014 according to KZC Section 142.35.8. Prior to the finalization and distribution of this staff memo, no comments from the general project were received.

VIII. ATTACHMENTS

1. Vicinity Map
2. Site Plan
3. Zoning/Adjoining Properties Map
4. Context Photographs
5. Massing Alternative #3

6. Design Response Proposal
7. Topography Map
8. KZC Plate 34
9. Development Standards
10. YBD Use Zone Chart
11. City Transportation Engineer Review dated July 16, 2014
12. Arborist Report dated July 14, 2014

38TH PLACE NE



EASTSIDE PREPARATORY SCHOOL CAMPUS

ZONING: YBD-3
(YARROW BAY DEVELOPMENT)

ASSESSOR NUMBERS:
4315000190 + 4315000200

ADDRESSES:
10624 + 10626 NE 37TH CIRCLE

PARCEL AREA:
9712 SF TOTAL

SCALE: 1" = 50'





Legend

- City Limits
- Grid
- Cross Kirkland Corridor
- Regional Rail Corridor
- Streets
- Parcels
- Lakes
- Parks
- Schools
- Overlay Zones
- Planned Unit Development

City Zoning

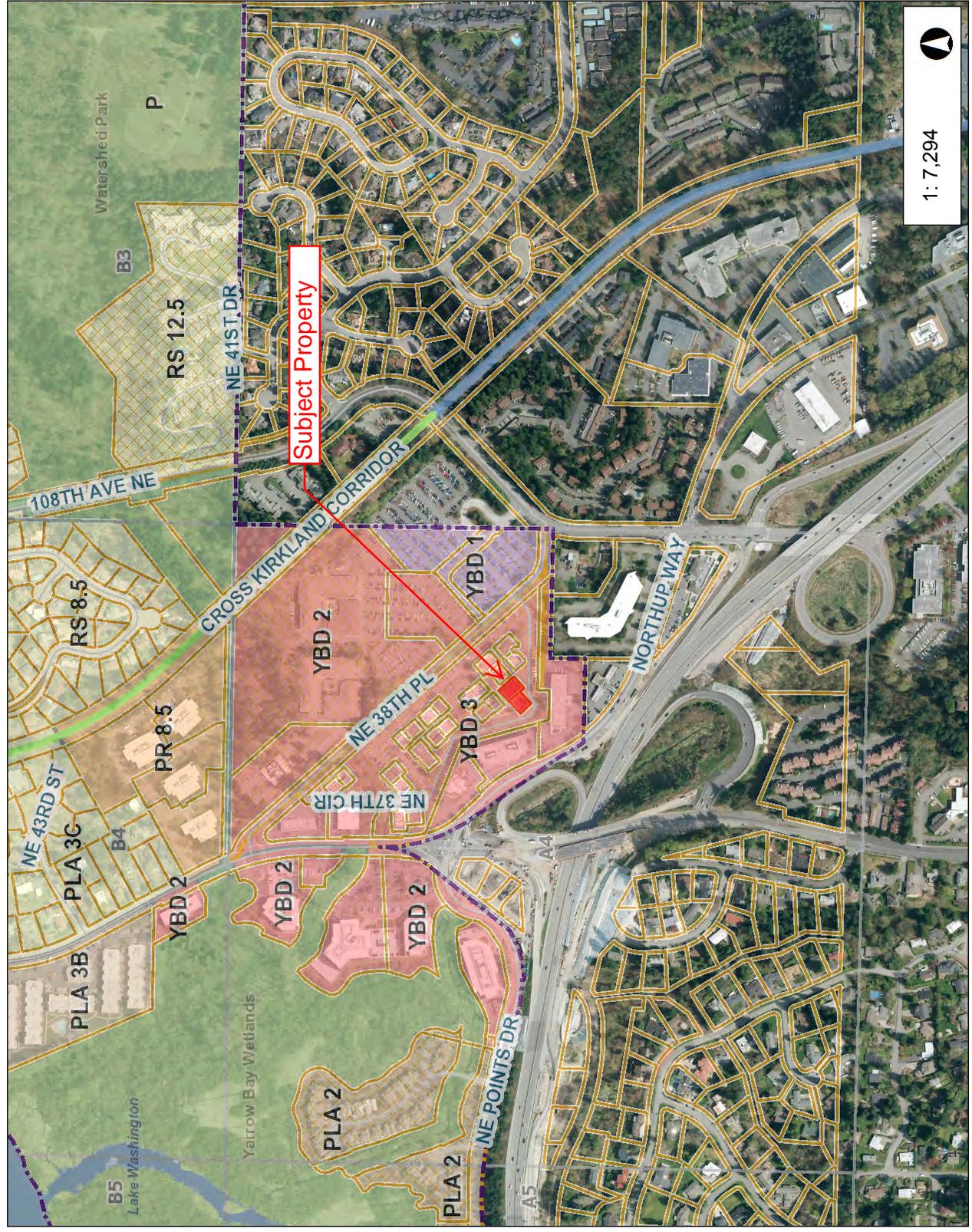
- Commercial
- Industrial
- Transit Oriented Development
- Office
- High Density Residential
- Medium Density Residential
- Low Density Residential
- Institutions
- Park/Open Space

Overlay Zones

- (EQ)
- (HL)
- (HP)

Notes

ZONING MAP

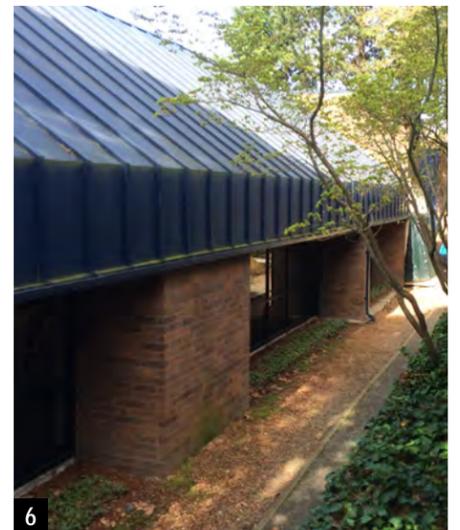
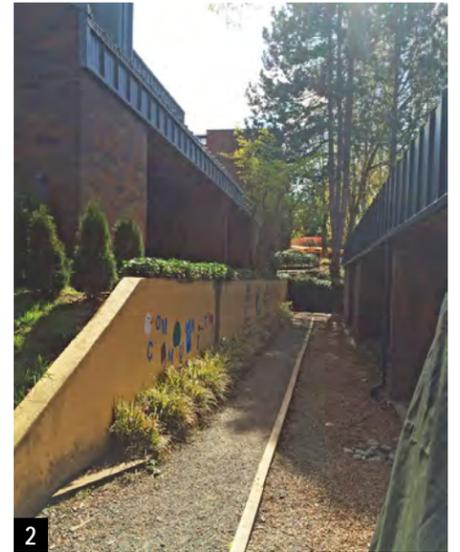


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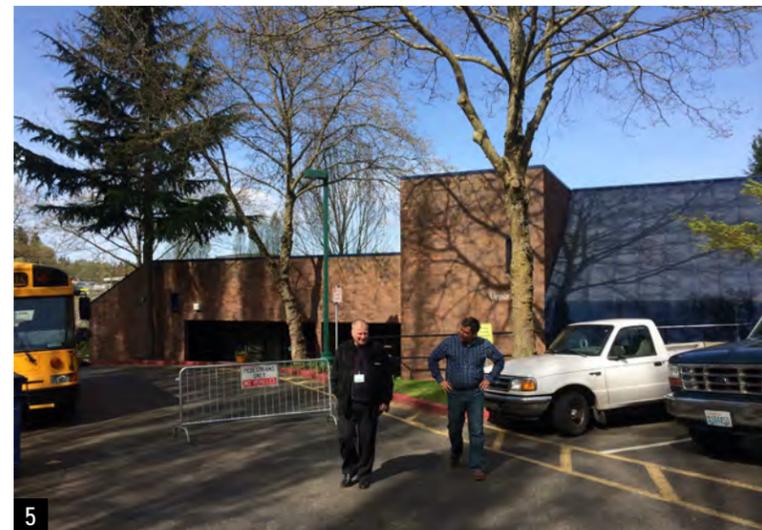
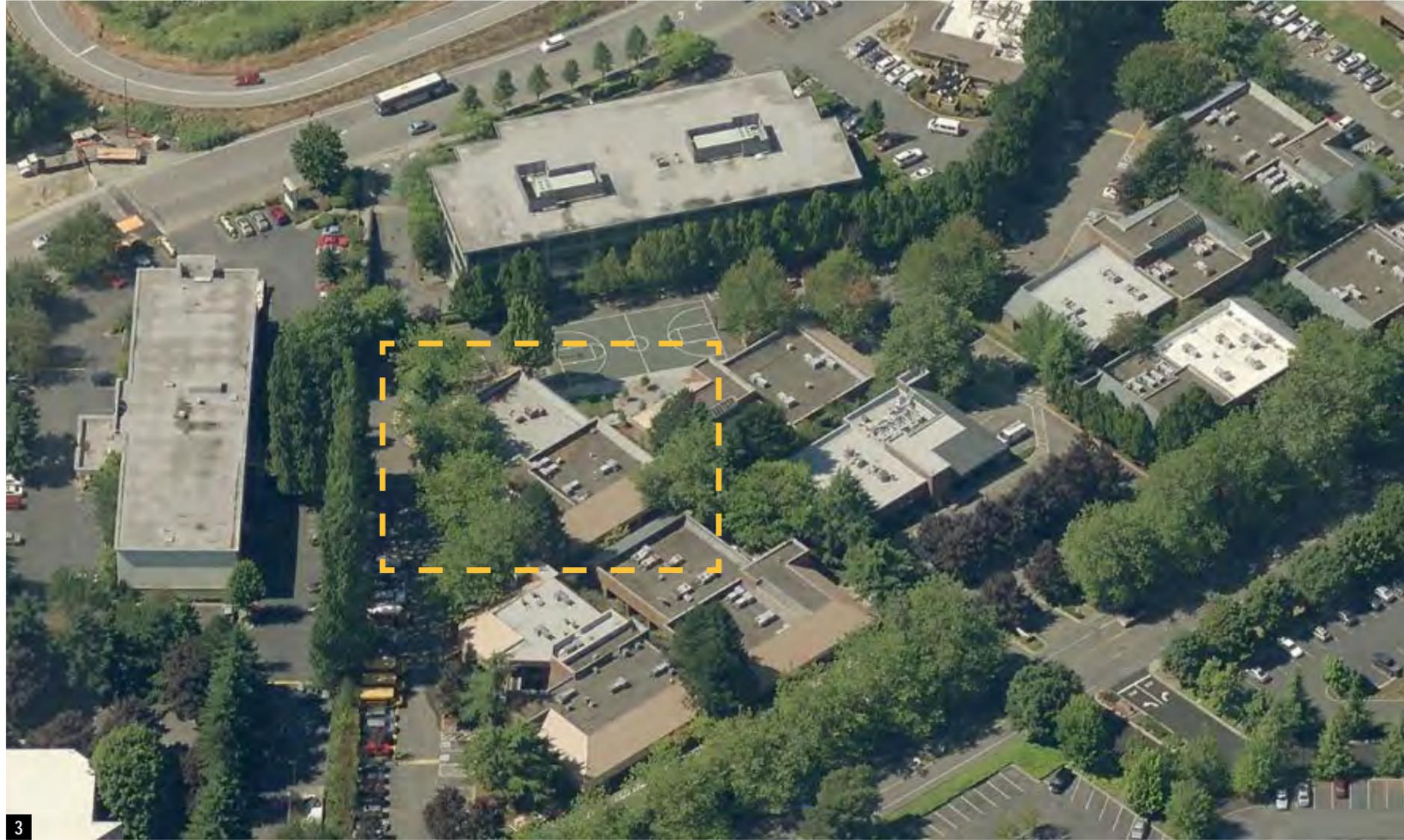
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SITE / CAMPUS CONTEXT

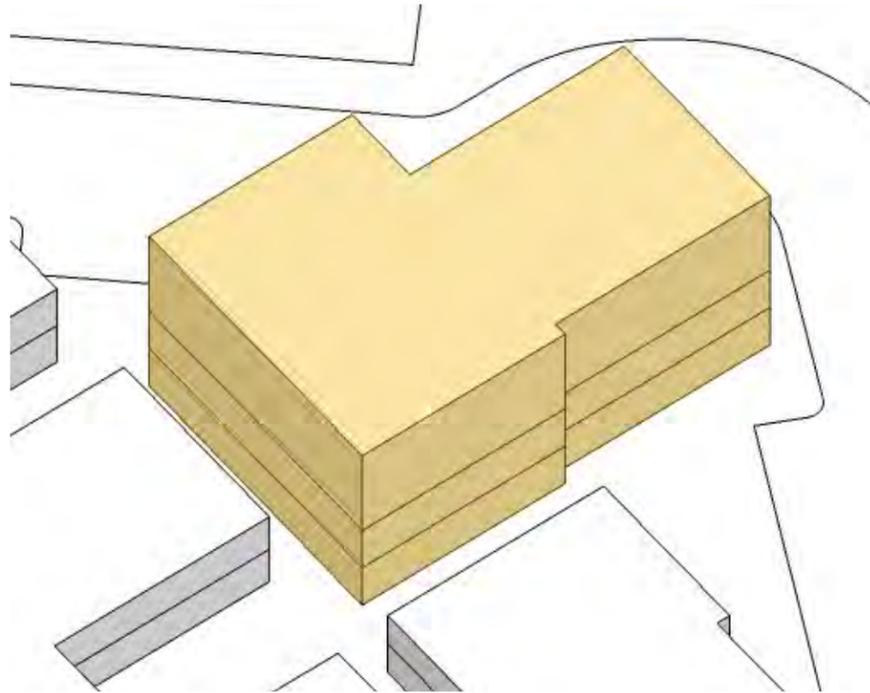


- 1 Building 15/16, northwest of project site, looking southwest
- 2 Space between Student Commons building and Project Site, looking southeast
- 3 Student Commons
- 4 Administration Building
- 5 Student Commons from Building 16
- 6 Space between Student Commons building and Project Site, looking northwest



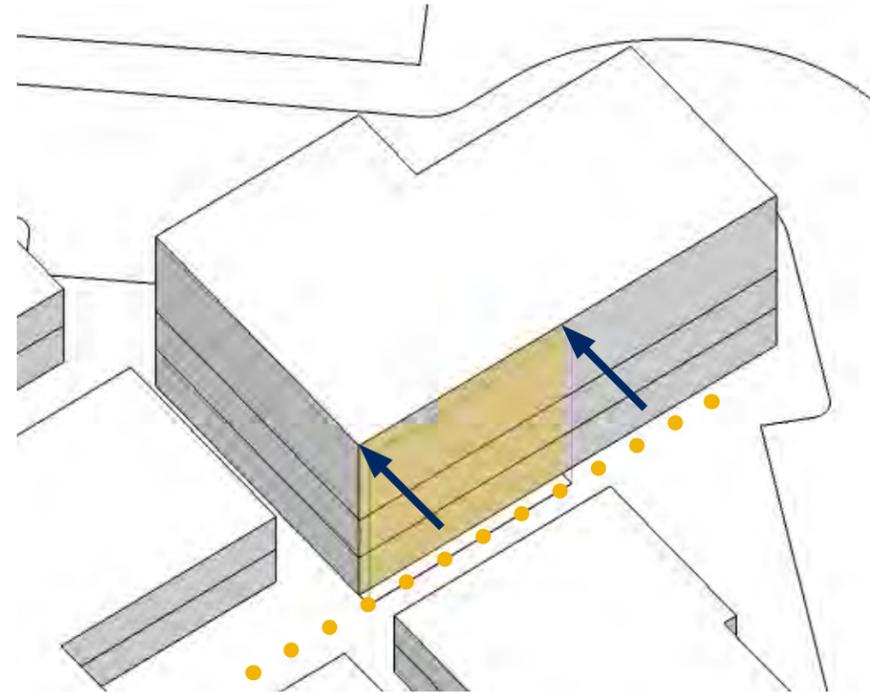
- 1 Hotel looking SW from site
- 2 View towards project site from play court
- 3 Birdseye of Campus
- 4 Student Commons
- 5 View of project site from SE parking lot
- 6 View towards play court and office building looking NW from project site

ALTERNATIVE 3 - FORMAL DEVELOPMENT



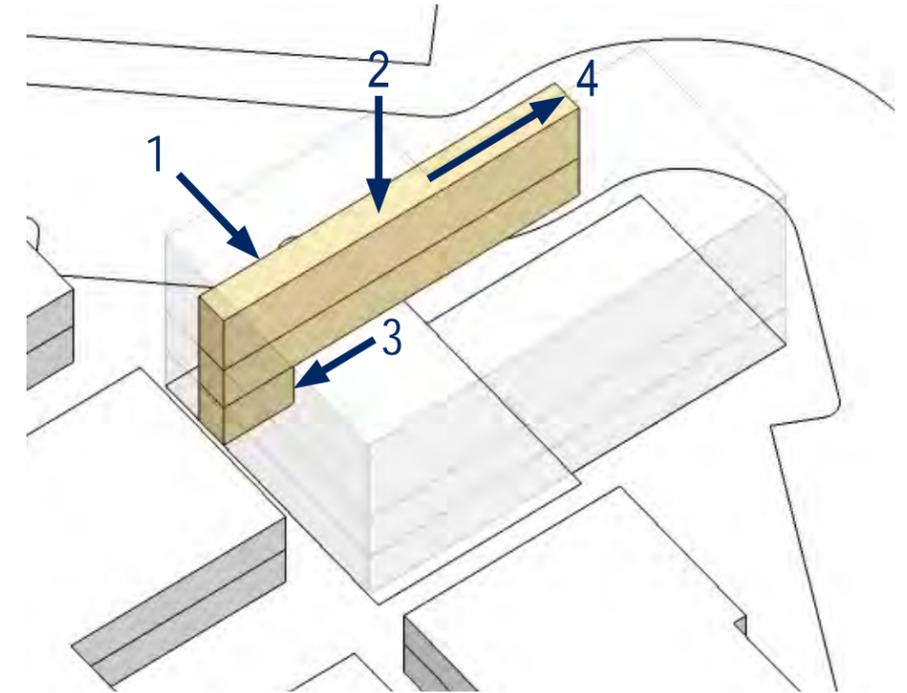
01 Zoning Envelope

Massing begins with the volume of the zoning envelope. Modifications respond directly to the limitations of the project program and the campus site characteristics.



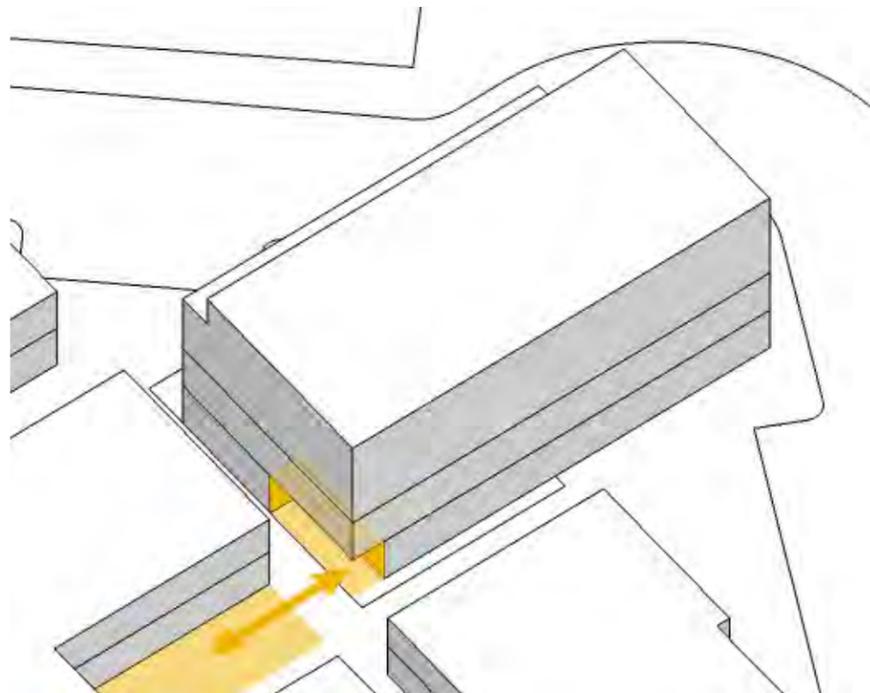
02 Campus Walkway

Massing steps back to create a generous walkway for the pedestrian-oriented campus interior. The step back also responds to fire separation code requirements, creating a distance from the adjacent building which will limit blank wall in the shaded area.



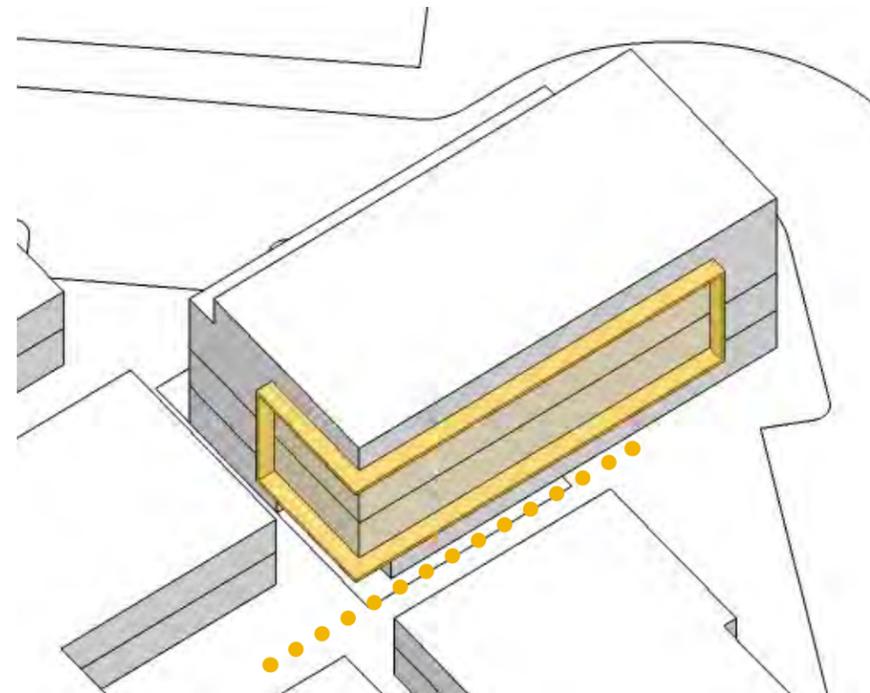
03 Reduced Circulation/Commons

- 1 Reduce area requirement for Commons.
- 2 Lower height of Circulation/Commons bar.
- 3 Restrict footprint to vertical circulation and create exterior terrace at ground level.
- 4 Extend length of Commons at classrooms, gymnasium, and mezzanine.



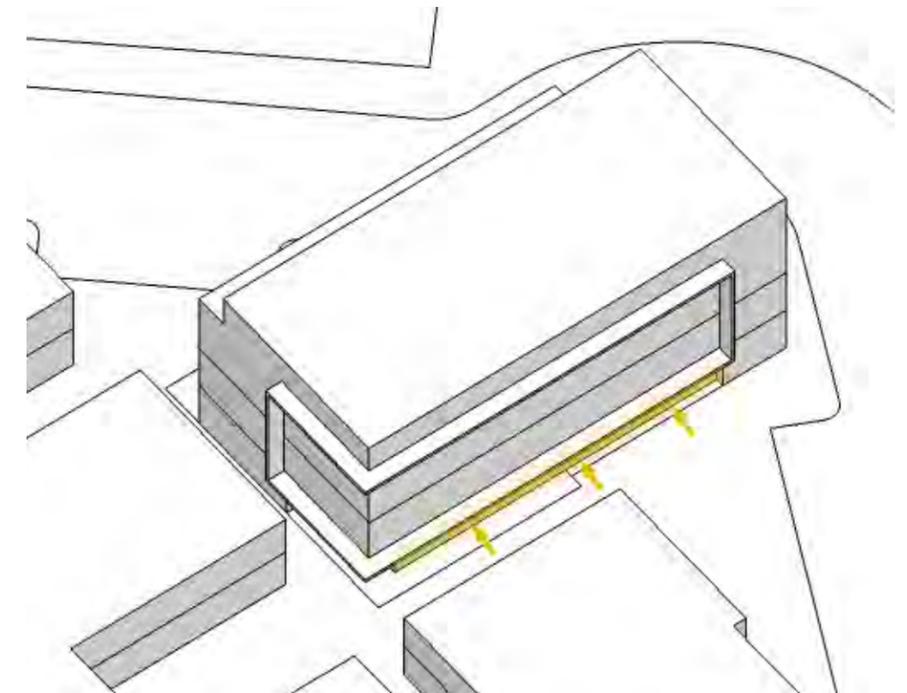
04 Building Entry

Recess primary entrance at north building corner to create direct connection to existing Student Commons building and central plaza.



05 Covered Walkway/Building Scale

Provide a continuous awning element to create weather protection for the walkway. Awning element visually reduces the perceived height of the building and divides the facade into separate sections.



06 Recessed Ground Level

Ground level steps back to create a wider covered pedestrian walkway along the building facade within the campus interior.

Description

Alternative 3 also makes reductions to the building volume with the zoning envelope as a starting point. The modifications are based on site parameters, programmatic limitations, utilization of basement space, and creative integration of program. It connects to the existing campus pathway along the northwest elevation and links to the Student Commons plaza, at the heart of campus. A secondary plaza is incorporated and physically connects between interior and exterior of the new building. A continuous awning element defines the weather protected building entry and walkway, and also visually reduces the vertical scale of the building.

Advantages

- Responds to and enlivens campus walkway network
- Integration of commons and circulation reduces bulk at southeast and creates additional social and learning opportunities for the students
- Continuous awning element increases pedestrian weather protection for students
- Continuous awning element visually reduces the vertical scale of the building
- Southeast façade is reduced in height, bulk and scale, provides covered entry and outdoor plaza, as well as sun protection.
- Increased transparency along pathway from commons provides improved daylight for classrooms and gym.

Challenges

- Potentially less structurally efficient along southeast façade
- Potential added costs of construction in the construction inefficiency.

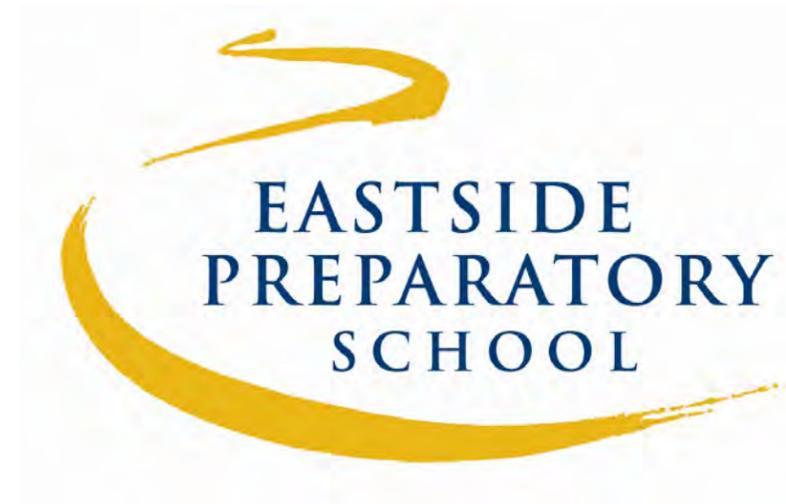


Alternative 03 Perspective View 01



Alternative 03 Perspective View 02

EASTSIDE PREPARATORY SCHOOL
SCIENCE + GYM BUILDING



City of Kirkland Design Review
Design Response Conference
August 2014

PUBLIC47ARCHITECTS

PROJECT DESCRIPTION

EASTSIDE PREPARATORY SCHOOL - SCIENCE + GYM BUILDING

City of Kirkland Design Review: Design Response Conference
August 2014

The proposed project is a new education building for Eastside Preparatory School.

The building includes educational spaces for their upper school (science labs, classrooms, digital fabrication, and media arts), a multi-purpose amphitheater, and a gymnasium / fitness facility with locker rooms. Teacher and independent learning spaces are also integrated into the facility.

The new facility intends to stimulate the student's curiosity and provide opportunities to explore, create, imagine, and invent.

Zoning Summary

Address	10624 & 10626 NE 37th Circle Kirkland, WA 98033 (Buildings 19 & 20)
Site Area	9,731 SF
Zoning	YBD 3 - Commercial
Height Limit	60 feet

DEVELOPMENT OBJECTIVES

Academics: High-Quality Learning Environment

Project provides opportunity to support a stimulating and supportive learning environment.

Eastside Preparatory School maintains a school culture that focuses on the student's experience – students are the most successful when they feel known, accepted, and challenged by their community of peers and faculty.

- Commons: Circulation, Learning, and Faculty spaces are integrated. Provides space for independent student project teams to collaborate.
- Amphitheater: Multifunctional space provides a venue for social and learning opportunities, such as presentations, robotics competitions, study groups, and display of student work and projects.
- Makers Lab: studio for rapid prototyping and digital fabrication
- Science Lab: new state-of-the-art science labs to support the STEM curriculum.

Organization: Creative integration of a mixed-program

Project combines dissimilar programs together into a cohesive and functional building.

There is an opportunity to provide the school with a variety of needed spaces, including an indoor gymnasium on campus for the young school. Although it is unconventional to combine classrooms and labs with a gymnasium, it is imperative given the school's limited ability to expand the campus within the business park. The building is designed so that each can function as intended while being within the same structure.

- The school does not currently have a gym, and students have to practice at gyms off campus.
- Provides a dedicated gymnasium for the evolving school.
- Gymnasium creates a venue for various functions, from physical education classes to athletic events to science fairs and school dances.

Campus: Invigorate Pedestrian Character on Campus

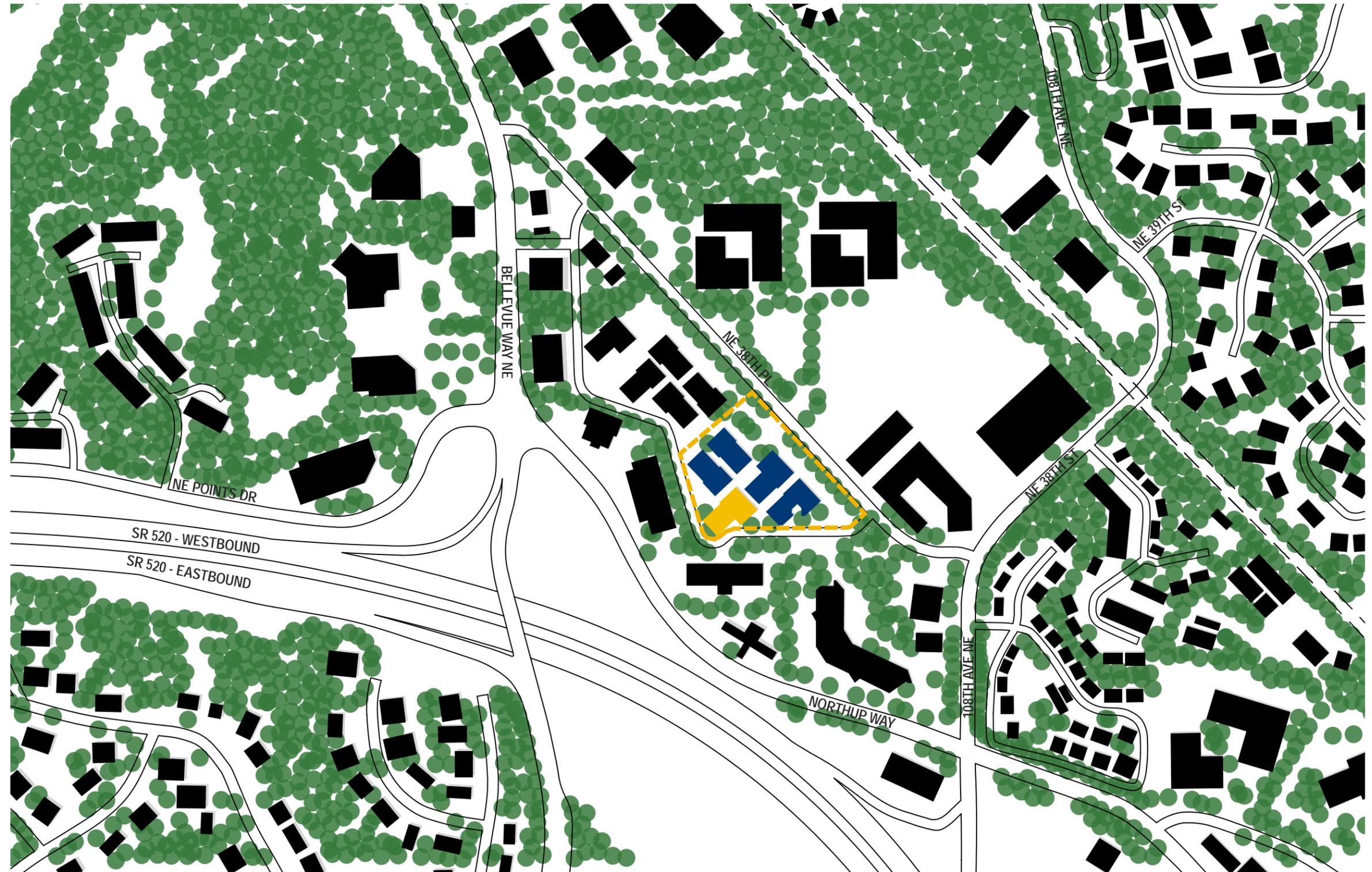
Improve quality and functionality of pedestrian-oriented school campus and establish precedent for future development.

The school campus includes five buildings, and the existing connections between buildings are utilitarian, as it was originally a business park with unrelated users. The plaza outside the Student Commons has become the center of campus, and the design for the new project strives to connect, support, and strengthen the central pedestrian areas.

- Connect and improve the pedestrian connections within the campus system.
- Create an exterior amphitheater that links the upper Commons plaza to the new building entry, and continues as an interior amphitheater within the new building.
- Create desirable exterior spaces that offer varied places for students to hang, sit, study, relax, learn, eat, and more.



VICINITY MAP



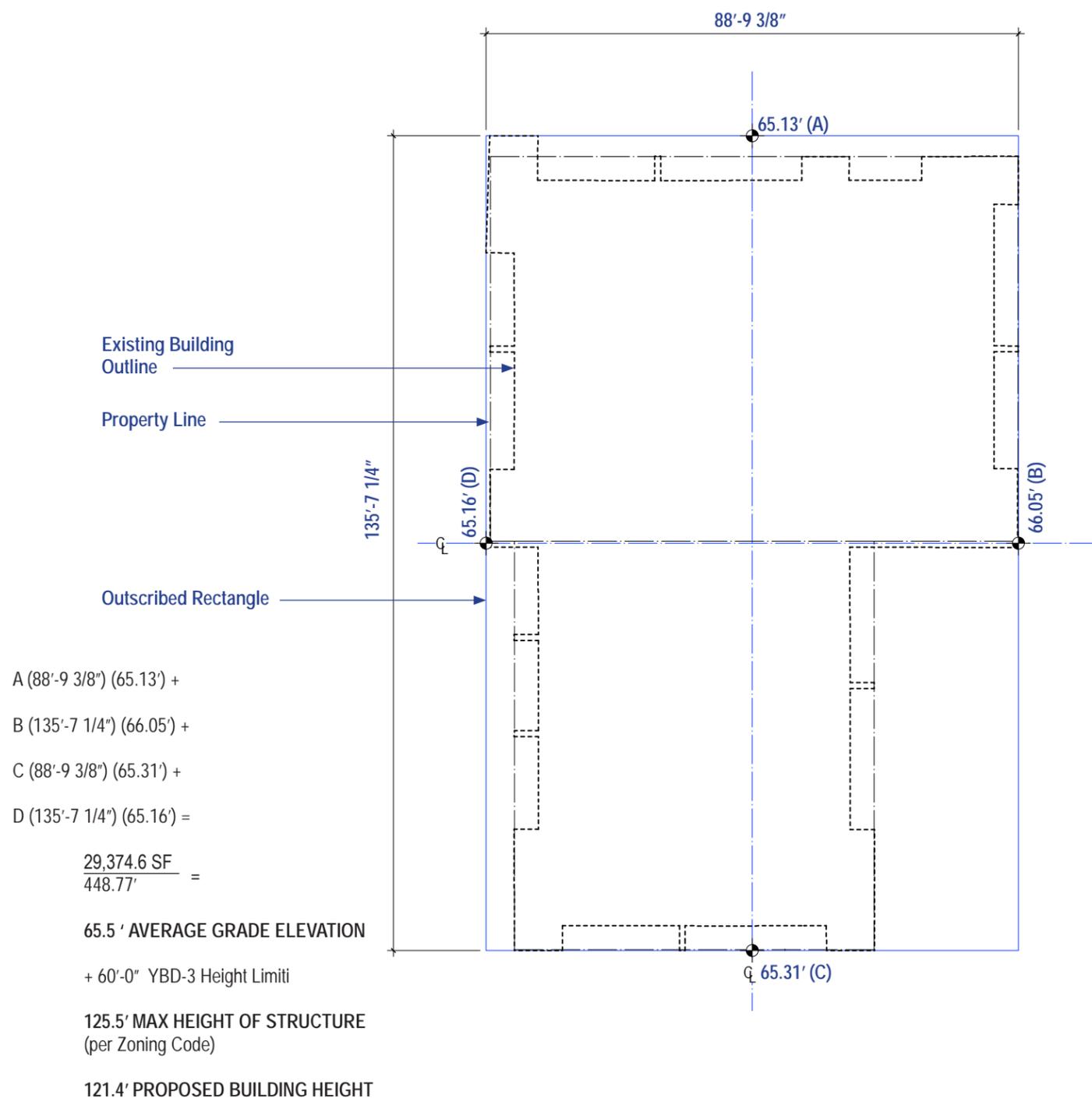
LEGEND

-  Project Site
-  EPS Campus Boundary
-  Tree Canopy / Green Space

VICINITY MAP



HEIGHT CALCULATION [AVERAGE BUILDING ELEVATION DIAGRAM]



LOT COVERAGE CALCULATION

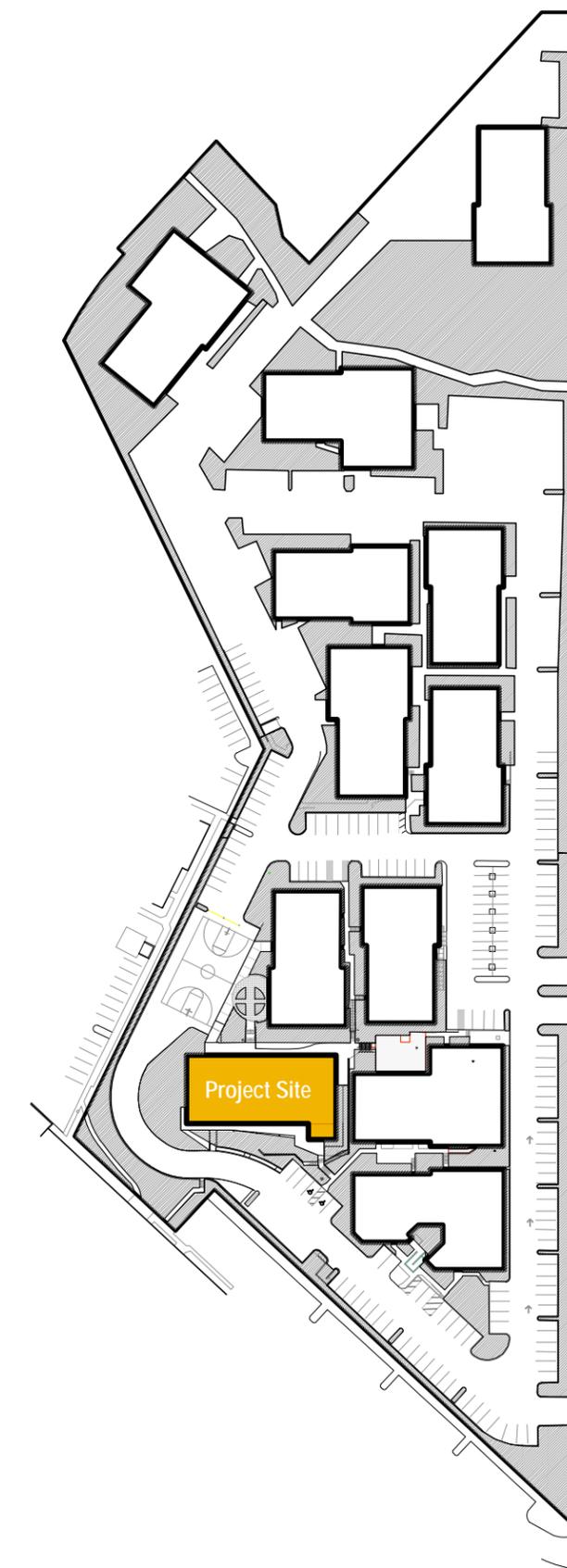
Linbrook Office Park

383,713 sf Total Lot Area

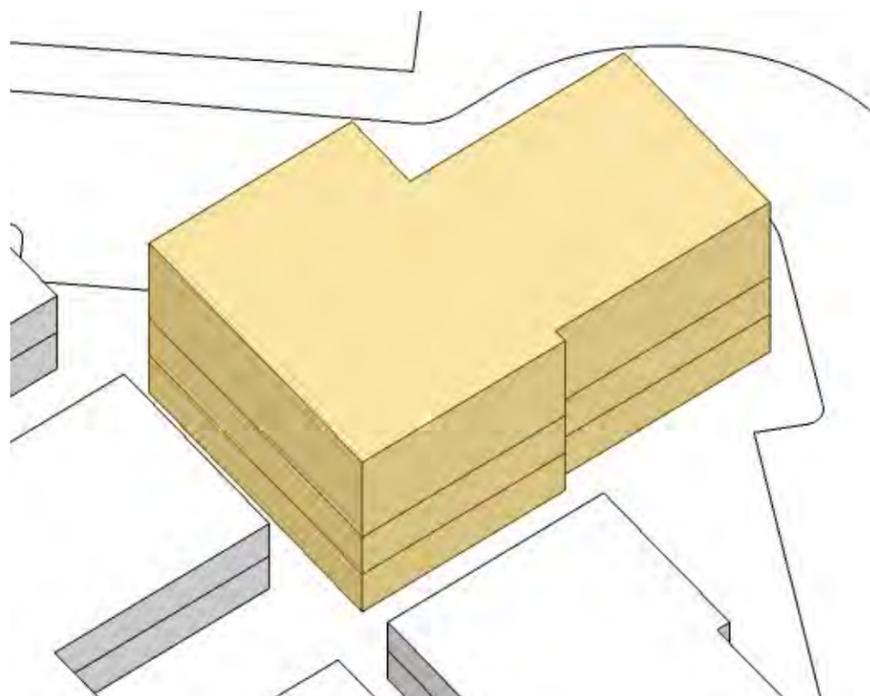
108,701 sf Pervious Area (hatched)

275,012 sf Built / Impervious Area

71.6% LOT COVERAGE

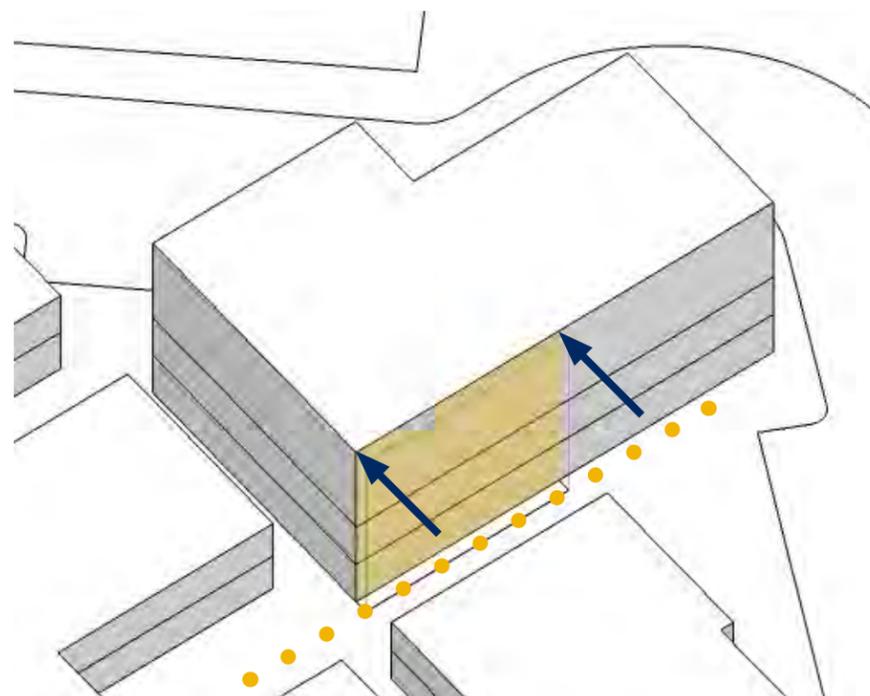


ALTERNATIVE 3 - FORMAL DEVELOPMENT
 CONCEPTUAL DESIGN CONFERENCE - 06.16.2014



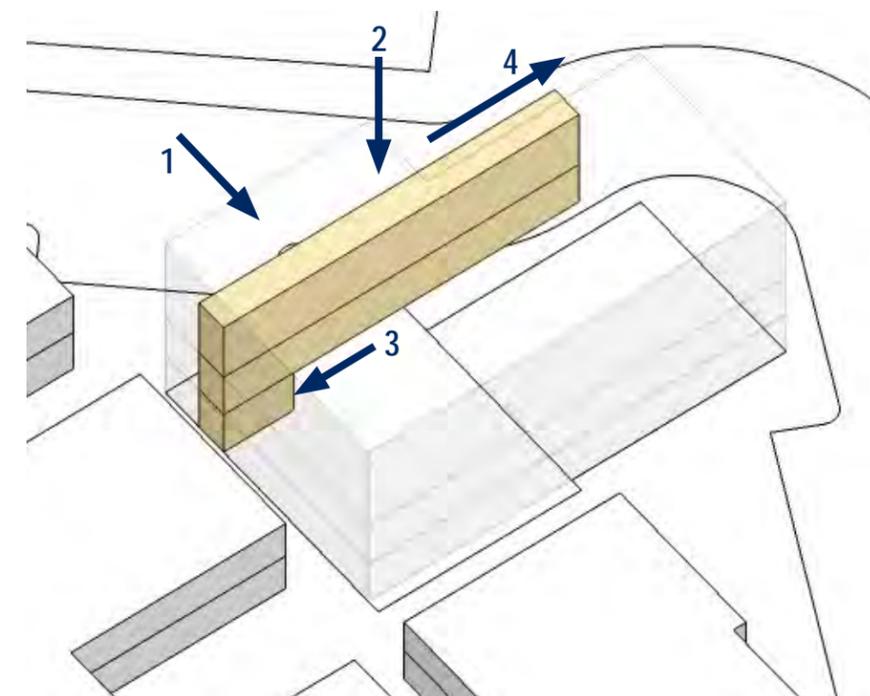
01 Zoning Envelope

Massing begins with the volume of the zoning envelope. Modifications respond directly to the limitations of the project program and the campus site characteristics.



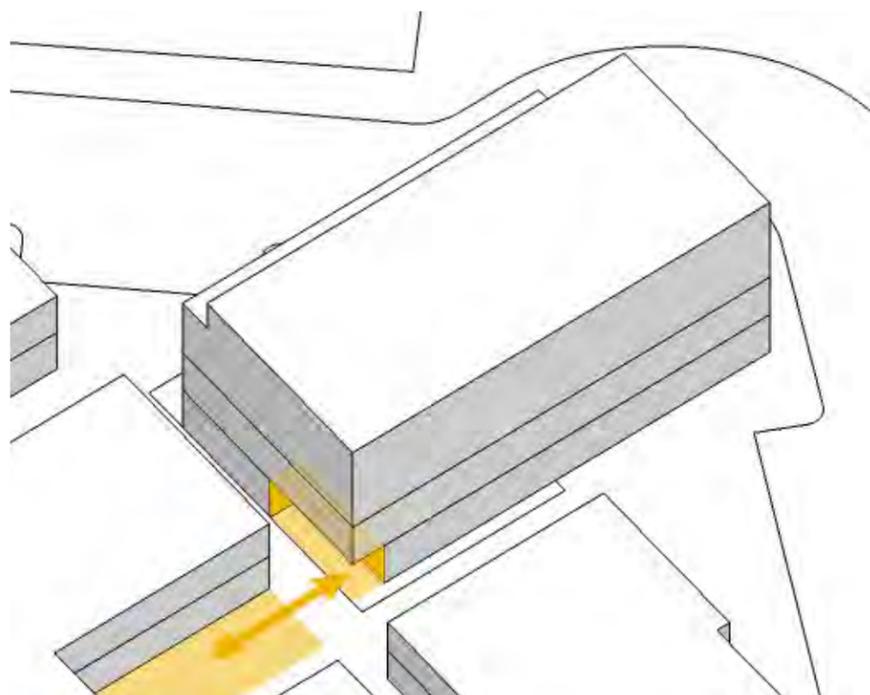
02 Campus Walkway

Massing steps back to create a generous walkway for the pedestrian-oriented campus interior. The step back also responds to fire separation code requirements, creating a distance from the adjacent building which will limit blank wall in the shaded area.



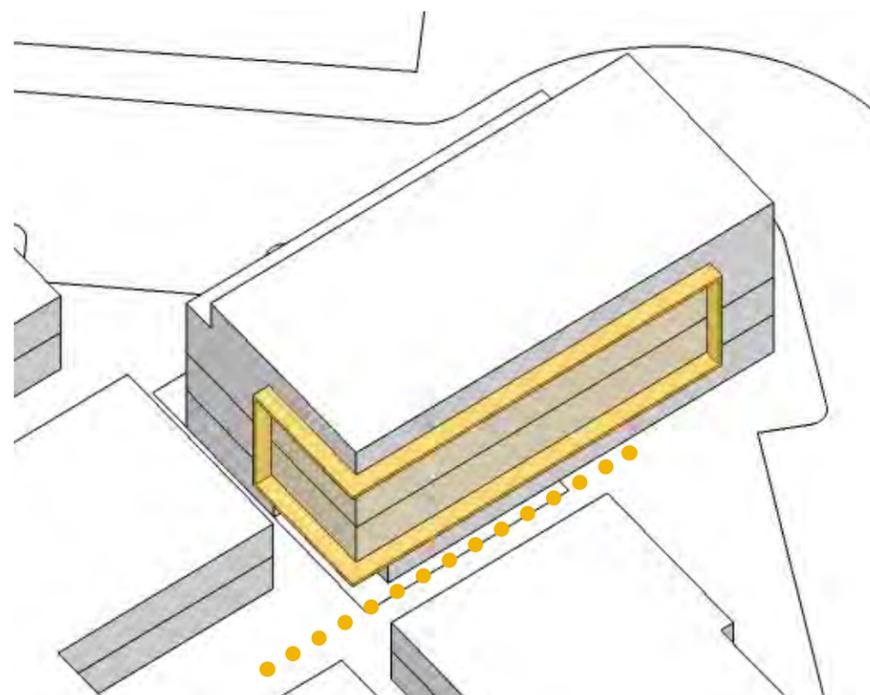
03 Reduced Circulation/Commons

1 Reduce area requirement for Commons.
 2 Lower height of Circulation/Commons bar.
 3 Restrict footprint to create exterior terrace.
 4 Extend at classrooms, gymnasium, and mezzanine.



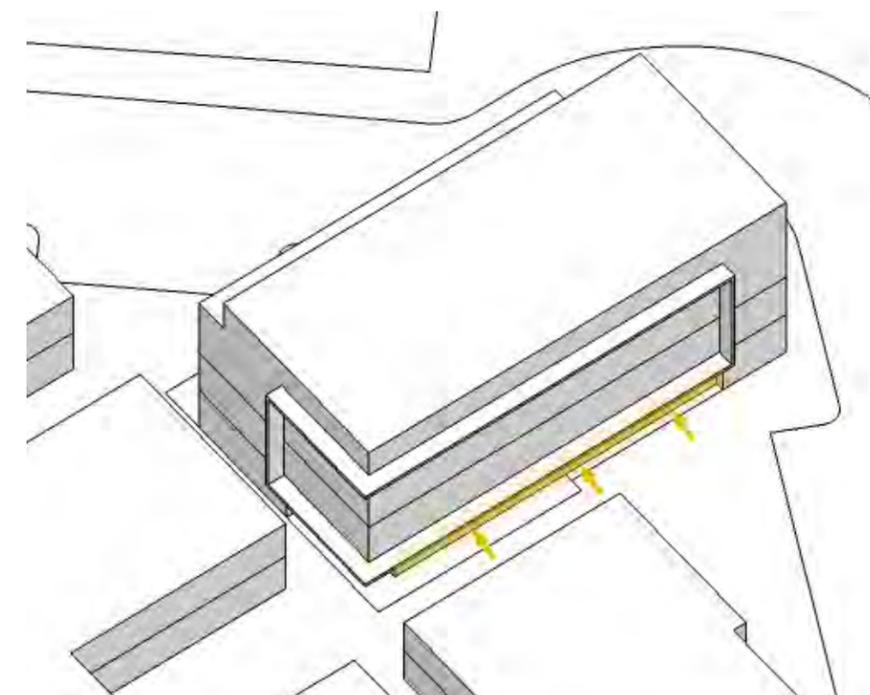
04 Building Entry

Recess primary entrance at north building corner to create direct connection to existing Student Commons building and central plaza.



05 Covered Walkway/Building Scale

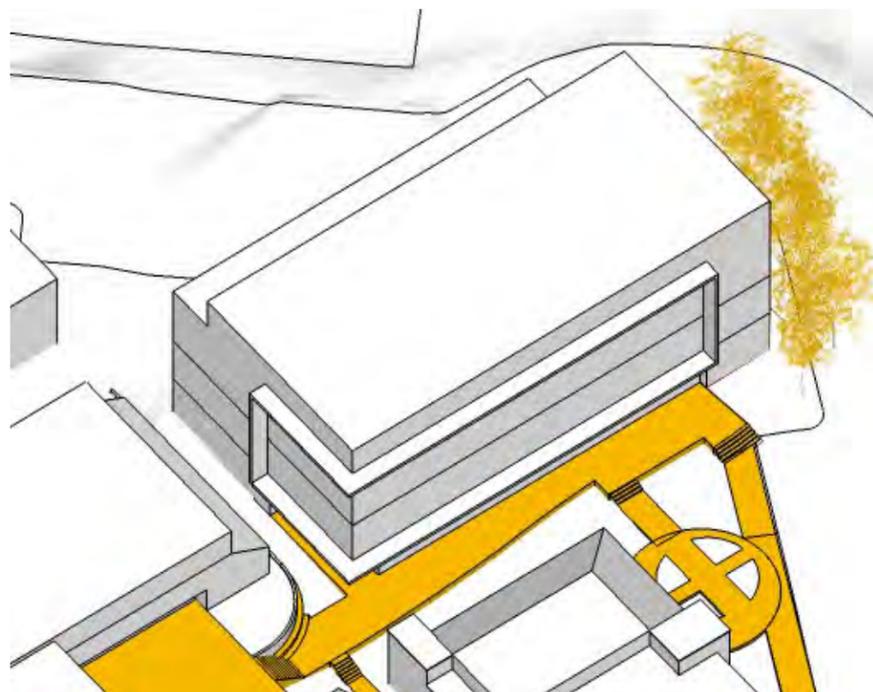
Provide a continuous awning element to create weather protection for the walkway. Awning element visually reduces the perceived height of the building and divides the facade into separate sections.



06 Recessed Ground Level

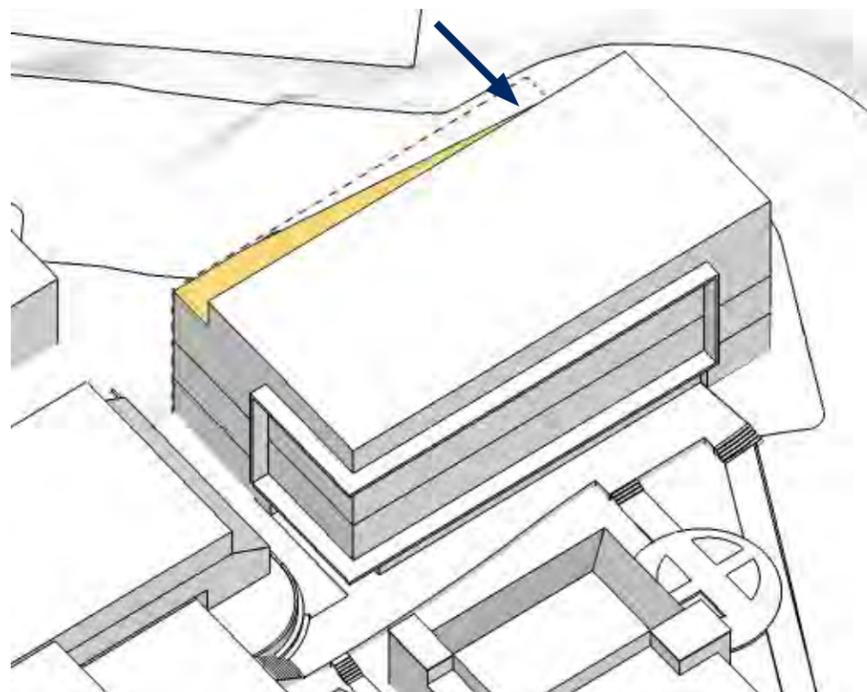
Ground level steps back to create a wider covered pedestrian walkway along the building facade within the campus interior.

ALTERNATIVE 3 - FORMAL DEVELOPMENT
 DESIGN RESPONSE CONFERENCE - AUGUST 2014



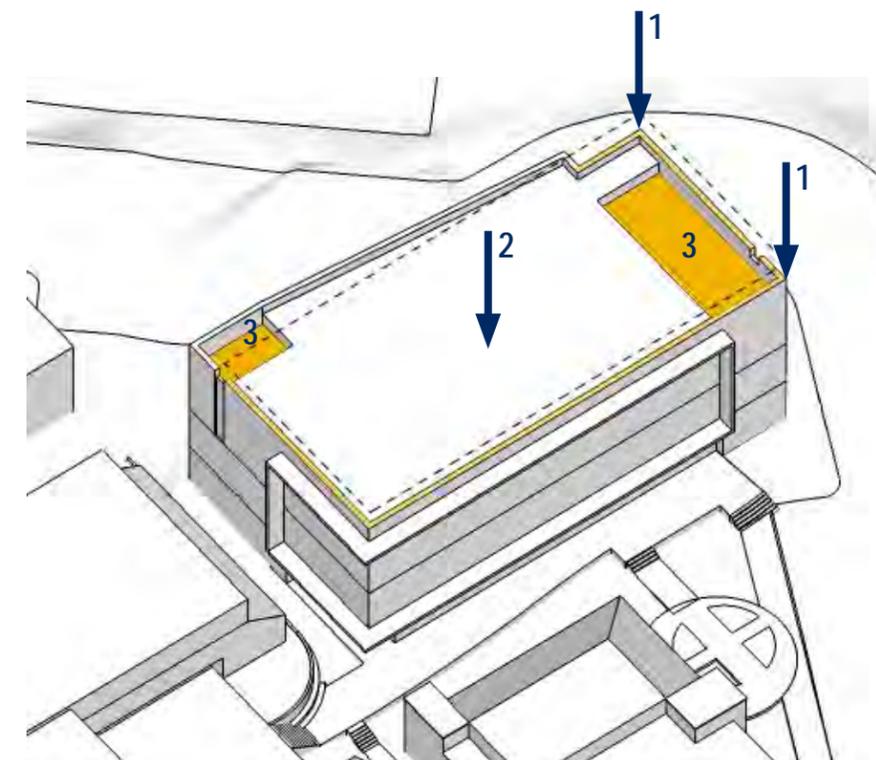
07 Campus Walkway

The building responds to campus layout and circulation. A generous walkway is created to connect the Student Commons to the outdoor play court, the two main exterior spaces on campus. Utilize landscaping along the south and west elevations to help buffer apparent scale of the building.



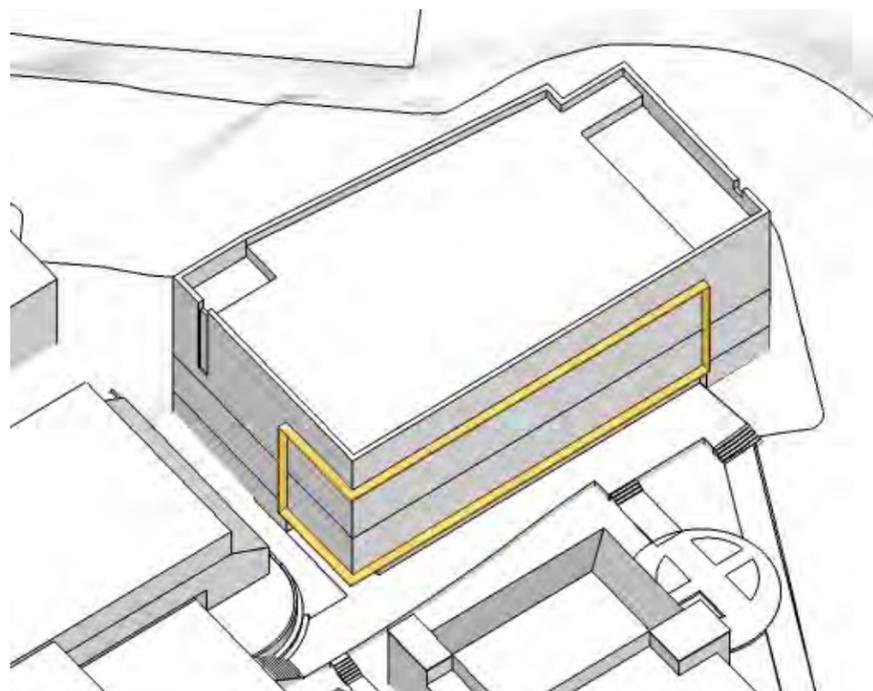
08 Vertical Circulation and Gym Access

South gym access is folded, providing building articulation and modulation, while accommodating vertical circulation, gym access at the upper floors. The mass is carved at the lower two floors creating a south-facing, weather-protected pedestrian space with lots of glass, and providing further building modulation.



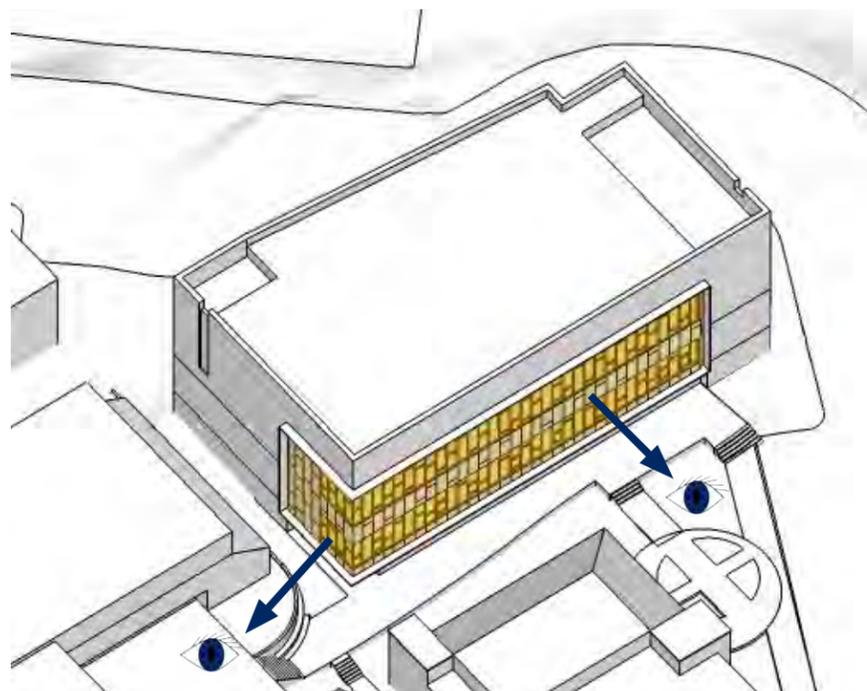
09 Reduced Height, Parapet, Mechanical Wells

1 Reduce building height to 4' below the height limit to reduce building mass, bulk and scale.
 2 Flat roof with parapet.
 3 Mechanical wells: parapets screen rooftop mechanical equipment as required by zoning code.



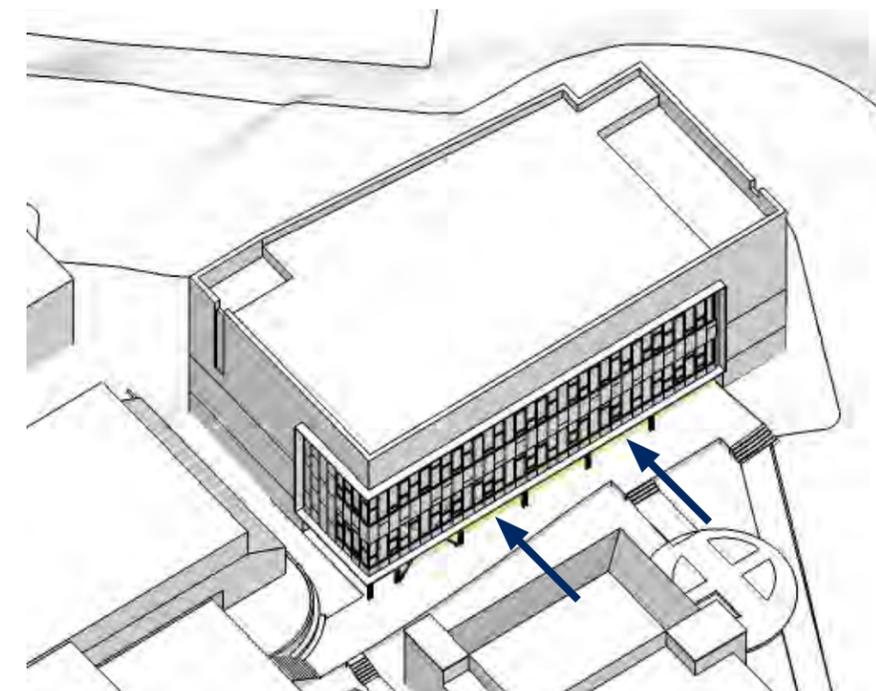
10 Building Scale

The vertical fins and eyebrows are reduced in scale from Conceptual Design, but provide articulation, vertical modulation and scaling qualities from pedestrian experience, and weather protection.



11 Architectural Response to Exterior Spaces

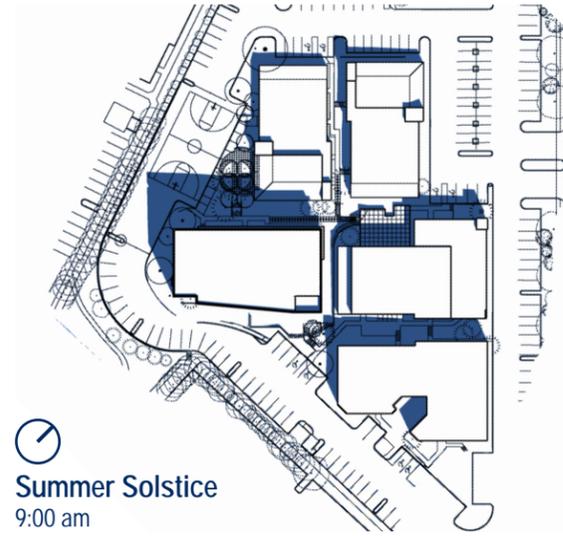
Expansive glazing with a playful composition of mullions provides abundant daylight to the gym and classrooms, visual connections between the program and exterior spaces, and creates a significant articulated, visual accent.



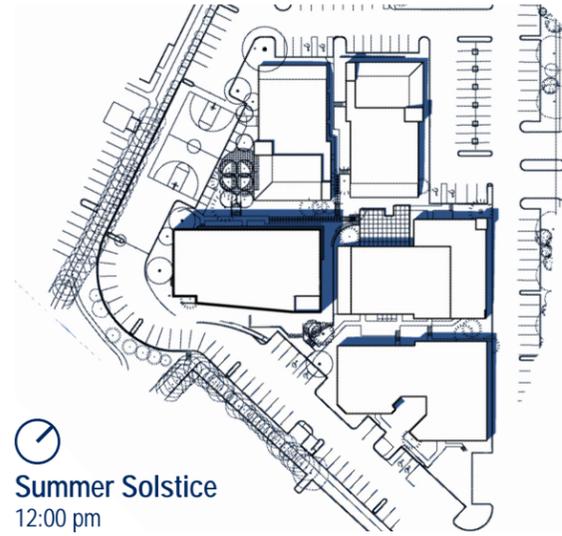
12 Recessed Ground Level

Ground level recess along walk way is increased to create a covered walkway – a contemporary "arcade" along the building that connects the Commons to the playcourt.

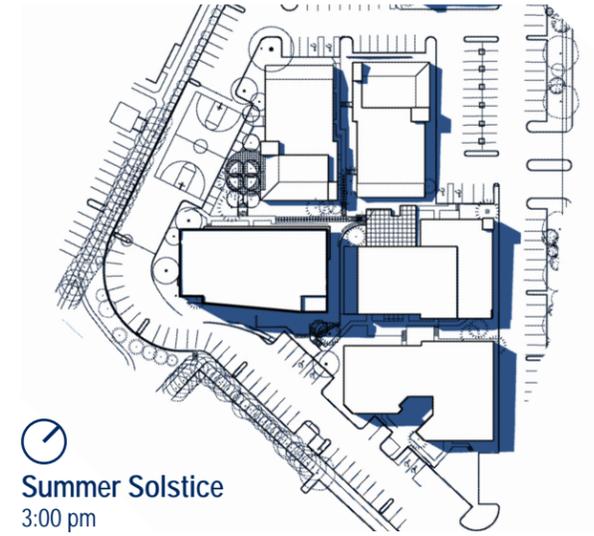
SHADOW STUDY



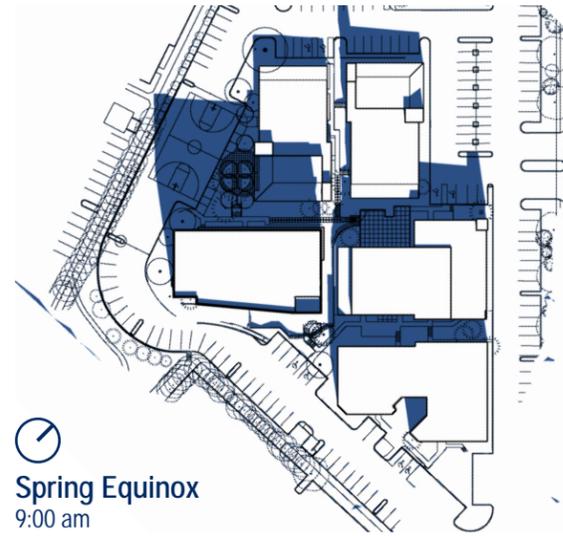
Summer Solstice
9:00 am



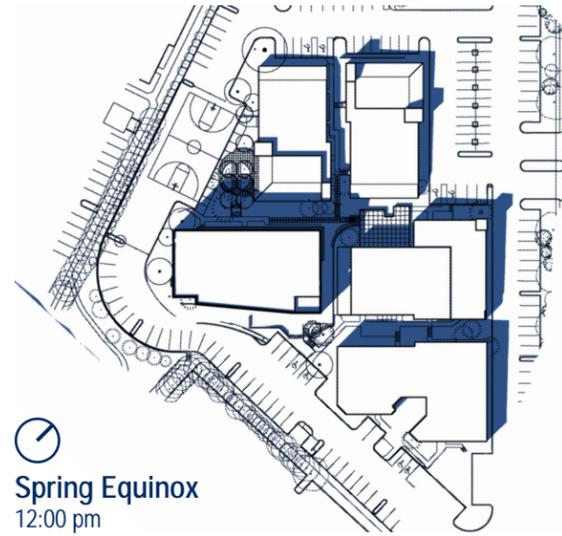
Summer Solstice
12:00 pm



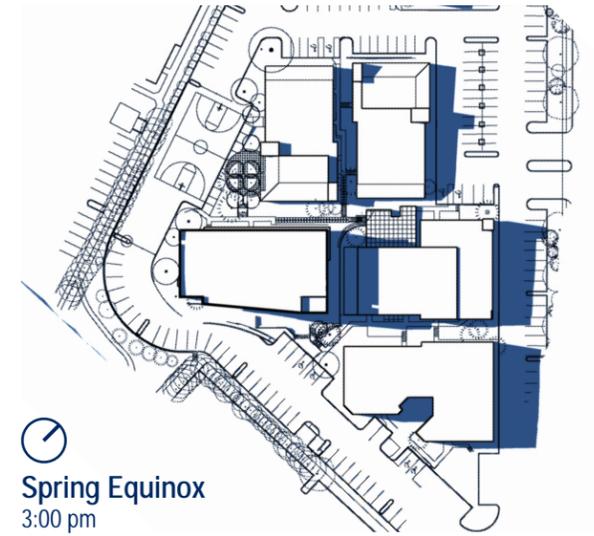
Summer Solstice
3:00 pm



Spring Equinox
9:00 am



Spring Equinox
12:00 pm



Spring Equinox
3:00 pm



Winter Solstice
9:00 am



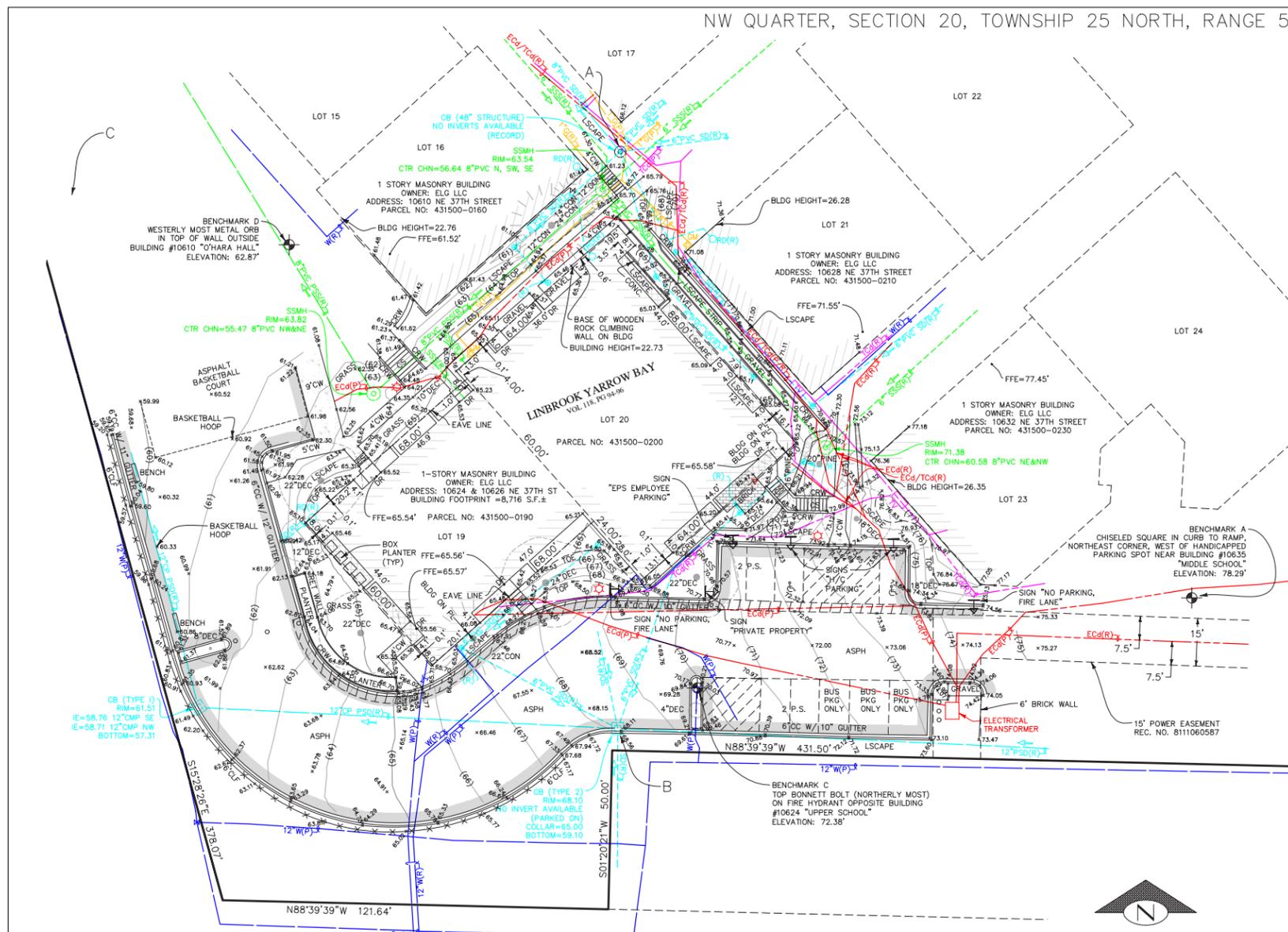
Winter Solstice
12:00 pm



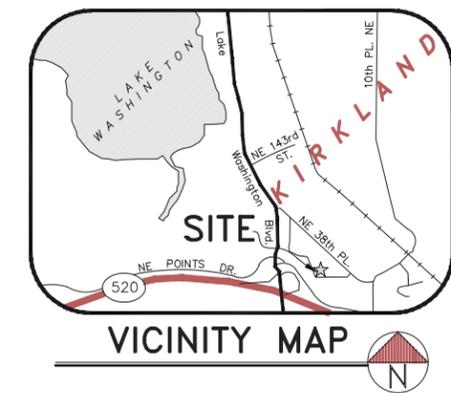
Winter Solstice
3:00 pm

SURVEY

NW QUARTER, SECTION 20, TOWNSHIP 25 NORTH, RANGE 5 EAST, W.M.



UTILITY PROVIDERS:
WATER/SANITARY SEWER/STORM SEWER
CITY OF KIRKLAND
DEPARTMENT OF PUBLIC WORKS
123 FIFTH AVENUE
KIRKLAND, WA 98033-6189
(425) 587-3800
POWER & NATURAL GAS
PUGET SOUND ENERGY
MUNICIPAL CONSTRUCTION PLANNING DEPARTMENT
10885 NE 4TH STREET
BELLEVUE, WA 98004-5591
(888) 225-5773
TELEPHONE
CENTURY LINK
1600 7TH AVENUE
SEATTLE, WA 98191
(800) 244-1111



DESCRIPTION:
PARCEL A:
LOTS 15 THROUGH 24, INCLUSIVE, LINBROOK YARROW BAY, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 118 OF PLATS, PAGE(S) 94 THROUGH 96, INCLUSIVE, RECORDS OF KING COUNTY, WASHINGTON, REVISED BY CITY OF KIRKLAND LOT LINE ADJUSTMENT NO. 84-76, FILED IN VOLUME 42 OF SURVEYS, PAGES 23 AND 23A, AND RECORDED UNDER KING COUNTY RECORDING NO. 841009003, IN KING COUNTY, WASHINGTON.
PARCEL B:
A PERPETUAL, NON-EXCLUSIVE EASEMENT AND RIGHT OF ACCESS, INGRESS AND EGRESS AS ESTABLISHED BY DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS AND RESERVATION OF EASEMENTS FOR LINBROOK YARROW BAY, RECORDED UNDER KING COUNTY RECORDING NO. 8410290408, AND AMENDED BY INSTRUMENTS RECORDED UNDER RECORDING NO.'S 8503180297, 9101310583, 20050315001750, 20050502000977 AND 20050502000977 RECORDED IN KING COUNTY, WASHINGTON.

TITLE REPORT REFERENCE:
THIS SURVEY WAS CONDUCTED ACCORDING TO THE DESCRIPTION SHOWN, FURNISHED BY STEWART TITLE GUARANTY COMPANY, COMMITMENT NO. 205123614, FOURTH COMMITMENT, DATED MARCH 8, 2006. THE EASEMENTS SHOWN OR NOTED HERON RELATE TO THIS COMMITMENT.

NOTE: EASEMENTS CREATED OR RESCINDED AFTER THIS DATE ARE NOT SHOWN OR NOTED HERON.

TITLE REPORT SCHEDULE B EXCEPTIONS:
ITEMS CIRCLED ARE SHOWN ON MAP.
11. RESTRICTIONS, CONDITIONS, DEDICATIONS, NOTES, EASEMENTS AND PROVISIONS DELINEATED AND/OR DESCRIBED ON THE PLAT RECORDED IN VOLUME 118 OF PLATS AT PAGE(S) 94 THROUGH 96 INCLUSIVE, IN KING COUNTY, WASHINGTON.
12. COVENANTS, CONDITIONS, RESTRICTIONS AND/OR EASEMENTS THEREIN, INCLUDING, BUT NOT LIMITED TO, ASSESSMENTS LEVIED BY LINBROOK OWNER'S ASSOCIATION, A WASHINGTON NON-PROFIT CORPORATION:
RECORDED: OCTOBER 29, 1984
RECORDING NUMBER(S): 8410290408
AMENDMENT(S) AND/OR MODIFICATION(S) OF SAID COVENANTS:
RECORDED: MARCH 18, 1985, JANUARY 31, 1991, MARCH 15, 2005 AND MAY 2, 2005
RECORDING NUMBER(S): 8503180297, 9101310583, 20050315001750 AND 20050502000977

13. TERMS AND CONDITIONS OF CONCOMITANT TRAFFIC SIGNAL AGREEMENT:
RECORDED: OCTOBER 29, 1984
RECORDING NO.: 8410290409

14. TERMS AND CONDITIONS OF PARTY WALL AND ACCESS AGREEMENT:
RECORDED: MAY 19, 1997
RECORDING NO.: 9705190428
(AFFECTS: LOTS 17 AND 18)

16. RESERVATION, INCLUDING THE TERMS AND CONDITIONS THEREOF:
RESERVING: RIGHT OF FIRST REFUSAL
RESERVED BY: HINES LINBROOK ASSOCIATES LIMITED PARTNERSHIP
RECORDED:
RECORDING NO.:
(AS TO LOTS 15, 16 AND 19 OF PARCEL A)

13. TERMS AND CONDITIONS OF CONCOMITANT TRAFFIC SIGNAL AGREEMENT:
RECORDED: OCTOBER 29, 1984
RECORDING NO.: 8410290409

14. TERMS AND CONDITIONS OF PARTY WALL AND ACCESS AGREEMENT:
RECORDED: MAY 19, 1997
RECORDING NO.: 9705190428
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RESERVING: RIGHT OF FIRST REFUSAL
RESERVED BY: HINES LINBROOK ASSOCIATES LIMITED PARTNERSHIP
RECORDED:
RECORDING NO.:
(AS TO LOTS 15, 16 AND 19 OF PARCEL A)

HORIZONTAL DATUM: NAD 83/91
HORIZONTAL BENCHMARKS:
OWNER: CITY OF BELLEVUE
ID# 0352
DESCRIPTION: "CITY OF BELLEVUE" BRASS CAP STAMPED "H0352" & "V66"
LOCATION: EAST SIDEWALK AT LAKE WASH BOULEVARD 200 FEET (±) SOUTH OF NE 38TH PLACE
NORTHING: 238440.148
EASTING: 1303161.467

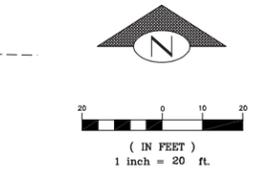
OWNER: CITY OF BELLEVUE
ID# 2379
DESCRIPTION: 2" DIAMETER CITY OF BELLEVUE BRASS CAP WITH PUNCH MARK STAMPED "H2379"
LOCATION: SET ON TOP CONCRETE SIDEWALK ON NORTHEAST SIDE NORTHUP WAY, 40 FEET (±) NORTHWESTERLY OF DRIVEWAY TO NEWPORT BAY RESTAURANT.
NORTHING: 237738.574
EASTING: 1303361.719

LEGEND

⊕	AREA DRAIN
▨	ASPHALT (ASPH)
▩	BRICK SURFACE
—	BUILDING LINE
┌	BUILDING CORNER
○	BOLLARD
▭	CANOPY
⊕	CATCH BASIN (CB)
▩	CONCRETE SURFACE (CONC)
—	CONCRETE/BRICK WALK
—	CONCRETE RETAINING WALL
—	CONCRETE/EXTRUDED CURB
—	CONC./IRON PIPE
—	CHAIN LINK FENCE (CLF)
CS	CONC. STAIRS
⊕	H/C PARKING SPACE
CON	CONIFEROUS TREE
DEC	DECIDUOUS TREE
CMP	CORRUGATED METAL PIPE
⊕	ELECTRICAL CONDUIT (BURIED)
—	CENTERLINE/MONUMENT LINE
EHH	ELECTRICAL HANDHOLE
EM	ELECTRICAL METER
⊕	FOUND MONUMENT IN CASE
⊕	FIRE HYDRANT
⊕	FIRE DEPT. CONNECTION (FDC)
FFE	FINISHED FLOOR ELEVATION
G	GAS MAIN
GM	GAS METER
G	GAS VALVE
M	IRRIGATION VALVE
IE	INVERT ELEVATION
⊕	LIGHT POLE (ORNAMENTAL)
LSCAPE	LANDSCAPE PLANTER
⊕	MANHOLE
P.S.	PARKING SPACE
PC	PROPERTY CORNER
PL	PROPERTY LINE
(P)	PAINTED UTILITY LOCATION
PS/PSS	COMBINED/SANITARY SEWER
PSD	PIPE STORM DRAIN
⊕	PRIVATE CATCH BASIN
(R)	RECORD DATA
⊕	ROCKERY
RE	ROOF ELEVATION
RD	ROOF DRAIN
SD	SERVICE DRAIN (STORM)
SSS	SANITARY SIDE SEWER (RECORD)
Tcd	TELEPHONE CONDUIT (BURIED)
TV	TELEPHONE VAULT
TOE	TOE OF SLOPE
TOP	TOP OF BANK
W	WATER MAIN
M	WATER VALVE

SITE NOTES
SITE ADDRESS:
10624 NE 37TH ST
10626 NE 37TH ST
KIRKLAND, WA 98033
TAX ACCOUNT NOS:
431500-0190-02
431500-0200-00
ZONING:
YBD 3
ZONING AGENCY:
CITY OF KIRKLAND
DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
123 FIFTH AVENUE
KIRKLAND, WA 98033-6189
(425) 587-3225
SETBACKS:
CURRENT SETBACK REQUIREMENTS SUBJECT TO SITE PLAN REVIEW. CURRENT SETBACKS MAY DIFFER FROM THOSE IN EFFECT DURING DESIGN/CONSTRUCTION OF EXISTING IMPROVEMENTS.
THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE GOVERNING JURISDICTION INDICATES THAT STRUCTURES ON THIS PROPERTY COMPLIED WITH MINIMUM SETBACK AND HEIGHT REQUIREMENTS FOLLOWING CONSTRUCTION.

FLOOD ZONE:
THIS SITE APPEARS ON NATIONAL FLOOD INSURANCE RATE MAP, DATED MAY 16, 1995, COMMUNITY PANEL NO. 53033C0365F, AND IS SITUATED IN ZONE "X". AREA DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.
HORIZONTAL DATUM:
NAD 83/91
VERTICAL DATUM:
NAVD 88
NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988). SEE DRAWING FOR BENCHMARKS SET FOR SITE USE. SUBTRACT 3.6 FEET TO EQUAL NGVD '29
SUBSTRUCTURES:
BURIED UTILITIES ARE SHOWN AS INDICATED ON RECORDS. MAPS FURNISHED BY OTHERS AND VERIFIED WHERE POSSIBLE BY FEATURES LOCATED IN THE FIELD. WE ASSUME NO LIABILITY FOR THE ACCURACY OF THOSE RECORDS. FOR THE FINAL LOCATION OF EXISTING UTILITIES IN AREAS CRITICAL TO DESIGN CONTACT THE UTILITY OWNER/AGENCY.
TELECOMMUNICATIONS/FIBER OPTIC DISCLAIMER:
RECORDS OF UNDERGROUND TELECOMMUNICATIONS AND/OR FIBER OPTIC LINES ARE NOT ALWAYS AVAILABLE TO THE PUBLIC. BRH HAS NOT CONTACTED EACH OF THE MANY COMPANIES, IN THE COURSE OF THIS SURVEY, WHICH COULD HAVE UNDERGROUND LINES WITHIN ADJACENT RIGHTS-OF-WAY. THEREFORE, BRH DOES NOT ACCEPT RESPONSIBILITY FOR THE EXISTENCE OF UNDERGROUND TELECOMMUNICATIONS/FIBER OPTIC LINES WHICH ARE NOT MADE PUBLIC RECORD WITH THE LOCAL JURISDICTION. AS ALWAYS, CALL 1-800-424-5555 BEFORE CONSTRUCTION.



CATCH BASIN NOTES
A. APPROXIMATE CATCH BASIN POSITION BASED ON RECORD DOCUMENTS. INVERTS NOT CURRENTLY AVAILABLE.
B. CATCH BASIN NOT DIPPED BECAUSE IT WAS PARKED ON DURING SURVEY. NO INVERT ELEVATIONS CURRENTLY AVAILABLE.
C. APPROXIMATE CATCH BASIN LOCATION BASED ON RECORD. INVERTS NOT CURRENTLY AVAILABLE.



NO	REVISION	DATE

BUSH, ROED & HITCHINGS, INC.
CIVIL ENGINEERS & LAND SURVEYORS
2009 MINOR AVE EAST (206) 323-4144
SEATTLE, WASHINGTON 1-800-935-0508
98102-3513 FAX (206) 323-7135
WEBSITE: BRHINC.COM

PRELIMINARY
EASTSIDE PREPARATORY SCHOOL
10624 & 10626 NE 37TH ST
KIRKLAND, KING COUNTY, WASHINGTON

drawn by	checked by
JBK/MWH	JMH
scale	date
1" = 20'	5/22/14
job no.	
2014070.00	
sheet	1 of 1

CAMPUS PLAN

Linbrook Office Park

Setbacks and Yards: None required

Existing Structures

This project will replace an existing Eastside Prep classroom building.

Pedestrian-Oriented Streets

There are no pedestrian-oriented streets or major pedestrian sidewalks related to this project.

The project, however, attempts to reinforce and strengthen the campus connections, improving the pedestrian experience from the Commons to the outdoor playcourt. The pathway is widened and weather protection provided along the length of the path. The first floor is recessed along the northern path and the main building entry with expansive use of glass to improve the pedestrian experience. On the southeastern side, an outdoor plaza is created with weather and sun shading provided by the overhang of the upper gym floors.

The project also increases the amount of landscaping, reducing the fire access lane, and providing a generous landscape area to the west of the building. A new accessible ramp will be provided from the southeast parking area to the building.

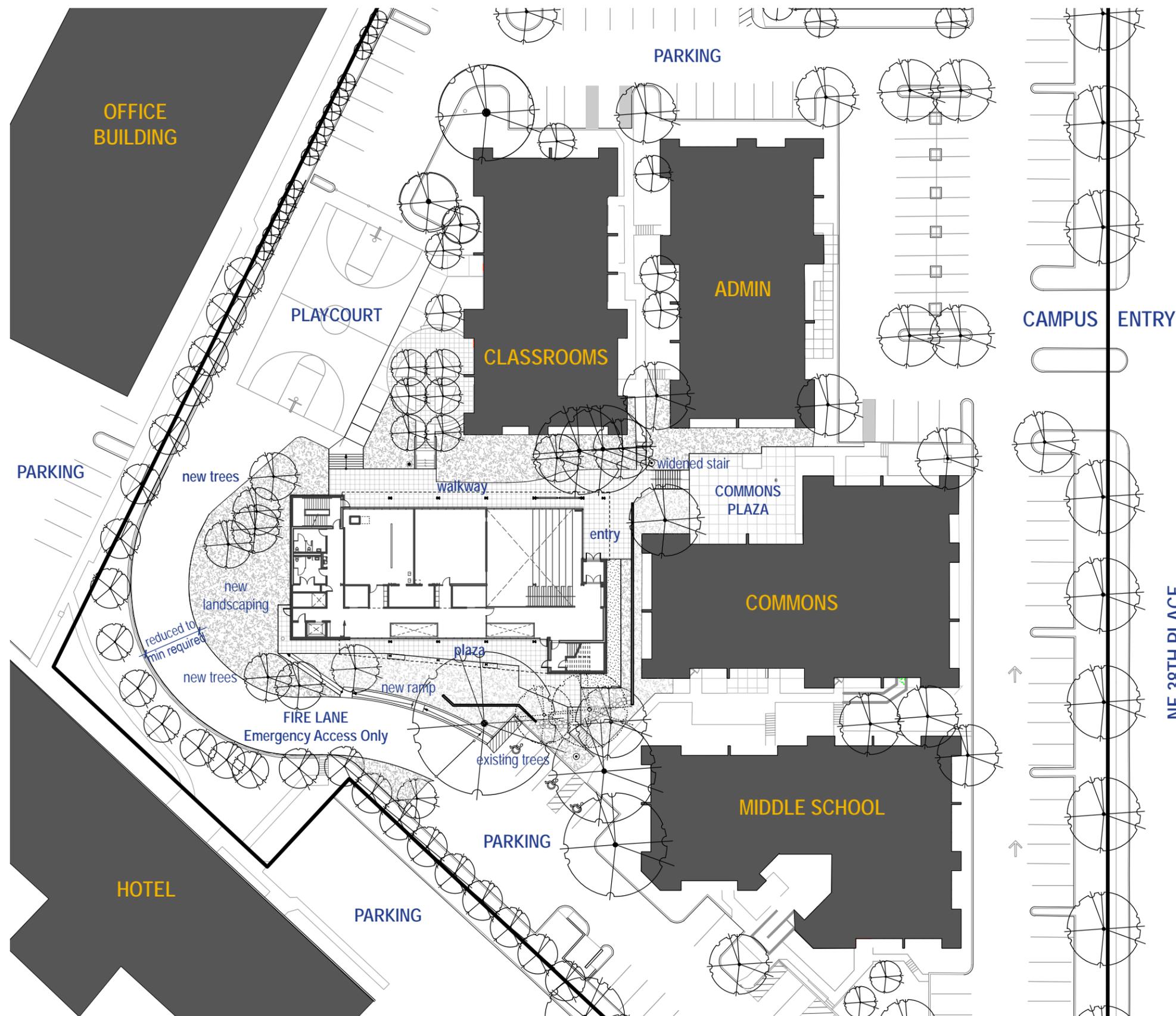
Exterior Lighting

The exterior lighting will consist of a combination of site bollards, light poles and building-mounted lights at each entry, and at the soffits along the north pathway and the south covered plaza. There will also be sconces along the northeast secondary pathway.

In addition, when the building is used in the evening, the building itself will help light the surrounding pedestrian areas as the significant portions of glazing are along the north and south pedestrian walkways.

Parking

The applicant has submitted parking and traffic information as required by the City Transportation Engineer and as required by the SEPA process.



LANDSCAPE PLAN

Existing Landscape Features

The existing site has a few trees that are immediately adjacent to the building that will be removed and too close to the new project to retain.

The new building will be located further north than the existing buildings. This gives more breathing room to the existing retaining walls and rockery to the southeast of the building. This will allow a more graceful transition of grades to the building, and a better buffer to the parking and fire access area.

Tree Plan

A tree plan prepared by an independent arborist in accordance with Kirkland Zoning Code Section 95.30 has been provided as a separate attached document.

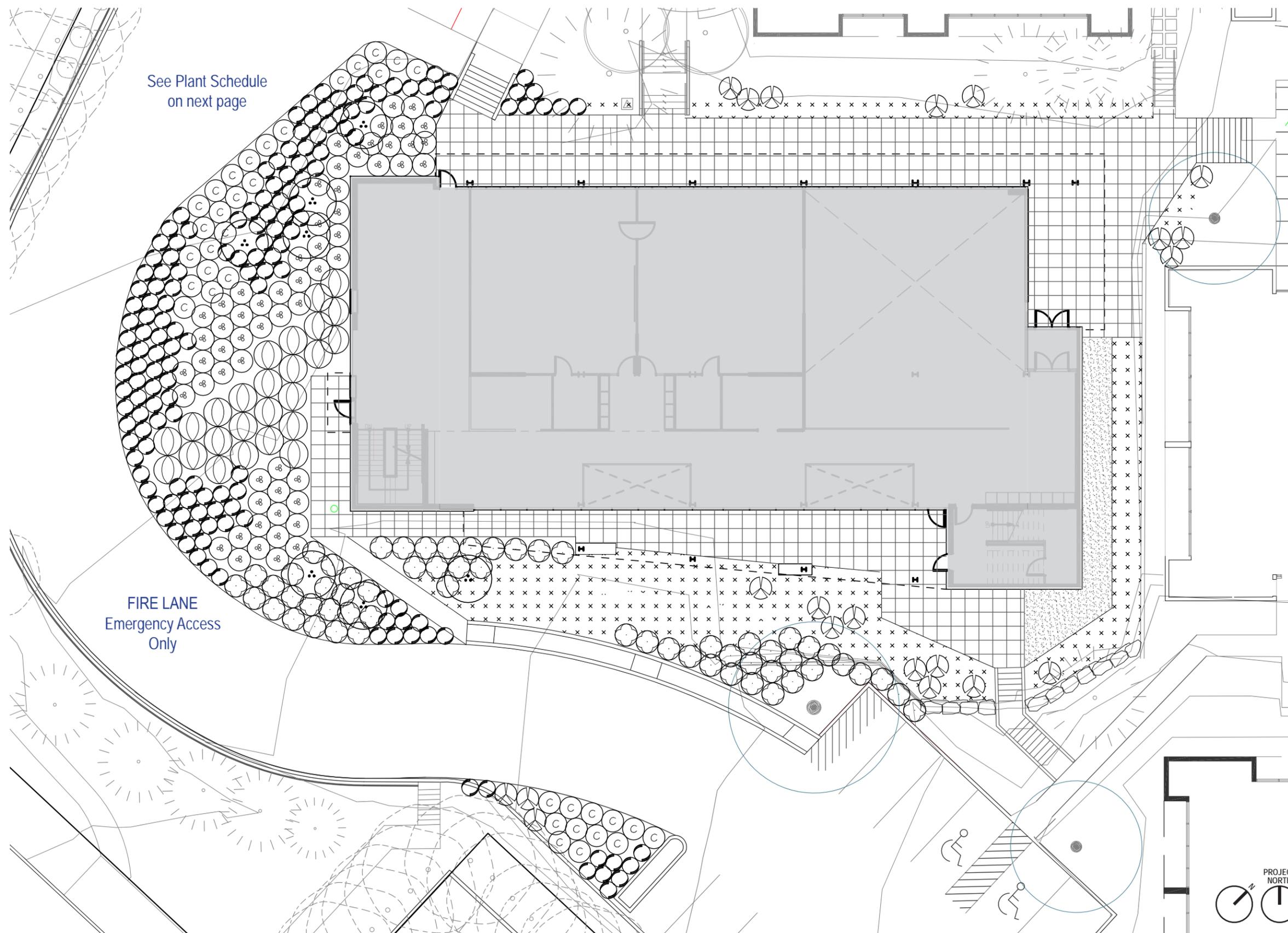
The new, extended landscape area to the project west will include several new trees and extensive draught-tolerant planting, reduce the amount of pavement, and will provide a soft foreground to the west elevation which is the side of the building that houses most of the service spaces of the building. (As shown in the floor plans, their location is governed by the gym layout. This layout also helps activate the pedestrian path to the north of the building with classrooms and gym oriented onto this space. The commons overlooks the south plaza and has access to the southern light. The west side is the least active portion of the campus.)

The design does not incorporate ivy into the landscape plan.

Plant schedule is located on the next page. Note there are several 'Vanessa' trees to the southwest and northwest that will be larger than indicated in this plan. They will spread 10-20 feet wide and grow to height of 15-40 feet.

Coordinated Pedestrian Access

The two main existing outdoor active spaces on campus serve as landscape focal point and anchor each end of an improved major internal pedestrian walkway along the north elevation of the proposed Science building.



PLANT SCHEDULE

KEY	QTY	SPECIES	SIZE & NOTES
<u>TREES</u>			
	7	PARROTIA PERSICA 'VANESSA' VANESSA PERSIAN IRONWOOD	10 FT HT MULTI-TRUNK
<u>SHRUBS & GROUND COVERS</u>			
	25	CEANOTHUS 'VICTORIA' VICTORIA CALIFORNIA LILAC	5 GALLON
	60	CHOISYA TERNATA 'SUNDANCE' SUNDANCE MEXICAN ORANGE	5 GALLON
	36	COTONEASTER SALICIFOLIUS 'REPENS' SPREADING WILLOW LEAF COTONEASTER	5 GALLON
	60	LONICERA PILEATA PRIVET HONEYSUCKLE	5 GALLON
	21	MAHONIA MEDIA 'WINTER SUN' WINTER SUN MAHONIA	5 GALLON
	158	SPIRAEA JAPONICA 'WALBUMA' MAGIC CARPET SPIRAEA	2 GALLON
	<u>GROUND COVER AREAS</u> 305 GAULTHERIA SHALLON, SALAL POLYSTICUM MUNITUM, SWORD FERN		1 GALLON EACH 1/3-2/3 MIX 30 INCHS O.C.



Polysticum munitum
 3 ft height & spread
 Shade or shade, low water use



Gaultheria shallon
 3' ht and spread
 Sun or shade, low water use



Cotoneaster salicifolius 'Repens'
 1 ft height, to 8' spread
 Sun or shade, low water use



Ceanothus 'Victoria'
 6 foot ht x 4 foot wide
 Full Sun, Low water use



Lonicera pileata, Privet Honeysuckle
 2' tall x 8' wide
 Sun or shade, Low water use



Spiraea japonica 'Walbumba'
 4' ht and spread
 Sun to light shade, Low water use



Parrotia persica 'Vanessa'



Choisya ternata 'Sundance'
 6' ht and spread
 Sun or part sun
 Low water use



NOTES

- ALL SHRUBS AND GROUND COVERS ARE LOW WATER USE ACCORDING TO WSU LOW WATER USE PLANT LIST
- VERIFY LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES AND PROTECT DURING PLANTING. PROTECT EXISTING TREES TO REMAIN.
- OWNER'S REPRESENTATIVE TO INSPECT SOIL PREPARATION PRIOR TO PLANTING. SOIL PREP TO INCLUDE LOOSENING EXISTING SOIL TO DEPTH OF 18 INCHES, PLACING 4 INCHES OF COMPOST OVER LOOSENEED EXISTING SOIL, INCORPORATING COMPOST TO DEPTH OF 8 INCHES. MULCH WITH 2 INCHES OF ORGANIC MULCH AFTER PLANTING.
- OWNER'S REPRESENTATIVE TO INSPECT PLANT MATERIAL AND LAYOUT OF PLANTS PRIOR TO COMMENCING PLANTING. ASSIST OWNER'S REPRESENTATIVE IN FIELD MODIFICATION OF PLANTING LAYOUT PRIOR TO PLANTING.
- NO SPECIES OR SIZE SUBSTITUTIONS WILL BE ACCEPTABLE WITHOUT PRIOR APPROVAL BY OWNER'S REPRESENTATIVE.
- PROVIDE AUTOMATIC IRRIGATION FOR ALL NEW PLANTING AREAS.

BASEMENT PLAN

5435 GSF TOTAL

1 Amphitheater / Multi-Purpose
 1250 GSF

The amphitheater steps down from the First Floor into the Basement and provides seating for multiple functions, from casual studying or eating lunches to organized classroom activities and presentations. In the basement, at the bottom of the amphitheater, is an area for robotics events and competitions.

2 Project Area
 800 GSF

This is a flexible space for hands-on project space - whether tinkering, conceiving or displaying project work.

3 Information Technology Staff
 300 GSF

Open workstations and storage for the school's IT staff.

4 Physics Laboratory
 670 GSF

A general classroom that has access to the digital fabrication lab as well as the amphitheater where robotic competitions can be held.

5 Fabrication Laboratory
 360 GSF

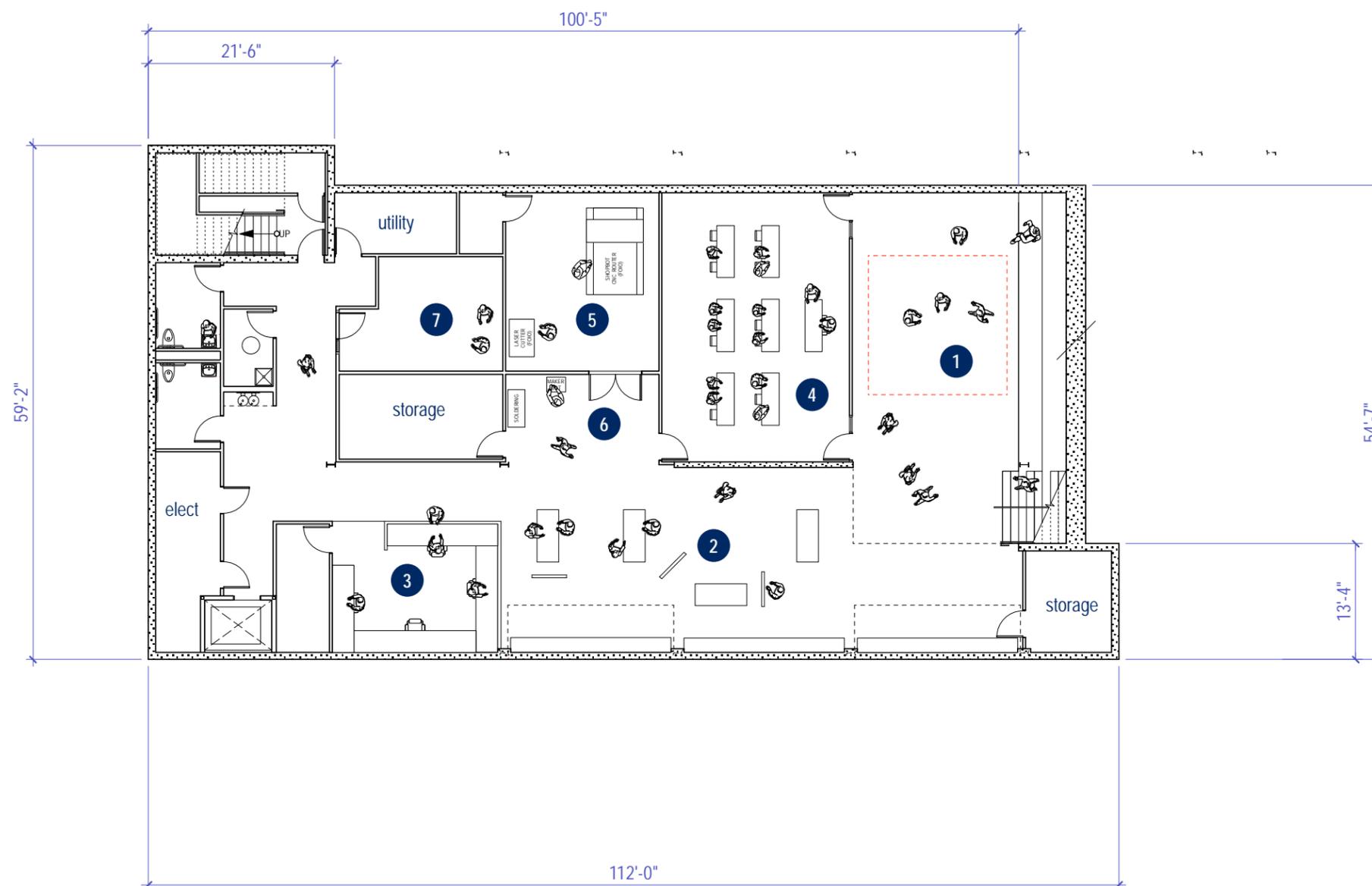
The fab lab will be the center of the school's state-of-the-art digital fabrication curriculum. Equipment will include a CNC router and laser cutter.

6 3D Printing Area
 175 GSF

3D printers and a soldering station will occupy this alcove. The equipment will have direct access to the project area, physics lab and digital fabrication lab.

7 Green Screen Laboratory
 220 GSF

This area of the basement -- remote from any daylight -- will be used by the school's visual arts program for activities such as video production work.



FIRST FLOOR PLAN

5845 GSF TOTAL

1 Amphitheater / Multi-Purpose 1250 GSF

The amphitheater steps down from the First Floor into the Basement and provides seating for multiple functions, from casual studying or eating lunches to organized classroom activities and presentations. In the basement, at the bottom of the amphitheater, is an area for robotics events and competitions.

2 Biology + Chemistry Labs 1805 GSF

State-of-the-art science labs with a fume hood, wet labs and lecture areas.

3 Staff Offices 185 GSF

A combination of a private flexible meeting space and flexible, open work pods.

4 Commons 275 GSF

Open, flexible seating area for students to use informally between classes individually or as part of project teams. Since they occupy buildings conceived as office buildings, the campus in general lacks these types of spaces. The commons has generous windows to the south east and access to a covered plaza area.

5 Main Entry

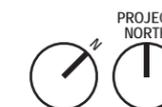
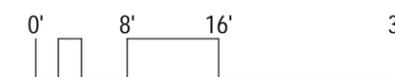
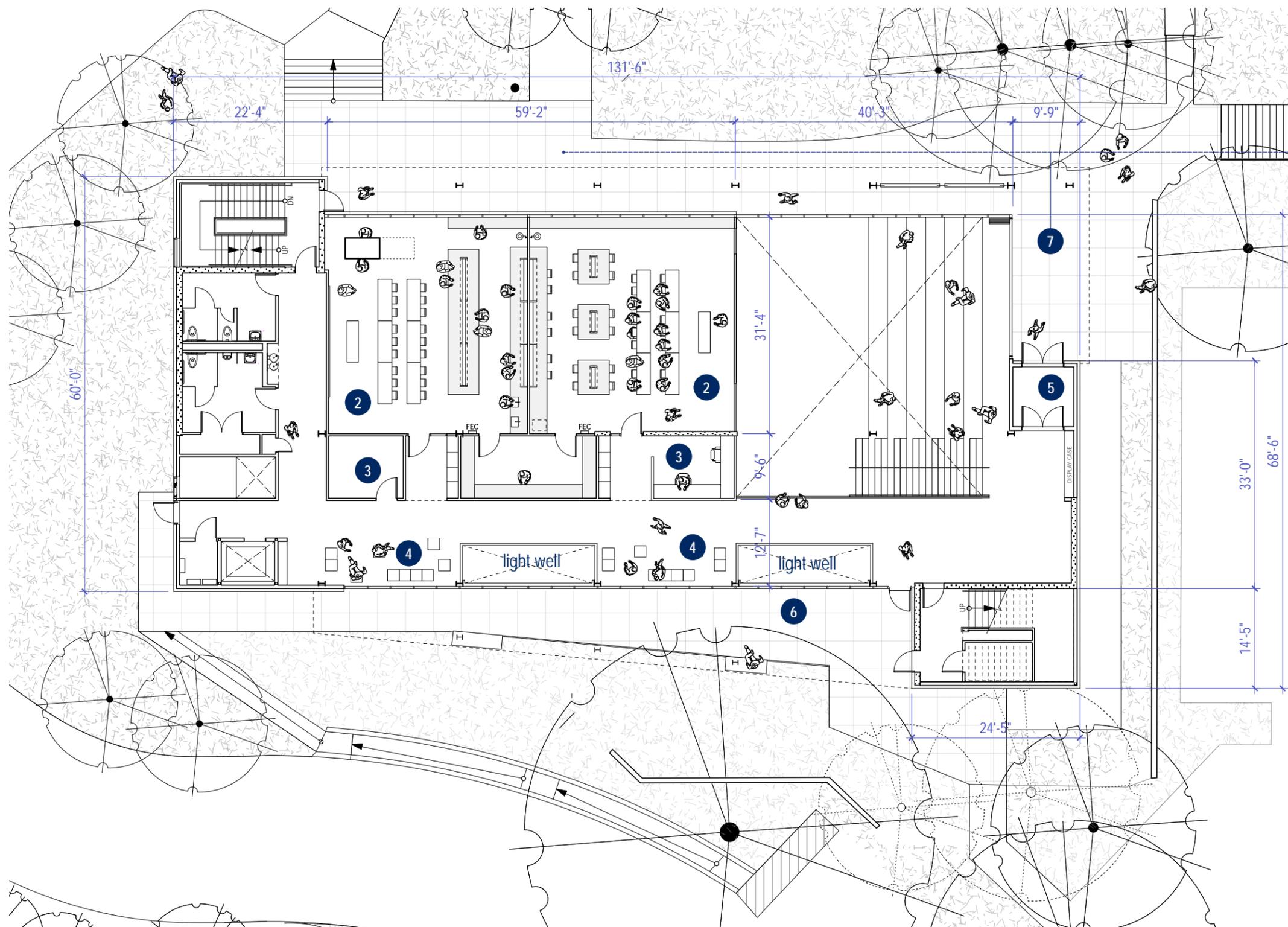
The main entry connects the building to the Commons, the heart of the campus.

6 Plaza

A covered, outdoor area with southeast exposure. The building above provides some weather protection and sun shading to the commons.

7 Building Orientation

Interior spaces and building entry are oriented to plazas and major internal pedestrian walkway.



SECOND FLOOR PLAN

7420 GSF TOTAL

1 General Classrooms

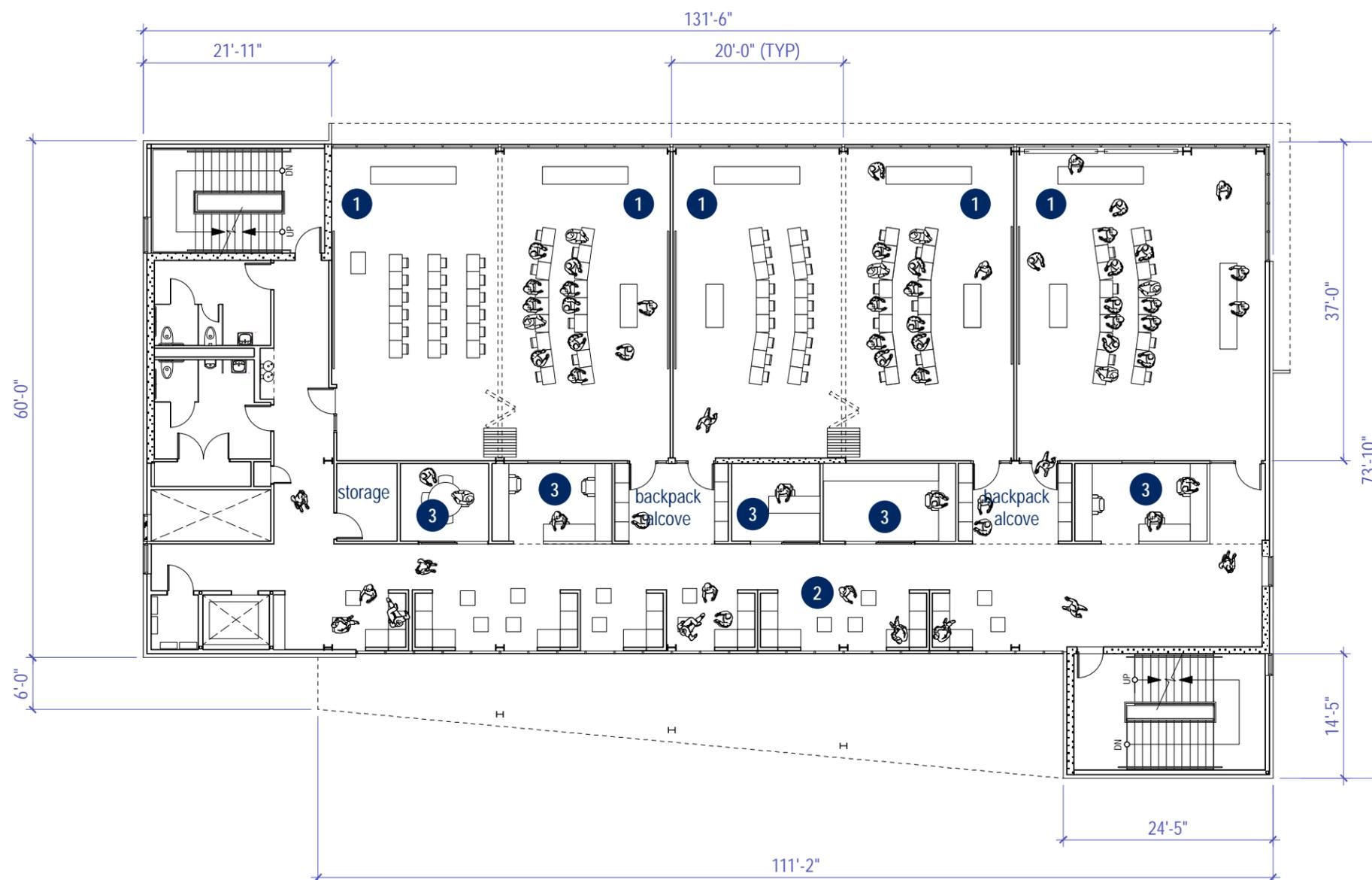
3880 GSF
 Five general classrooms with two operable partitions to provide the school with programming flexibility. These classrooms will have access to diffuse northern light during the school day.

2 Commons

1980 GSF
 Open, flexible seating area for students to use informally between classes individually or as part of project teams. Since they occupy buildings conceived as office buildings, the campus in general lacks these types of spaces. The commons has generous windows to the south east and access to a covered plaza area.

3 Staff Offices

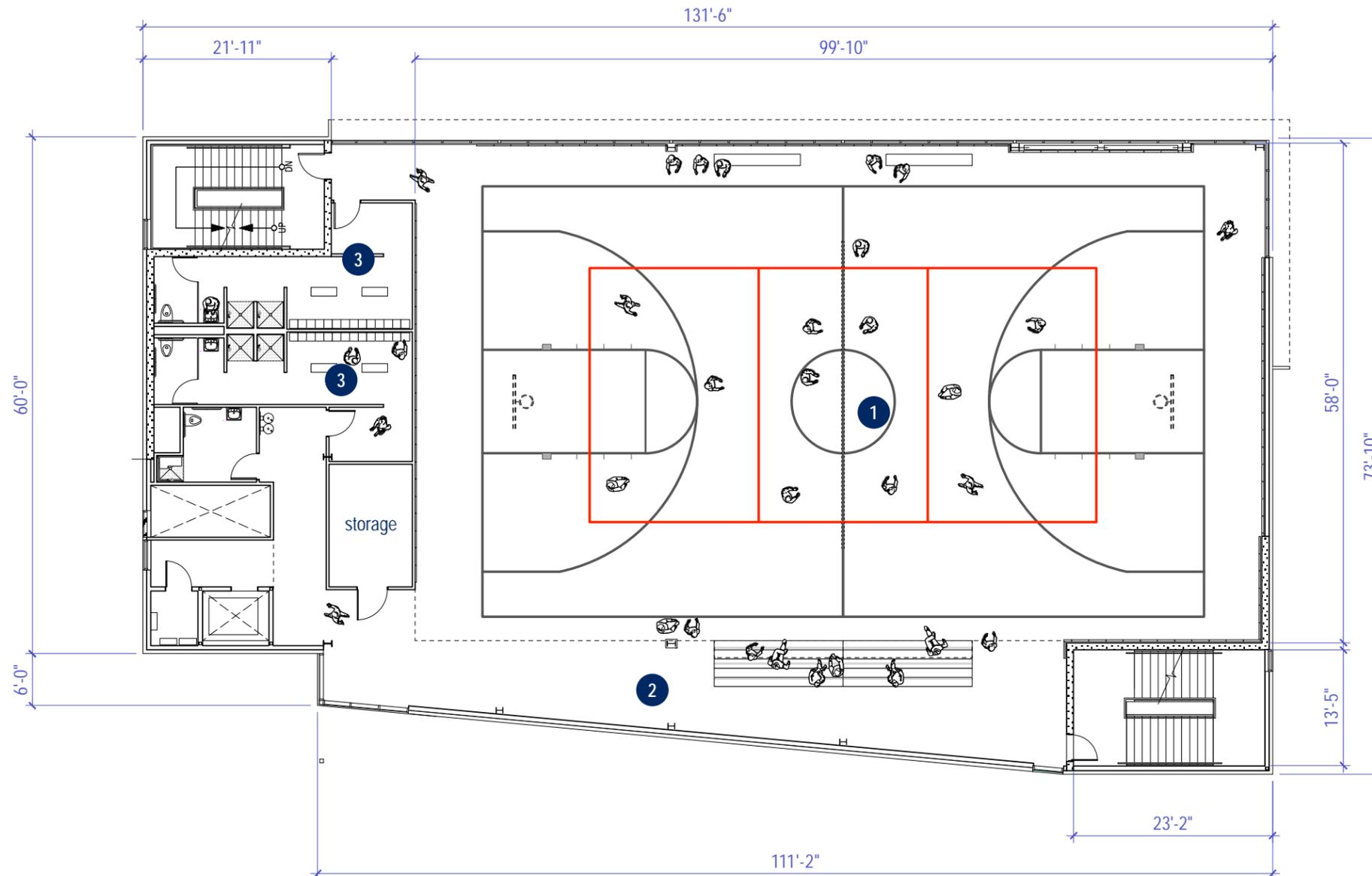
590 GSF
 A combination of a private flexible meeting space, private offices, and flexible, open work pods.



THIRD FLOOR PLAN

8290 GSF TOTAL

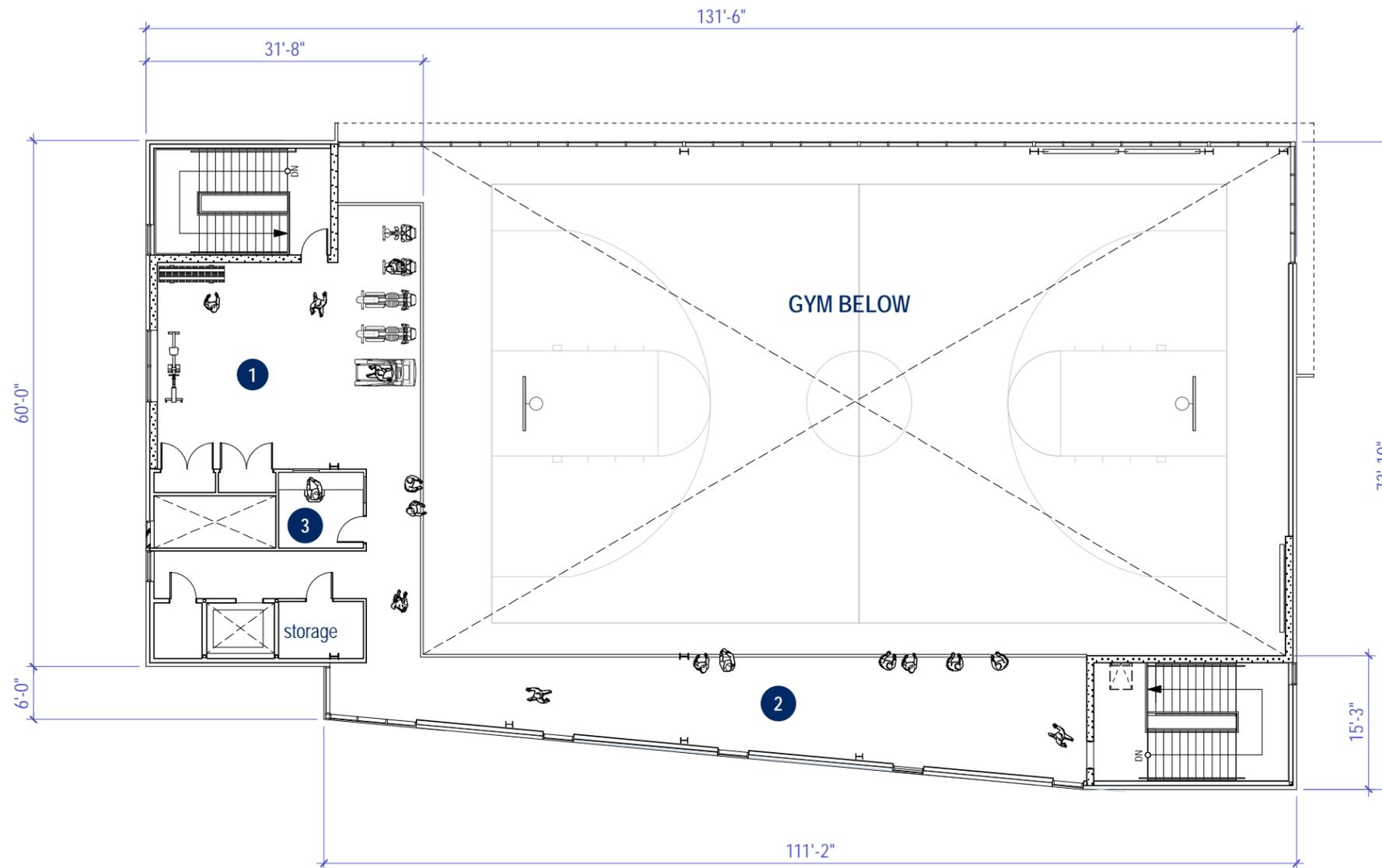
- 1 Gymnasium**
 6045 GSF
 An efficient, high school gym with a wood sport floor will be used for physical education classes, sporting events such as basketball and volleyball, and school dances. The school currently has to rent gym space off campus.
- 2 Gym Access**
 885 GSF
 This extension of the gym provides access to the locker rooms and a small area for spectators.
- 3 Locker Rooms**
 735 GSF
 The gym will include a family / unisex restroom and two locker rooms with showers.



MEZZANINE FLOOR PLAN

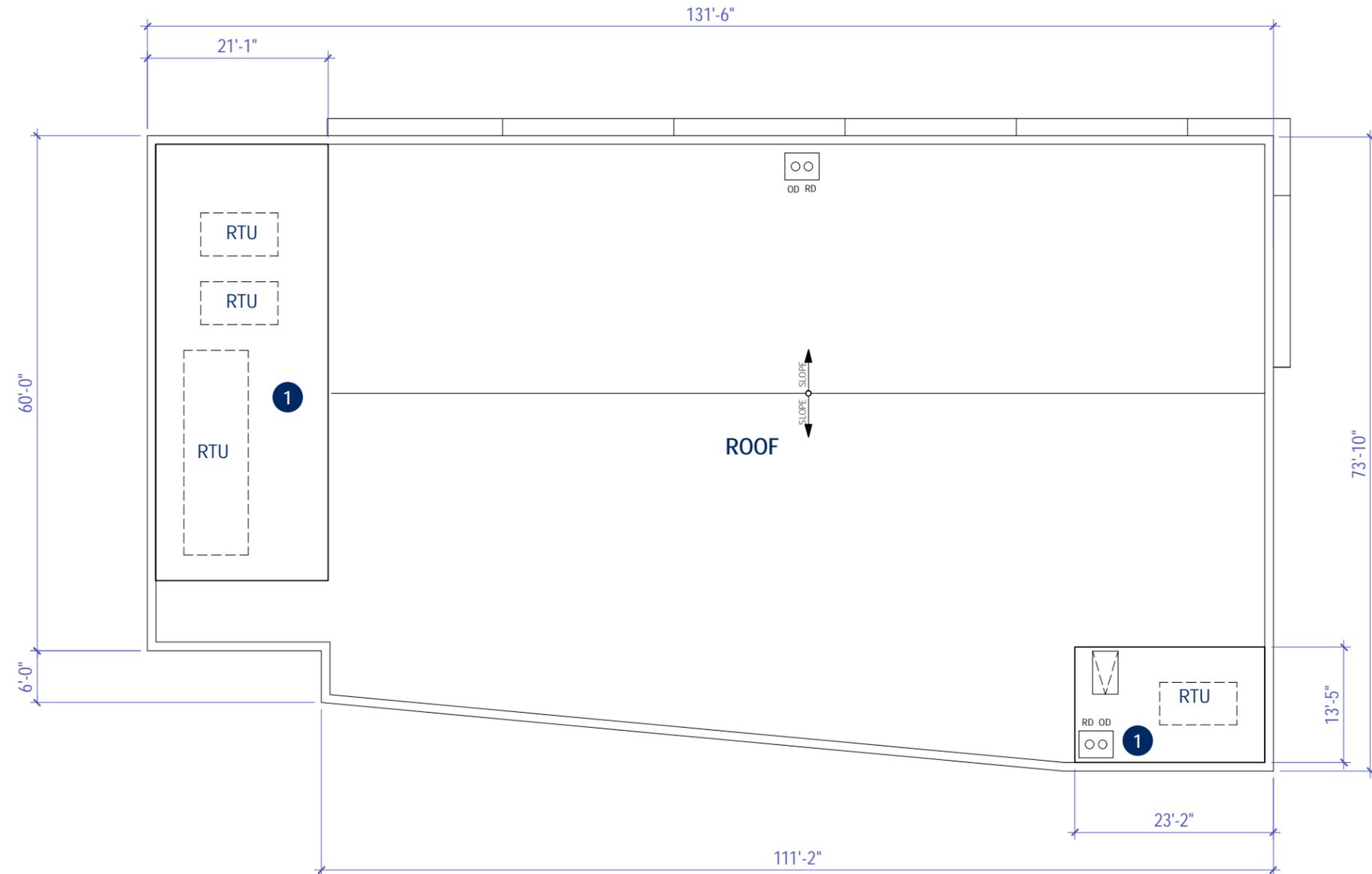
2395 GSF TOTAL

- 1 Fitness Room**
 770 GSF
 On the mezzanine, the northwest corner will be used for a fitness area that overlooks the gym and has territorial views to the west. The area will include general free weights, treadmills, ellipticals and stationary bikes.
- 2 Mezzanine**
 885 GSF
 The mezzanine to the south will not be available as an extension of the fitness area and as an overlook to the gymnasium below.
- 3 Athletic Director Office**
 85 GSF



ROOF PLAN

- 1 Mechanical Well**
 To provide screening to the rooftop mechanical equipment, mechanical wells are provided. These recessed roof areas allow the parapets to screen the equipment without requiring an increase in the building's height, bulk and scale.



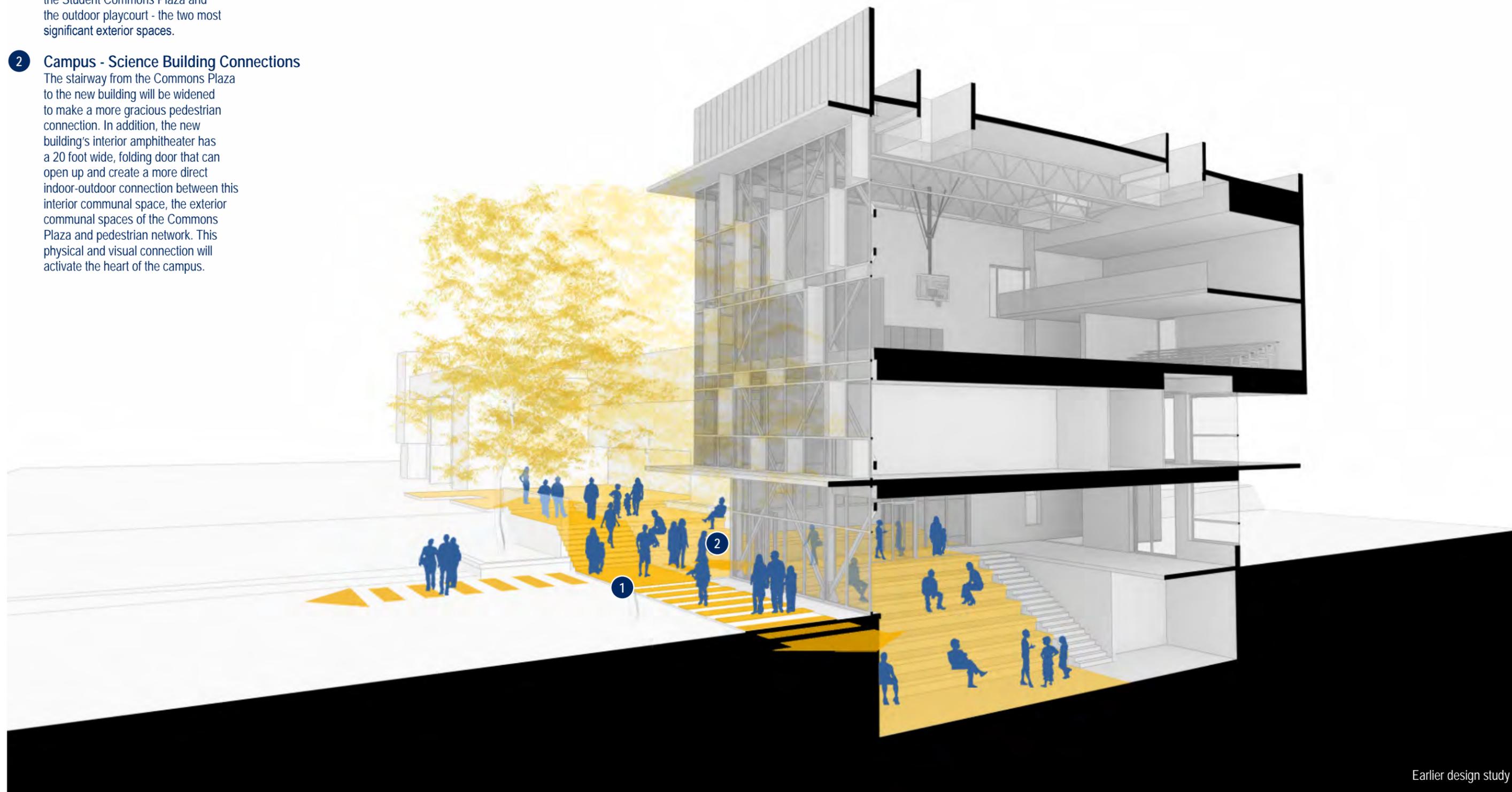
SECTION DIAGRAM

1 Campus Network Connections

Building and site design enhances the pedestrian connection between the Student Commons Plaza and the outdoor playcourt - the two most significant exterior spaces.

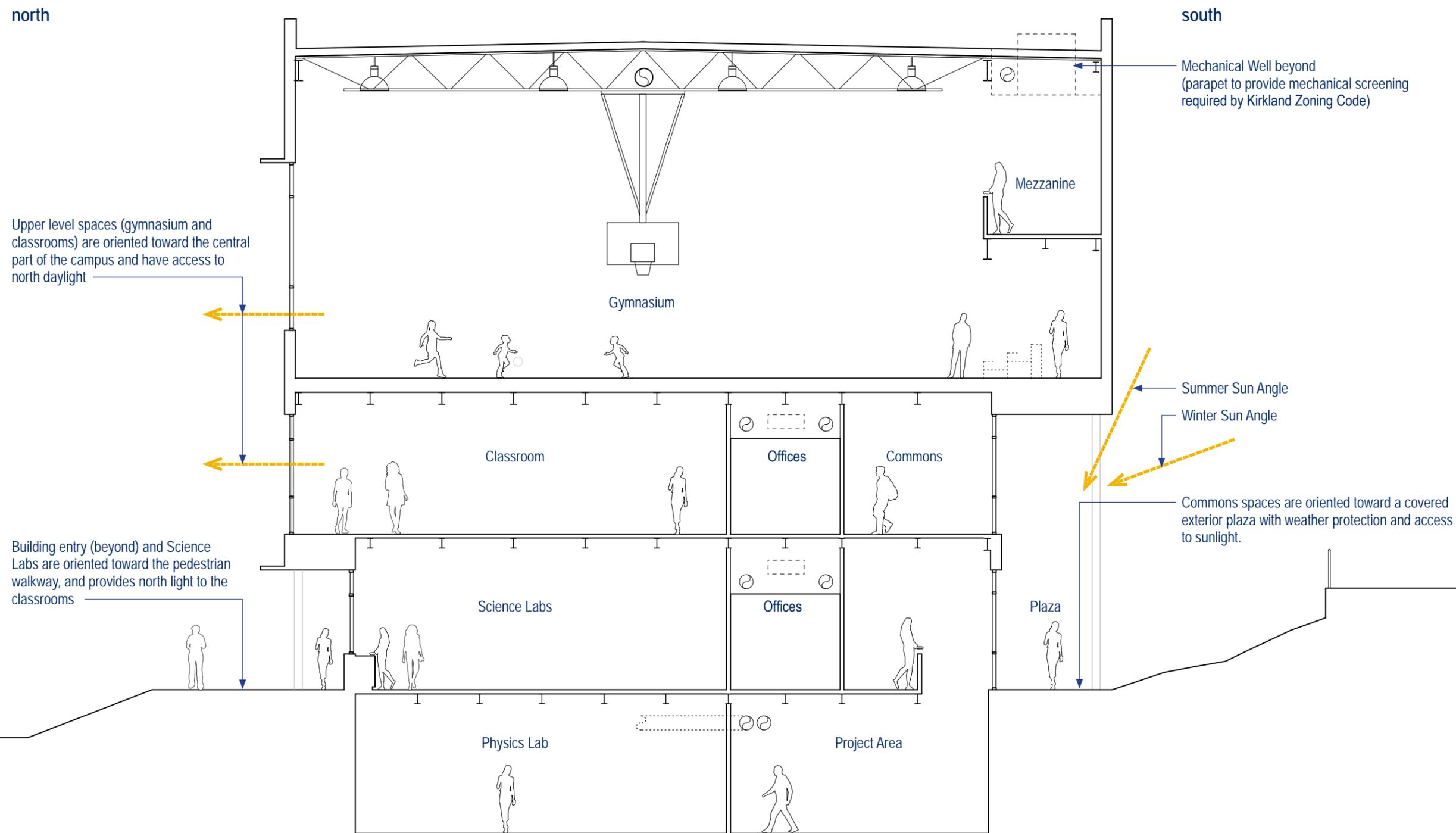
2 Campus - Science Building Connections

The stairway from the Commons Plaza to the new building will be widened to make a more gracious pedestrian connection. In addition, the new building's interior amphitheater has a 20 foot wide, folding door that can open up and create a more direct indoor-outdoor connection between this interior communal space, the exterior communal spaces of the Commons Plaza and pedestrian network. This physical and visual connection will activate the heart of the campus.

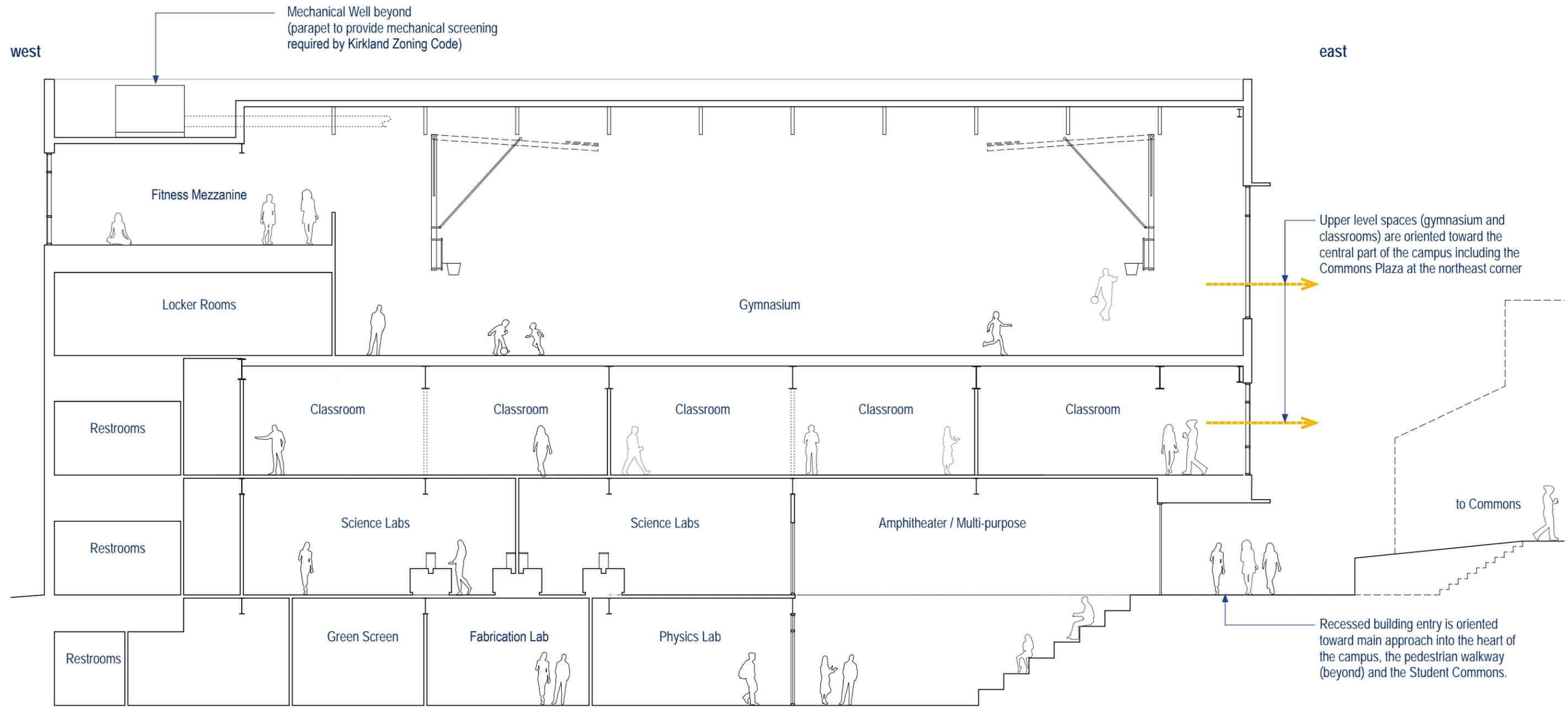


Earlier design study

BUILDING SECTION



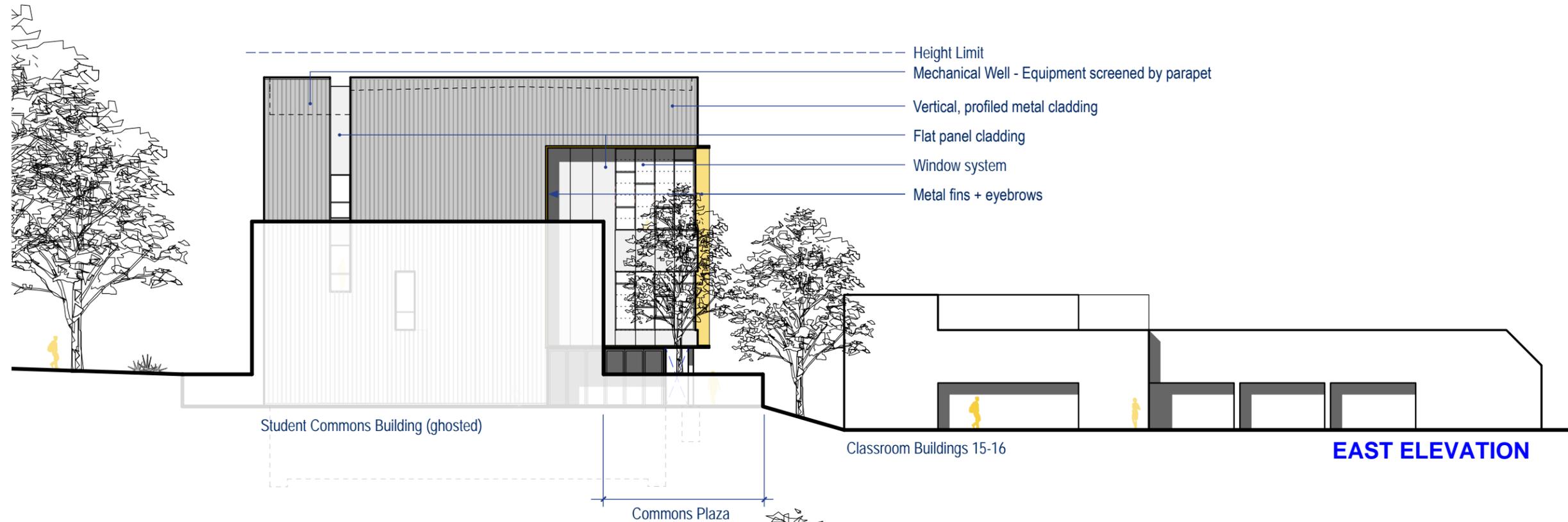
BUILDING SECTION



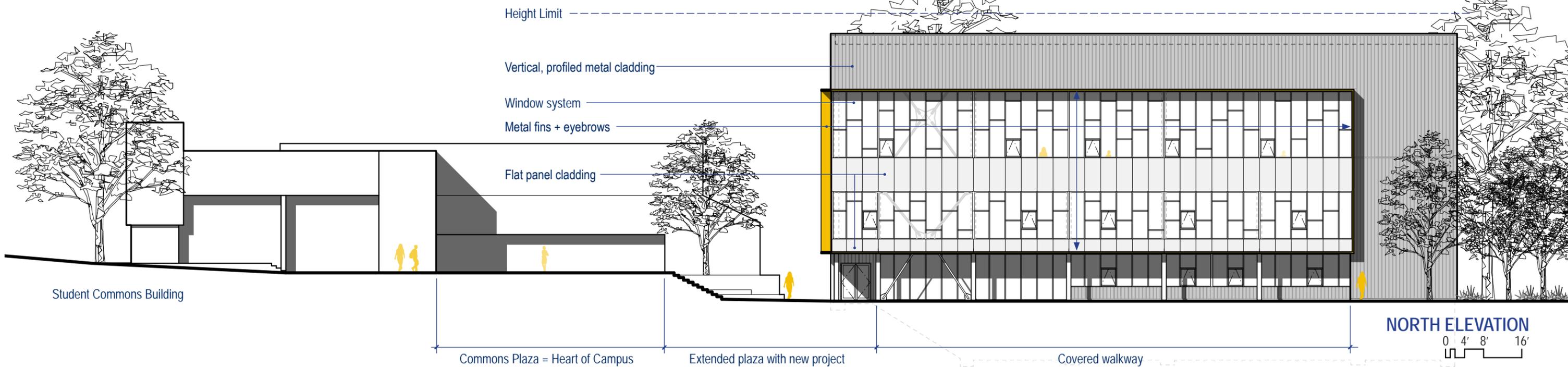
BUILDING ELEVATIONS

PROPOSED MATERIAL PALETTE

- Vertical, profiled metal cladding**
 - charcoal / graphite
- Flat panel cladding**
 - light gray
- Metal fins + eyebrows**
 - ochre (EPS "Gold")
- Window system (fiberglass)**
 - light gray or anodized aluminum



EAST ELEVATION



NORTH ELEVATION

BUILDING ELEVATIONS

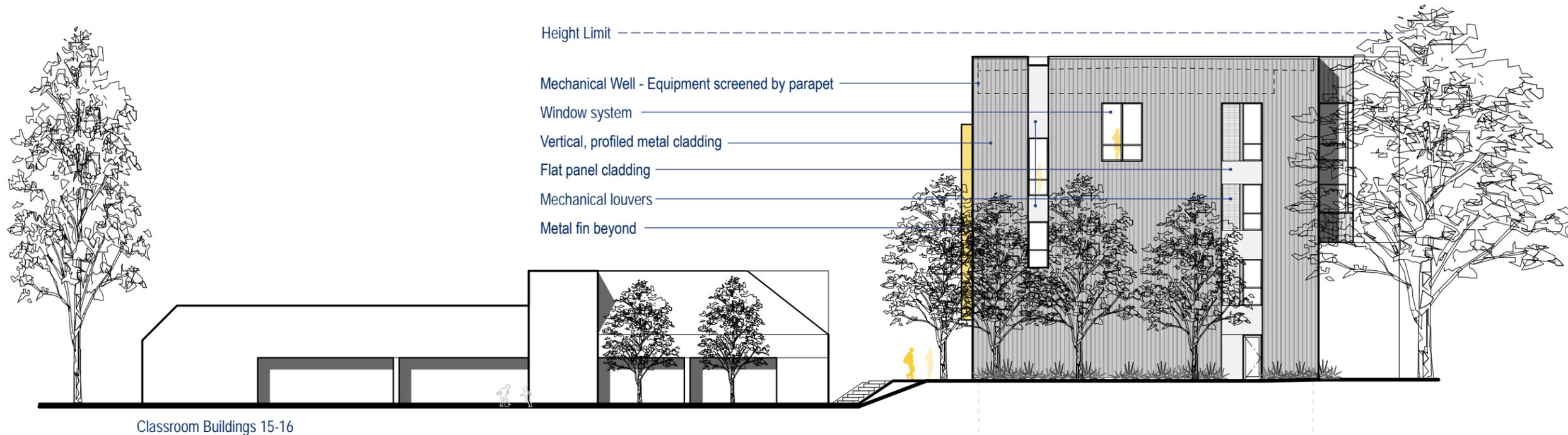
PROPOSED MATERIAL PALETTE

Vertical, profiled metal cladding
 • charcoal / graphite

Flat panel cladding
 • light gray

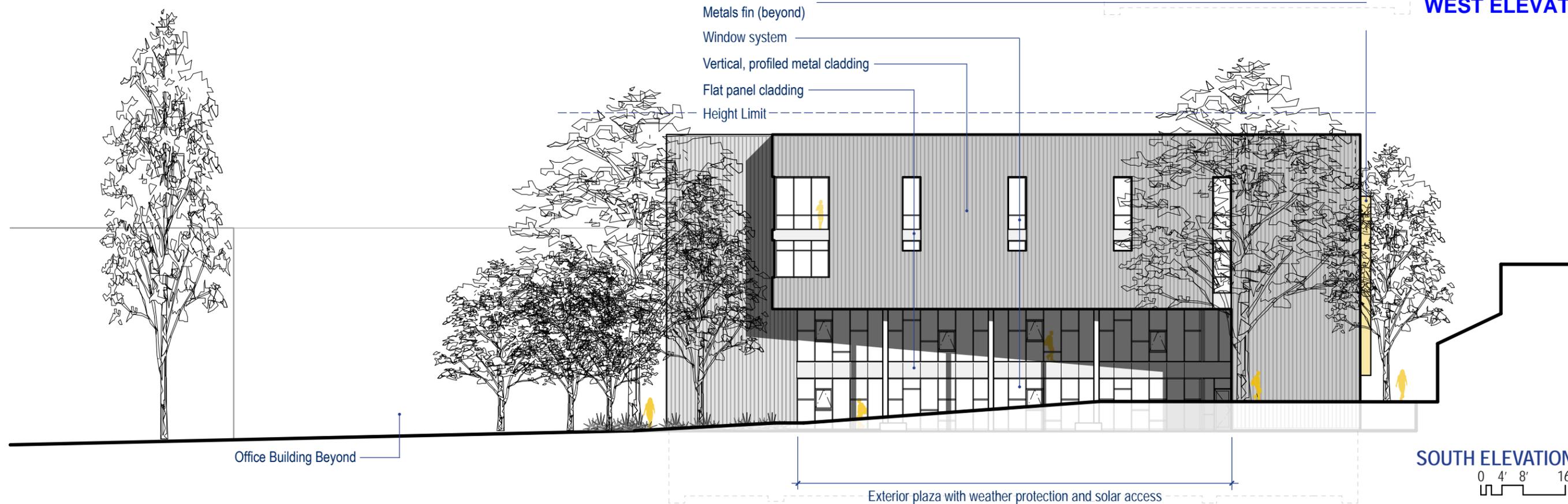
Metal fins + eyebrows
 • ochre (EPS "Gold")

Window system (fiberglass)
 • light gray or anodized aluminum



Classroom Buildings 15-16

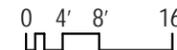
WEST ELEVATION



Office Building Beyond

Exterior plaza with weather protection and solar access

SOUTH ELEVATION



PERSPECTIVE

View from campus entrance

Commons Plaza

The project enhances the connection to the Student Commons and plaza, renovated in 2012 and the heart of the campus. The Commons includes the school theater and cafeteria.

Proposed EPS Science Building

The proposed building spatially and visually responds to and opens up to the center of campus and toward the existing commons plaza.

EPS Parking Lot and Campus Entry

Existing campus parking area off the main entrance into the campus.



PERSPECTIVE

View from campus Commons Plaza

Building Articulation

Articulation of awning element serves as horizontal modulation and an accent element, creates visual interest to building composition.

Mechanical Screening

Parapet serves to screen mechanical equipment on the roof.

Reduced Height and Scale

The height of the building was reduced by 4 feet to reduce the apparent height, bulk and scale of the facility, given the lower context buildings.

Building Fenestration

Active interior spaces are oriented toward active exterior spaces. A playful composition of mullions provides articulation, scale and serves as a facade treatment that adds visual interest to the building. Glazing turns the corner to direct the building toward the existing commons plaza.

Pedestrian Enhancements

A widened walkway with overhead weather protection enhances the connection between the Commons plaza and the outdoor playcourt beyond.



PERSPECTIVE

View from existing playcourt area

Building Fenestration

Active interior spaces are oriented toward active exterior spaces.
A playful composition of mullions provides articulation, scale and serves as a facade treatment that adds visual interest to the building.

Covered Walkway

Ground floor is recessed to create a covered walkway. Pedestrians can walk along either side of the structural columns, creating a contemporary 'arcade' along the north elevation.

Durable Materials

Metal siding continues along ground level as a durable building material adjacent to walkway.

Vertical Fins and Horizontal Eyebrows

Awning at ground level provides weather protection. Continuous "wrap" articulates fenestration and building 'accent' element oriented toward plazas and the pedestrian-oriented heart of campus.

Trees

Strategically placed trees add a colorful foreground to the building and help mitigate the apparent mass of the building. The trees also provide some dappled shading. The asphalt of the existing fire access lane will be reduced to the minimum required, reducing the amount of pavement.



PERSPECTIVE

View of Primary Building Entry @ NW

Improved Pedestrian Connection
Widened stair to connect the existing commons plaza to the new building, its main entrance and the indoor/outdoor amphitheater.

Commons Plaza

Recessed Entry (beyond)
The main building entry is recessed to create a gracious, covered pedestrian experience. The entry is oriented towards the main student approach from the Commons.

Covered Walkway
The ground floor is recessed to create a covered walkway with ample visibility into the amphitheater and science labs inside. Pedestrians can walk along either side of the structural columns, creating a contemporary 'arcade' along the north elevation.



PERSPECTIVE
View of South elevation

Expanded Landscaping

A new, expanded landscape area to the west of the building provides colorful, draught-tolerant plants and trees, softening the more solid side of the building mass where the building services are located internally.

Building Articulation

The building bumps out to provide interior access around the gym. The form has a subtle fold, making the form more dynamic. At the upper levels, the corner dissolves into a glass vantage point with territorial views.

Modulation of the Mass

Below the gym access, the building is carved back to create a covered exterior plaza and secondary entrance. The south-facing plaza gets dappled sunlight, while the carved mass provides integrated sun protection for the interior commons that overlook the plaza. The recessed portion of building become a focal point with expansive glass and its playful composition of mullions.

Existing Landscaping

Mature trees to the southeast are to be retained, and provide a substantial foreground to the buildings south facade. The grade slopes up to the SE, so the main floor and plaza are recessed several feet, reducing the perceived height of the building.



PERSPECTIVE

View from southwest fire access lane

Expanded Landscaping

A new, expanded landscape area to the west of the building provides colorful, draught-tolerant plants and trees, softening the more solid side of the structure where the building services are located internally.

Facade Articulation

A composition of various claddings and louvers provide modulation and create visual interest, as seen from the back side to the west (and fire access lane.)

Building Articulation

The building bumps out to provide interior access around the gym. The form has a subtle fold, making the form more dynamic. At the upper levels, the corner dissolves into a glass vantage point with territorial views.

Modulation of the Mass

Below the gym access, the building is carved back to create a covered exterior plaza and secondary entrance. The south-facing plaza gets dappled sunlight, while the carved mass provides integrated sun protection for the interior commons that overlook the plaza. The recessed portion of building become a focal point with expansive glass and its playfull composition of mullions.

Fire Lane

Access restricted to emergency response only



PERSPECTIVE
View from Northup Way



PERSPECTIVE
View from State Route 520



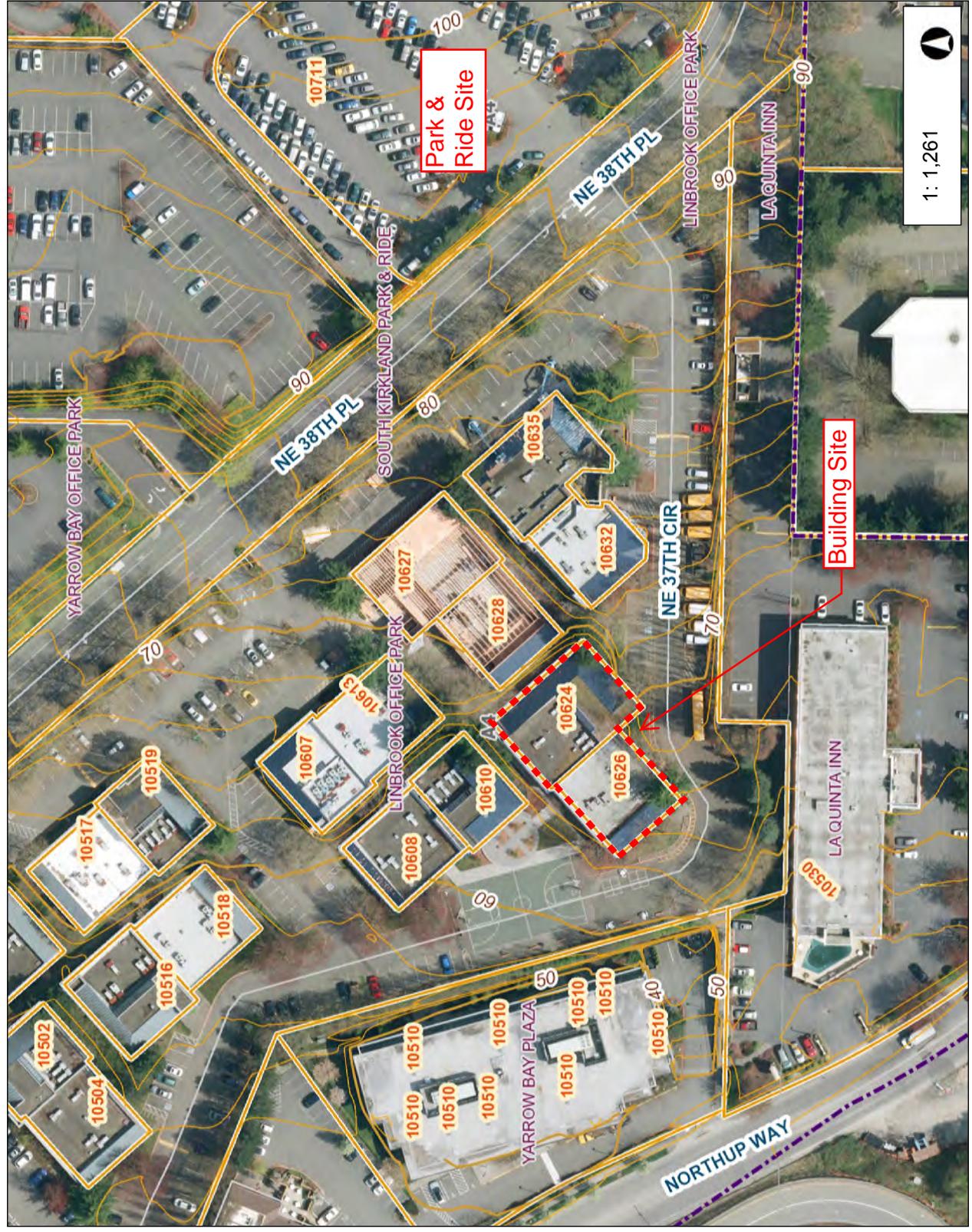


Legend

	Contours 10 Feet
	Contours 2 Feet
	Address
	City Limits
	Grid
	QQ Grid
	Cross Kirkland Corridor
	Regional Rail Corridor
	Streets
	Parcels
	Place Names
	Buildings
	Lakes
	Parks
	Schools

Notes

Eastside Prep - Topography Map



1: 1,261

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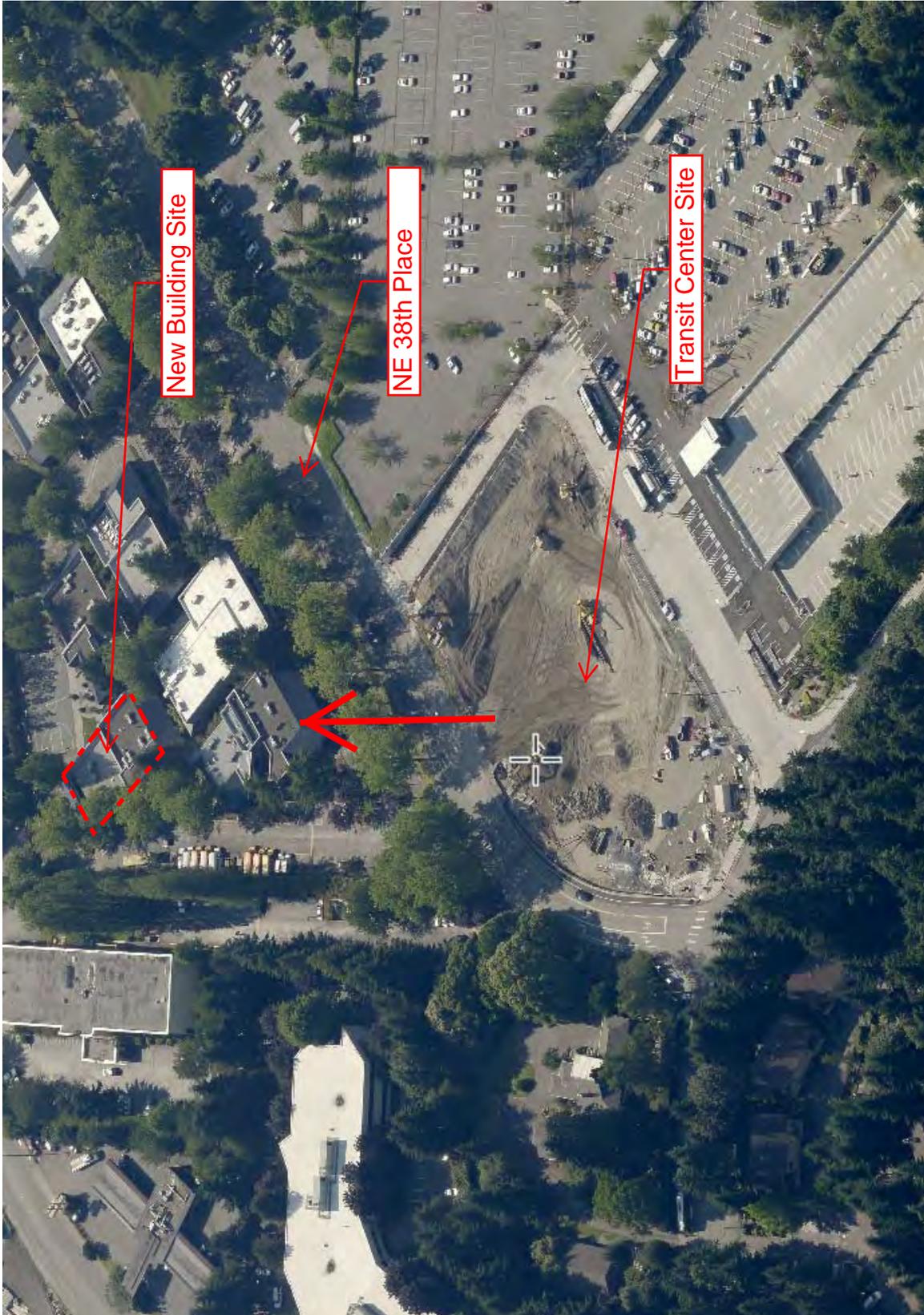
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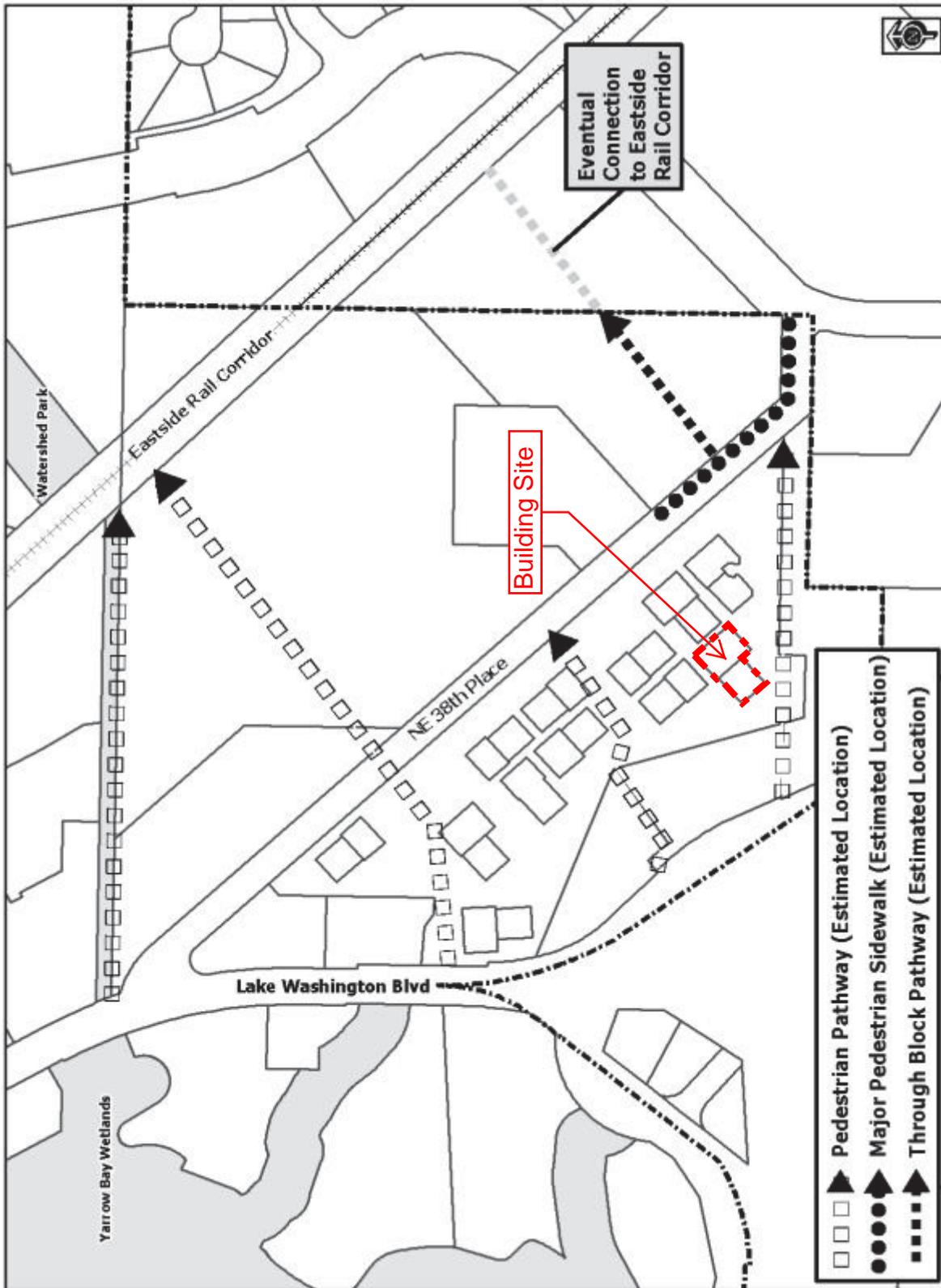
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View of Building Site
from Park & Ride Site



KZC PLATE 34L PEDESTRIAN CIRCULATION IN YBD





DEVELOPMENT STANDARDS

DRV14-01332

FIRE DEPARTMENT

Contact: Grace Steuart at 425-587-3660; or gsteuart@kirklandwa.gov

NO COMMENT

The Fire Department has no specific comments or conditions on the design review aspect of the proposed project. Comments related to fire code and safety requirements will be addressed on the Building Permit BNR14-04751.

PUBLIC WORKS DEPARTMENT

PW Condition:

- 1) Connect proposed building to existing utilities and pay traffic impact fee.
- 2) Storm design must comply with 2009 KCSWDM.

56.15 User Guide – YBD 2 and YBD 3 zones.

The charts in KZC [56.20](#) contain the basic zoning regulations that apply in each YBD 2 and YBD 3 zone of the City. Use these charts by reading down the left hand column entitled Use. Once you locate the use in which you are interested, read across to find the regulations that apply to that use.

<p>Section 56.18</p>	<p>Section 56.18 – GENERAL REGULATIONS</p>
	<p>The following regulations apply to all uses in this zone unless otherwise noted:</p> <ol style="list-style-type: none"> 1. Refer to Chapter 1 KZC to determine what other provisions of this code may apply to the subject property. 2. In addition to the height exceptions established by KZC 115.60, the following exceptions to height regulations in the YBD 2 and YBD 3 zones are allowed: <ol style="list-style-type: none"> a. Decorative parapets may exceed the height limit by a maximum of four feet; provided, that the average height of the parapets around the perimeter of the structure shall not exceed two feet. b. For structures with a peaked roof, the peak may extend eight feet above the height limit if the slope of the roof is equal to or greater than four feet vertical to 12 feet horizontal.
	<ol style="list-style-type: none"> 3. A City entry or gateway feature shall be designed and installed on the subject property adjacent to Lake Washington Boulevard between the southern City limit line and NE 38th Place pursuant to the standards in KZC 110.60. The specific location and design of the gateway shall be evaluated with the Design Review Process.
	<ol style="list-style-type: none"> 4. Driveways onto Lake Washington Boulevard, NE 38th Place and Northup Way shall be limited to prevent arterial congestion and traffic safety hazards. Shared access points must be utilized where feasible (does not apply to Public Park uses). The Public Works Official shall approve the number, location and design of all driveways.
	<ol style="list-style-type: none"> 5. The minimum ground floor story height shall be 13 feet for retail establishments selling goods or services including banking and financial services, restaurant and tavern, or office.
	<ol style="list-style-type: none"> 6. The upper story setback for all floors above the second story within 40 feet of the property line abutting NE 38th Place shall average 15 feet. For the purpose of this regulation, the term "setback" shall refer to the horizontal distance between the property line and any exterior wall abutting the street prior to any potential right-of-way dedication. The required upper story setbacks for all floors above the second story shall be calculated as Total Upper Story Setback Area, as shown on Plate 35.
	<ol style="list-style-type: none"> 7. Developments in parts of this zone may be limited by Chapter 83 or 90 KZC, regarding development near streams, lakes, and wetlands.
	<ol style="list-style-type: none"> 8. Development adjoining the Cross Kirkland Corridor or Eastside Rail Corridor shall comply with the standards of KZC 115.24.

Section 56.20



USE ZONE CHART

DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 56.20	USE ↓	REGULATIONS ↑	MINIMUMS			MAXIMUMS		Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)	
			Required Review Process	Lot Size	REQUIRED YARD (See Ch. 115)						Landscaping Category (See Ch. 95)
					Front	Side	Rear				
.010	Vehicle Service Station	D.R., Chapter 142 KZC	2,250 sq. ft.	40'	15' on each side. See also Spec. Reg. 3.	15'	80%	A	E	1. The following uses and activities are prohibited: a. The outdoor storage, sale, service and/or rental of motor vehicles, sailboats, motor boats, and recreational trailers. 2. There may not be more than two vehicle service stations at any intersection. This use is only allowed if the subject property abuts Lake Washington Boulevard or Northup Way. 3. Gas pump islands may extend 20 feet into the front yard. Canopies or covers over gas pump islands may not be closer than 10 feet to any property line. Outdoor parking and service areas may not be closer than 10 feet to any property line. See KZC 115.105, Outdoor Use, Activity and Storage, for further regulations.	
			None	0' adjacent to NE 38th Place and Northup Way. Otherwise, 20'.	0'	0'		C	1 per each 100 sq. ft. of gross floor area.	1. The following uses and activities are prohibited: a. Drive-in or drive-through facilities. 2. The gross floor area of individual retail establishments may not exceed 15,000 square feet except within a mixed use development in which the floor area of other uses exceeds the floor area of retail establishments.	
.020	Restaurant or Tavern								1. The following regulations apply to veterinary offices only: a. May only treat small animals on the subject property. b. Outside runs and other outside facilities for the animals are not permitted. c. Site must be designed so that noise from this use will not be audible off the subject property. A certification to this effect, signed by an Acoustical Engineer, must be submitted with the development permit application. 2. Ancillary assembly and manufacture of goods on the premises of this use are permitted only if: a. The ancillary assembled or manufactured goods are subordinate to and dependent on this use. b. The outward appearance and impacts of this use with ancillary assembly or manufacturing activities must be no different from other office uses.		
.030	Office Use										

Section 56.20

USE ZONE CHART

Zone
YBD 2,
YBD 3

USE REGULATIONS		DIRECTIONS: FIRST, read down to find use... THEN, across for REGULATIONS									
		Required Review Process	MINIMUMS			MAXIMUMS			Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)
Lot Size	REQUIRED YARD (See Ch. 115)		Lot Coverage	Height of Structure	Front	Side	Rear				
Section 56.20											
.040	Hotel or Motel	D.R., Chapter 142 KZC	None	0'	0'	0'	80%	In YBD 2, 55' above average building elevation.	E	1 per each room. See also Spec. Reg. 2. 1 per each 300 sq. ft. of gross floor area.	1. May include ancillary meeting and convention facilities. Excludes parking requirements for ancillary meeting and convention facilities. Additional parking requirement for these ancillary uses shall be determined on a case-by-case basis. 2. The following uses and activities are prohibited: a. The outdoor storage, sale, service and/or rental of motor vehicles, sailboats, motor boats, and recreational trailers. b. Vehicle repair. c. Retail establishment providing storage services. d. Storage and operation of heavy equipment, except delivery vehicles associated with retail uses. e. Storage of parts unless conducted entirely within an enclosed structure. f. Drive-in or drive-through facilities.
.050	A Retail Establishment other than those specifically listed, limited, or prohibited in the zone, selling goods, or providing services including banking and related financial services							In YBD 3, 60' above average building elevation.			1. The gross floor area of individual retail establishments may not exceed 15,000 square feet except within a mixed use development in which the floor area of other uses exceeds the floor area of retail establishments. 2. A delicatessen, bakery, or other similar use may include, as part of the use, accessory seating if: a. The seating and associated circulation area do not exceed more than 10 percent of the gross floor area of the use; and b. It can be demonstrated to the City that the floor plan is designed to preclude the seating area from being expanded.
.060	Stacked Dwelling Units								D	1.7 per unit.	1. Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities and activities associated with this use.
.070	Assisted Living Facility, Convalescent Center or Nursing Home								C	Independent unit: 1.7 per unit. Assisted living unit: 1 per unit. Convalescent center or nursing home: 1 per each bed.	1. A facility that provides both independent dwelling units and assisted living units shall be processed as an assisted living facility. 2. If a nursing home use is combined with an assisted living facility use in order to provide a continuum of care for residents the required review process shall be the least intensive process between the two uses.

FILE NO. DR 14-01332
YBD 2, 3 CHART

Section 56.20



USE ZONE CHART

Section 56.20		REGULATIONS		MINIMUMS		MAXIMUMS		Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
		USE	REGULATIONS	Lot Size	REQUIRED YARD (See Ch. 115)	Lot Coverage	Height of Structure			
				Front	Side	Rear				
.080	Private Lodge or Club	D.R., Chapter 142 KZC	None	0' adjacent to NE 38th Place and Northup Way. Otherwise, 20'.	0'	0'	80%	C	1 per each 300 sq. ft. of gross floor area See KZC 105.25.	1. May include accessory living facilities for staff persons. 2. No parking is required for day-care or school ancillary to the use.
	Hospital Facility									
	Public Utility									
.090	Church									

Section 56.20

USE ZONE CHART

Zone
YBD 2,
YBD 3

Section 56.20		USE ↑	REGULATIONS ↑	Required Review Process	MINIMUMS			MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
					Lot Size	REQUIRED YARD (See Ch. 115)		Lot Coverage	Height of Structure				
					Front	Side	Rear						
.120	School or Day-Care Center			D.R., Chapter 142 KZC	0' adjacent to NE 38th Place and Northup Way. Otherwise, 20'.	0'	0'	80%	In YBD 2, 55' above average building elevation. In YBD 3, 60' above average building elevation.	D E	See KZC 105.25.	<ol style="list-style-type: none"> A six-foot-high fence is required along the property lines adjacent to the outside play areas. An on-site passenger loading area may be required depending on the number of attendees and the extent of the abutting right-of-way improvements. May include accessory living facilities for staff persons. Electrical signs shall be permitted at junior high/middle schools and high schools. One pedestal sign with a readerboard having electronic programming is allowed per site only if: <ol style="list-style-type: none"> It is a pedestal sign (see Plate 12) having a maximum 40 square feet of sign area per sign face; The electronic readerboard is no more than 50 percent of the sign area; Moving graphics and text or video are not part of the sign; The electronic readerboard does not change text and/or images at a rate less than one every seven seconds and shall be readily legible given the text size and the speed limit of the adjacent right-of-way; The electronic readerboard displays messages regarding public service announcements or school events only; The intensity of the display shall not produce glare that extends to adjacent properties and the signs shall be equipped with a device which automatically dims the intensity of the lights during hours of darkness; The electronic readerboard is turned off between 10:00 p.m. and 6:00 a.m.; The school is located on a collector or arterial street. The City shall review and approve the location of the sign on the site. The sign shall be located to have the least impact on surrounding identical properties. If it is determined that a proposed electronic readerboard would constitute a traffic hazard the Planning Director may impose restrictions or deny the readerboard. 	
.130	Mini-School or Mini-Day-Care												

DIRECTIONS: FIRST, read down to find use... THEN, across for REGULATIONS

Section 56.20

USE ZONE CHART



Section 56.20		REGULATIONS		DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS									
		USE	REGULATIONS	Required Review Process	MINIMUMS			MAXIMUMS			Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)
Section 56.20	USE	REGULATIONS	Lot Size		REQUIRED YARD (See Ch. 115)			Lot Coverage	Height of Structure	Landscape Category (See Ch. 95)			
				Front	Side	Rear							
.140	Government Facility Community Facility	Government Facility Community Facility	None	0' adjacent to NE 38th Place and Northup Way. Otherwise, 20'.	0'	0'	80%	In YBD 2, 55' above average building elevation. In YBD 3, 60' above average building elevation.	C See Spec. Reg. 1.	B	See KZC 105.25.	1. Landscape Category A or B may be required depending on the type of use on the subject property and the impacts associated with the use on the nearby uses.	
.150	Public Park	Public Park	Development standards will be determined on a case-by-case basis. See Chapter 49 KZC for required review process.										



CITY OF KIRKLAND
Department of Public Works
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
www.kirklandwa.gov

MEMORANDUM

To: Jon Regala, Senior Planner
From: Thang Nguyen, Transportation Engineer
Date: July 16, 2014
Subject: Eastside Preparatory School Traffic Review, Tran14-01118.

This memo summarizes Public Works' review of the traffic impact analysis for the expansion of the Eastside Preparatory School.

Summary

Public Works recommends approval of the proposed project. This approval is based on the school new enrollment capacity of 352 students with the proposed expansion. The proposed project was found not to create significant traffic impact. The existing parking supply is sufficient to accommodate the expansion. The condition of approval is summarized at the end of this memo.

Project Description

The applicant proposed to reconstruct and modernize two buildings of the school campus to provide higher productivity and a better teaching and learning environment for its students. Building 19 and 20 will be rebuilt as a multi-story building with gymnasium and classroom, laboratory, administrative, multi-purpose, and associated mechanical spaces. Building 19 and 20 will increase from 13,058 gross square feet to 29,995 gross square feet for a net increase of 16,937 gross square feet.

During the last expansion approval in 2007, it was forecasted that the school would expand to have a maximum of 158 students and 36 faculties/staff. The current school has exceeded those maximum by an additional 162 students for a total of 320 students. This new proposal will increase the student enrollment capacity to 352 students. The maximum faculty/staff population is 75. It is anticipated that the project will be built and fully occupied by fall 2016.

Trip Generation

There are two components of trip generation; after-school trip generation based on the sporting events that will occur with the construction of the gymnasium and the trip generation with the increased student enrollment capacity.

It is forecasted that the capacity of 352 students would generate 873 daily, 285 AM peak and 60 PM peak hour trips. This is an increase of 79 daily, 26 AM Peak and 5 PM

peak hour trips from existing. It is forecasted that the after-school sporting activities could generate an average of 80 PM peak hour person trips.

These additional trips will not have a significant traffic impact.

Load/Unload Area

According to the school, the student drop-off/pickup areas will remain the same. The City have not gotten any complaints about school traffic queuing into the street. With the small increase of potential student enrollment and the associated peak hour traffic discussed above, it is anticipated that the drop-off/pickup activities will not create an impact to NE 38th Place. However, if the City receive complaints in the future about school traffic disrupting traffic flow on NE 38th Place, the school will need to redesign the loading area or provide other mitigations to minimize traffic impact on NE 38th Place.

Parking

Currently, the school campus has 117 standard parking, 8 handicap parking spaces, and 8 Bus/shuttle/maintenance parking spaces for a total of 133 parking spaces. According to the school, the parking supply will remain the same. A parking utilization was completed for the existing school. Parking data was collected as required by Public Works. The parking analysis is included in Appendix A.

Based on the parking study, the average parking utilization during normal school hours (9:30AM to 5:00 PM) is approximately 79% (105 parking spaces being occupied). This equates to a parking demand rate of 0.33 parking spaces per student. The previous parking study completed in 2011 showed a parking demand rate of 0.35 parking spaces per student. The parking demand is relatively consistent between the two studies. Based on a conservative analysis and using the parking rate of 0.35 parking spaces per student, the increase enrollment capacity of 352 students will have a demand of 123 parking spaces. The parking supply of 133 parking spaces can accommodate the increase demand if the school does reach its enrollment capacity.

For assessing after school parking supply, parking data was collected at the school after 5:00 PM when normal school activities have ended. The parking utilization after 5:00 PM is approximately 33% (44 parking spaces). There are approximately 89 vacant parking spaces after 5:00 PM.

With the forecast of 80 person trips for afternoon sport activities and a vehicle occupancy of 1.94, 42 parking spaces will be required for afternoon sport activities. The existing parking supply can comfortably accommodate the forecasted parking demand. Furthermore, even under the worst case scenario such as if everyone drives alone (requiring 80 parking spaces) the existing parking supply could accommodate the demand.

Transportation Impact Fees

Per City's Ordinance 3685, Transportation Impact Fees is required for all developments.

Transportation impact fees are used to construct transportation improvements throughout the City. The transportation impact fee for Jr. High School and High School are \$500 per student and \$312 per student, respectively. **Based on the past five year's student** enrollments, it is estimated that 60% of the new students will be high school students and 40% Jr. high school students. This equates to 19 high school and 13 Jr. high school students. The calculated transportation impact fee is \$12,428 (19 x \$312 + 13 x \$500). Transportation impact fee is paid at building permit issuance. Final transportation impact fee will be determined at building permit issuance.

Staff Recommendations- Public Works staff recommends approval of the proposed development project with the following conditions:

- Pay road impact fee per the current Transportation Impact Fee schedule.
- Ensure that the student load/unload area do not restrict traffic flow on NE 38th street. If there are public complaints in the future, the school will work with the City to redefine the loading area and/or provide other mitigating measures so that school traffic does not impact traffic flow on NE 38th Street. All mitigating measures shall be proposed to Public Works for approval.

cc: Rob Jammerman, Development Engineer Manager
Jeff Sternitzky, Eastside Preparatory School



TO: Bob Baldwin, Project Manager
JOB SITE: 10613 NE 38th Place, Kirkland, WA 98033
SUBJECT: Tree Inventory & Viability Assessment
DATE: July 14, 2014
PREPARED BY: Scott Baker,
ASCA Registered Consulting Arborist #414, ISA Board Certified
Master Arborist PN-0670B, ISA Qualified Tree Risk Assessor
Haley Galbraith,
ISA Certified Arborist PN-7512A, ISA Qualified Tree Risk Assessor

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Summary
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Methods
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Recommendations
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References
Appendix A – Assumptions & Limiting Conditions
Appendix B – Photographs
Attachments:
Table of Trees
Marked-up Site Plan
Kirkland Tree Protection Specifications

Summary

We identified sixteen significant trees on site that will be impacted by proposed site work activities; four, or possibly eight, of them should be retained and protected throughout all phases of construction, pending required root exploration. Eight trees are not viable due to the location of proposed site work.

None of the trees designated to remain should be negatively impacted by the removal of non-viable trees on site.

Assignment & Scope of Report

This report outlines the site inspection by Scott Baker and Haley Galbraith of Tree Solutions Inc., on July 9, 2014. We were asked to visit the site and inventory all significant trees with complete descriptions of the species, size, condition, and viability of each tree. We were asked to develop a formal Arborist Report addressing tree retention possibilities for the site throughout construction.

Eastside Preparatory School
July 14, 2014

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Included in this report are observations from the site located at 10613 NE 38th Place, discussion, and recommendations. Bob Baldwin, Project Manager for Eastside Preparatory School, requested these services to acquire information for project planning in accord with requirements set by the city of Kirkland.

Limits of Assignment

Unless stated otherwise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, climbing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Additional Assumptions and Limiting Conditions can be found in Appendix A.

Methods

We measured the diameter of each tree at standard height (DSH), typically 54-inches above grade. The species, size, condition, limits of disturbance for trees to be retained, proposed actions, and other notes for each tree can be found in the attached Table of Trees.

We tagged each tree assessed with a small, numbered aluminum tag on the project side. Also attached, is a Marked-up Site Plan showing the proposed limits of construction, tree locations, and tag numbers corresponding to the table.

Photographs taken during our visit to the site can be found in Appendix B.

We evaluated tree health and structure utilizing visual tree assessment (VTA) methods. The basis behind VTA is the identification of symptoms, which trees produce in reaction to weak spots or areas of mechanical stress. Trees react to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts. (Mattheck & Breloer 1994) Understanding uniform stress allows us to make informed judgments about the condition of a tree.

Observations & Discussion

The existing slab-on-grade structure will be demolished, and excavation, well below existing grade, will be required for the new structure. Most of the trees slated for removal are located in the western half of the site.

We identified two groves on site, defined by the City as three or more significant trees with canopies touching or overlapping. These groves are identified on the attached site plan with a red cloud-like outline. Only one tree within the groves is slated for removal. It is our opinion that as long as the stump of tree 535 is not pulled, but either cut flush with grade or ground out, there will be no significant negative impacts to the grove or other trees nearby.

Four of the trees we assessed will be retained and protected, following the attached Kirkland Tree Protection Specifications and the limits of disturbance outlined in the table. It is possible that four additional trees, for a total of eight, could be retained following root exploration via air excavation as described in the table. This action is required, and a qualified arborist shall be present to either supervise or take a look once roots in the subject areas have been uncovered.

If it is determined that cutting roots of the four potentially retainable trees at the necessary locations will either destabilize them, or cause irreparable damage to health, then the trees will require removal. If roots to be cut are not critical to the health and stability of the four trees, then tree protection measures shall be installed and maintained throughout all phases of site work as with the other four trees to remain.

We observed the use of bark mulch in some areas on site. We advise against further use of bark mulch as it repels moisture, is low in nutrient content, and breaks down slowly. Instead, we highly recommend the use of woodchip mulch, which retains moisture, regulates soil temperature, and adds nutrients to the soil as it breaks down.

We observed invasive ivy as landscaping in many areas on site. Due to the invasive nature of this plant, it is our opinion that this project should be viewed as an opportunity to carefully remove ivy in as many places as possible and replace with more desirable ground cover plants. We are happy to provide more detailed recommendations regarding this process by request.

Recommendations

- Perform required root exploration for trees 532, 533, 534, and 544 prior to commencement of site work activities.
- Install tree protection for trees to be retained prior to heavy equipment arriving on site.
- Trees to be retained should not be damaged by trees that will be removed.

Glossary

air excavator: device that blows air at high force; used to remove soil from the root zone of trees (Lilly 2001)

arborist wood chips: a mulch consisting of woody tissue from a tree, obtained during tree-trimming operations.

canopy: the aboveground portions of a tree (Lilly 2001)

co-dominant stems: stems or branches of nearly equal diameter, often weakly attached (Matheny *et al.* 1998)

DSH: diameter at standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)

ISA: International Society of Arboriculture

References

ANSI A300 (Part 1) – 2008 American National Standards Institute. American National Standard for Tree Care Operations: Tree, Shrub, and Other Woody Plant Maintenance: Standard Practices (Pruning). New York: Tree Care Industry Association, 2008.

Lilly, Sharon. Arborists' Certification Study Guide. Champaign, IL: The International Society of Arboriculture, 2001.

Matheny, Nelda and James R. Clark. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. Champaign, IL: International Society of Arboriculture, 1998.

Mattheck, Claus and Helge Breloer, The Body Language of Trees.: A Handbook for Failure Analysis. London: HMSO, 1994

Appendix A – Assumptions & Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Appendix B – Photographs



Photo 1: Limits of disturbance for tree 531 represented by red line – careful root pruning necessary & acceptable



Photo 2: Limits of disturbance for trees 532, 533, & 534 represented by red line – tree 535 to be removed (red circle with X)

Eastside Preparatory School
July 14, 2014

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Photo 3: Trees to be removed at west end of site (left to right: 537, 538, & 539)



Photo 4: Tree 543 to be retained



Photo 5: Base of tree 544 – root exploration required to determine if tree can be retained



Photo 6: Looking northwest from southeast corner of site at grouping of non-significant Japanese maple trees (circled in red) – advisable to tie back canopies during site work activities in order to avoid damage from machinery

Attachments:

- Table of Trees**
- Marked-up Site Plan**
- Kirkland Tree Protection Specifications**



Table of Trees
Eastside Preparatory School

Date of Inventory: 07.09.2014
Table Prepared: 07.14.2014

Tree #	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	Drip Line Radius (feet)				Proposed Actions	Credits	Notes
							North	South	East	West			
531	<i>Platanus x acerifolia</i>	London plane	26.0	Good	Good	Retaining wall to southwest (continuation of line after slants to grade)	32	28		25	Retain; prune for clearance as necessary	9	Eastern drip line overhangs existing structure; surface roots; elevated approximately 8 feet above grade behind slanted retaining wall to southwest; some roots from this tree may be cut, but far enough from the tree that health & stability are not likely to be jeopardized
532	<i>Tsuga heterophylla</i>	Western hemlock	11.0	Fair	Fair	Sidewalk to southeast	14		11		Possibly retain; root exploration required	1	Shared canopy with 533 to southwest; previously climbed with spurs; root exploration along existing sidewalk to southeast would be required if attempting to retain
533	<i>Tsuga heterophylla</i>	Western hemlock	13.0	Fair	Fair	Sidewalk to southeast			20		Possibly retain; root exploration required	2	Shared canopy with 533 to northeast & 534 to southwest; previously climbed with spurs; root exploration along existing sidewalk to southeast would be required if attempting to retain
534	<i>Pinus jeffreyi</i>	Jeffrey pine	21.5	Good	Good	Sidewalk to southeast			25		Possibly retain; root exploration required, subsequent clearance pruning may be necessary	6	Shared canopy with 534 to northeast; previously climbed with spurs; not viable for retention due to location of planned excavation; removal of this tree is not likely to negatively impact 534 or others in Grove - do not pull stump, cut it flush with grade or grind it out
535	<i>Tsuga heterophylla</i>	Western hemlock	14.0	Fair	Fair	N/A			14		Remove	3	Surface roots with damage along entire planting strip; not viable for retention, located within proposed area of excavation
536	<i>Prunus serrulata</i>	Flowering cherry	7.0	Fair	Fair	N/A	10	11	4	11	Remove	1	Grows on mound next to northwest corner of existing structure; bark mulch present; not viable for retention, located within proposed area of excavation
537	<i>Acer platanoides</i>	'Columnare' Norway maple	20.5	Good	Good	N/A	16	16	18	15	Remove	6	



Table of Trees
 Eastside Preparatory School

Date of Inventory: 07.09.2014
 Table Prepared: 07.14.2014

Tree #	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	Drip Line Radius (feet)				Proposed Actions	Credits	Notes
							North	South	East	West			
538	<i>Prunus serrulata</i>	Flowering cherry	11.0	Poor	Poor	N/A	10	10	10	14	Remove	1	Surface roots; brown rot observed; poor past pruning; not viable for retention, located within proposed area of excavation
539	<i>Platanus x acerifolia</i>	London plane	17.0	Good	Good	N/A	30	24	25	30	Remove	4	Surface roots throughout growing space; not viable for retention, located within proposed area of excavation
540	<i>Cedrus deodara</i>	Deodar cedar	20.0	Good	Good	N/A	17	17	17	17	Remove	6	Grows less than 2 feet from southeast corner of existing structure; previously climbed with spurs; poor past pruning, including flush cuts; not viable for retention, located within proposed area of excavation
541	<i>Platanus x acerifolia</i>	London plane	24.0	Good	Good	N/A	22	24	28		Remove	8	Grows approximately 4 feet from south side of existing structure; not viable for retention, located within proposed area of excavation
542	<i>Platanus x acerifolia</i>	London plane	17.0	Good	Good	Retaining wall to north	25	24	29	30	Retain; prune for clearance as necessary	4	Western drip line overhangs existing structure; grows south of existing retaining wall, elevated above proposed area of excavation; tree circle exists to approximately 1 foot from base with bare soil - turf beyond; appears that past trenching occurred southeast of tree; roots may have taken advantage of that disturbance
543	<i>Acer palmatum</i>	Japanese maple	9.0*	Good	Good	Edge of existing structure, as possible	10	10	10	10	Retain; prune for clearance as necessary	1	*DSH measured at narrowest point below union; poor past pruning; establish tree protection box around this tree - may be advisable to tie back branches to avoid damage from machinery
544	<i>Pinus jeffreyi</i>	Jeffrey pine	16.0	Good	Good	Edge of existing structure, as possible		14	16	16	Possibly retain; root exploration required, subsequent clearance pruning may be necessary	4	Northern drip line overhangs existing structure; existing stairway to southwest will remain; likely that roots from this tree are heavily invested in rocky above to east

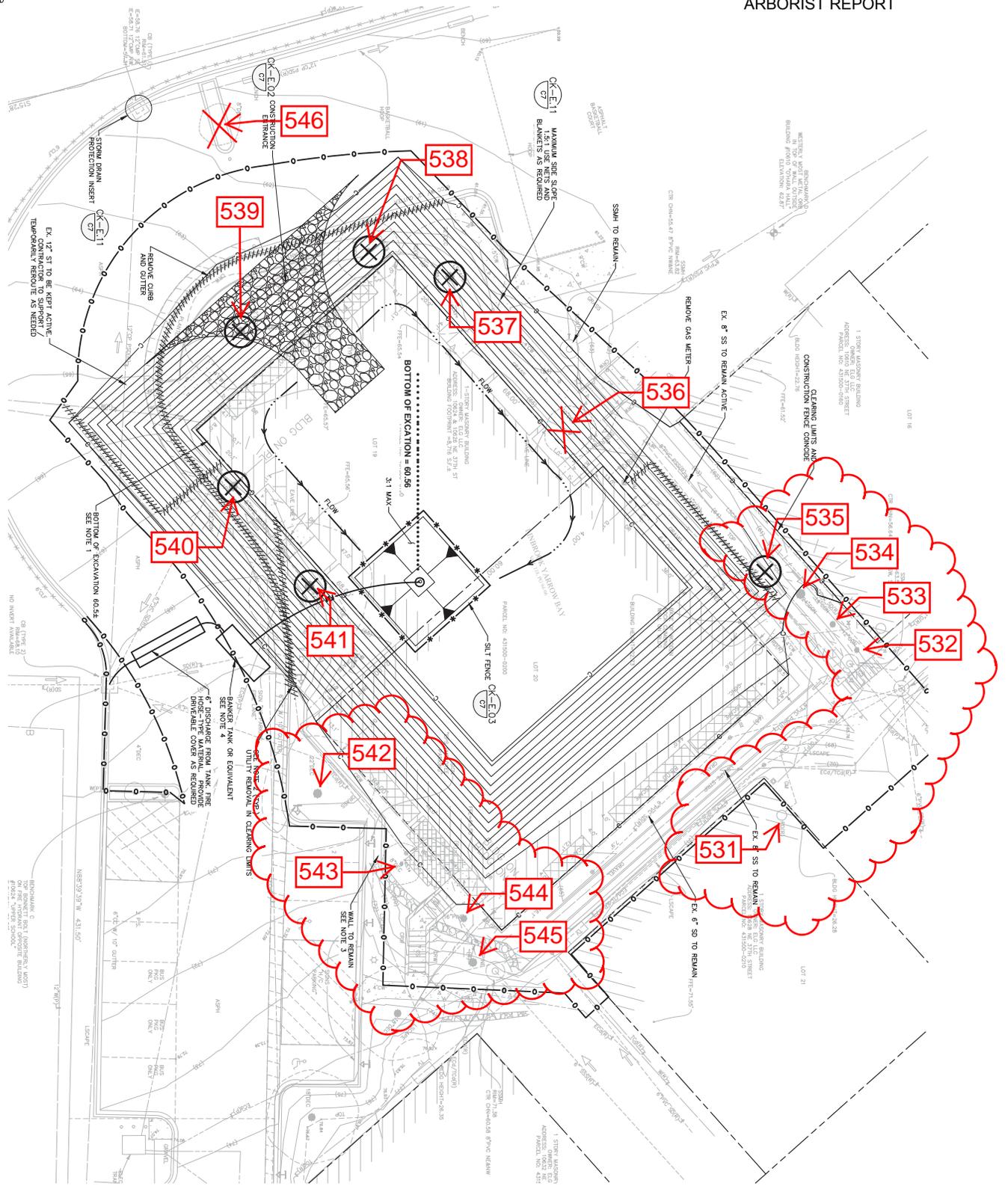


Table of Trees
 Eastside Preparatory School

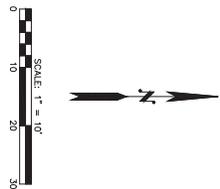
Date of Inventory: 07.09.2014
 Table Prepared: 07.14.2014

Tree #	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	Drip Line Radius (feet)				Proposed Actions	Credits	Notes
							North	South	East	West			
545	<i>Pinus jeffreyi</i>	Jeffrey pine	20.0	Good	Fair -	Edge of existing structure, as possible	21	10	21	21	Retain; plan for structural support/ improvements	6	Multiple co-dominant unions narrowly attached - will be problematic eventually, advisable to subordinate weaker lead of highest union, perhaps the installation of a cabling system would also be wise
546	<i>Acer platanoides</i> 'Crimson King'	'Crimson King' Norway maple	6.0	Good	Good	N/A	10	10	10	10	Remove	1	Not viable for retention due to site access alterations
63													

TESC AND UTILITY DEMOLITION PLAN
 1"=10'



- GENERAL NOTES**
1. PER SITE PLAN REPORT DURING EXCAVATION OF EXISTING FOUNDATION, CONTRACTOR DOES NOT INCLUDE OVER EXCAVATION.
 2. CONTRACTOR TO REMOVE ALL UTILITIES LABELED TO REMAIN'S EXCEPT UTILITIES FINAL LANDSCAPE PLANS.
 3. WALL MAY BE REMOVED. DEPENDS ON FINAL LANDSCAPE PLANS.
 4. SEDIMENT TRAP/BANKER TANK STORAGE SHALL BE AT LEAST FLOOD ELEVATION. E OF PLUMBING TO -1W STORM DRAIN (0.0278 CFS PER SQ. FT. OF FLOOR AREA) SHALL BE PER CFS 503.03.



EASTSIDE PREP SCHOOL - SCIENCE + GYM PROJECT
 10613 NE 38TH STREET
 KIRKLAND, WA 98033
 PROJ NUMBER: 14003

OSBORN CONSULTING, INC.
 1800 112th Ave. NE, Suite 220E Ph (425) 451-4009
 Bellevue, WA 98004 Fax (425) 451-4001

DATE: _____
 REVISION: _____
 FOR REFERENCE ONLY
 SCHEMATIC
 23 JUNE 2014
 RICHARD J. OSBORN
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 4212
C4

TREE SOLUTIONS, INC.
1058 N 39TH St, Seattle, WA 98103 * (206) 528-4670 * www.treesolutions.net

Kirkland Tree Protection Specifications – as stated in Chapter 95.34 of KZC

6. Tree Protection during Development Activity. Prior to development activity or initiating tree removal on the site, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities pursuant to the following standards:

a. Placing Materials near Trees. No person may conduct any activity within the protected area of any tree designated to remain, including, but not limited to, operating or parking equipment, placing solvents, storing building material or soil deposits, or dumping concrete washout or other chemicals. During construction, no person shall attach any object to any tree designated for protection.

b. Protective Barrier. Before development, land clearing, filling or any land alteration, the applicant shall:

1) Erect and maintain a readily visible temporary protective tree fencing along the limits of disturbance which completely surrounds the protected area of all retained trees or groups of trees. Fences shall be constructed of chain link and be at least four feet high, unless other type of fencing is authorized by the Planning Official.

2) Install highly visible signs spaced no further than 15 feet along the entirety of the protective tree fence. Said sign must be approved by the Planning Official and shall state at a minimum "Tree Protection Area, Entrance Prohibited" and provide the City phone number for code enforcement to report violations.

3) Prohibit excavation or compaction of earth or other potentially damaging activities within the barriers; provided, that the Planning Official may allow such activities approved by a qualified professional and under the supervision of a qualified professional retained and paid for by the applicant.

4) Maintain the protective barriers in place until the Planning Official authorizes their removal.

5) Ensure that any approved landscaping done in the protected zone subsequent to the removal of the barriers shall be accomplished with light machinery or hand labor.

6) In addition to the above, the Planning Official may require the following:

a) If equipment is authorized to operate within the critical root zone, cover the areas adjoining the critical root zone of a tree with mulch to a depth of at least six inches or with plywood or similar material in order to protect roots from damage caused by heavy equipment.

b) Minimize root damage by excavating a two-foot-deep trench, at edge of critical root zone, to cleanly sever the roots of trees to be retained.

c) Corrective pruning performed on protected trees in order to avoid damage from machinery or building activity.

d) Maintenance of trees throughout construction period by watering and fertilizing.

c. Grade.

1) The grade shall not be elevated or reduced within the critical root zone of trees to be preserved without the Planning Official's authorization based on recommendations from a qualified professional. The Planning Official may allow coverage of up to one half of the area of the tree's critical root zone with light soils (no clay) to the minimum depth necessary to carry out grading or landscaping plans, if it will not imperil the survival of the tree. Aeration devices may be required to ensure the tree's survival.

2) If the grade adjacent to a preserved tree is raised such that it could slough or erode into the tree's critical root zone, it shall be permanently stabilized to prevent suffocation of the roots.

3) The applicant shall not install an impervious surface within the critical root zone of any tree to be retained without the authorization of the Planning Official. The Planning Official may require specific construction methods and/or use of aeration devices to ensure the tree's survival and to minimize the potential for root-induced damage to the impervious surface.

4) To the greatest extent practical, utility trenches shall be located outside of the critical root zone of trees to be retained. The Planning Official may require that utilities be tunneled under the roots of trees to be retained if the Planning Official determines that trenching would significantly reduce the chances of the tree's survival.

5) Trees and other vegetation to be retained shall be protected from erosion and sedimentation. Clearing operations shall be conducted so as to expose the smallest practical area of soil to erosion for the least possible time. To control erosion, it is encouraged that shrubs, ground cover and stumps be maintained on the individual lots, where feasible.

d. Directional Felling. Directional felling of trees shall be used to avoid damage to trees designated for retention.

e. Additional Requirements. The Planning Official may require additional tree protection measures that are consistent with accepted urban forestry industry practices.