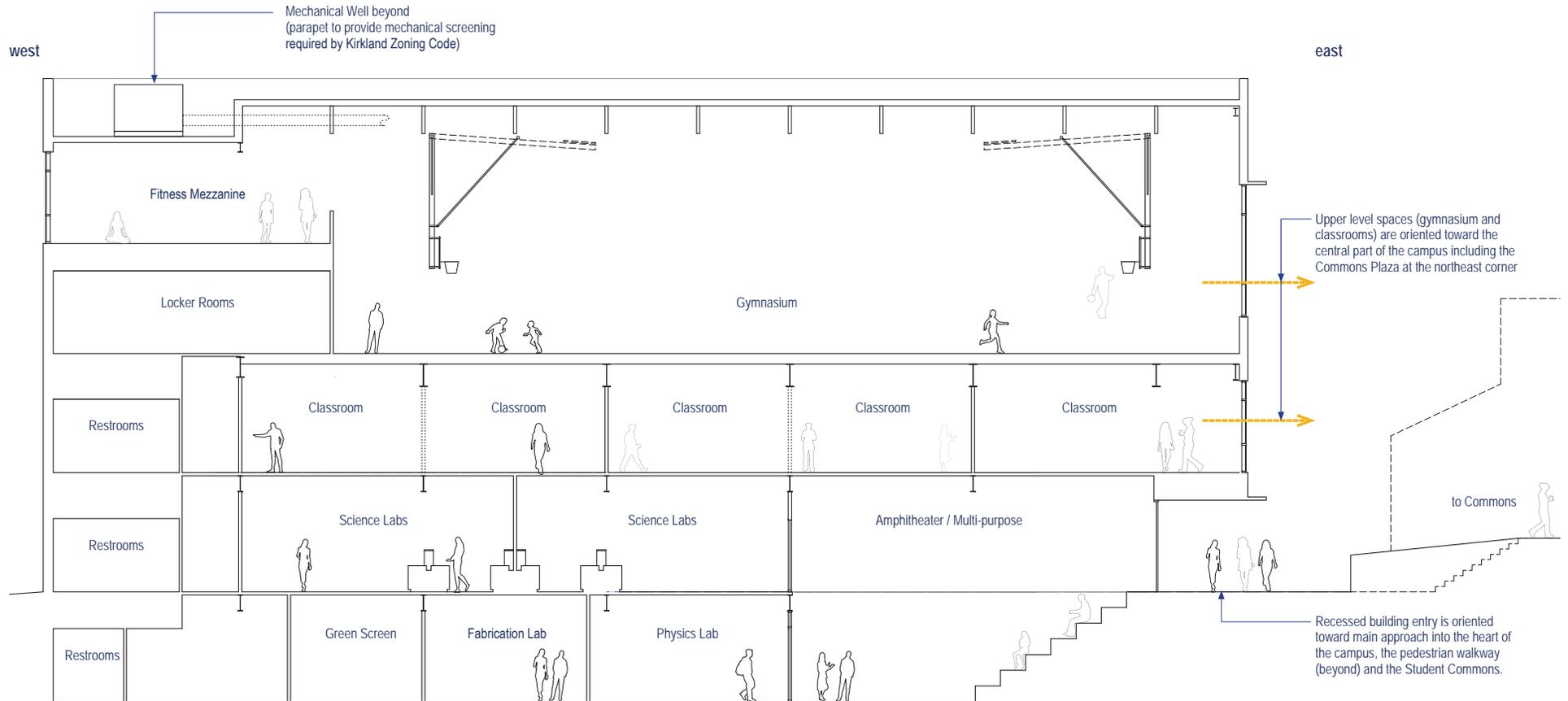


BUILDING SECTION



BUILDING ELEVATIONS

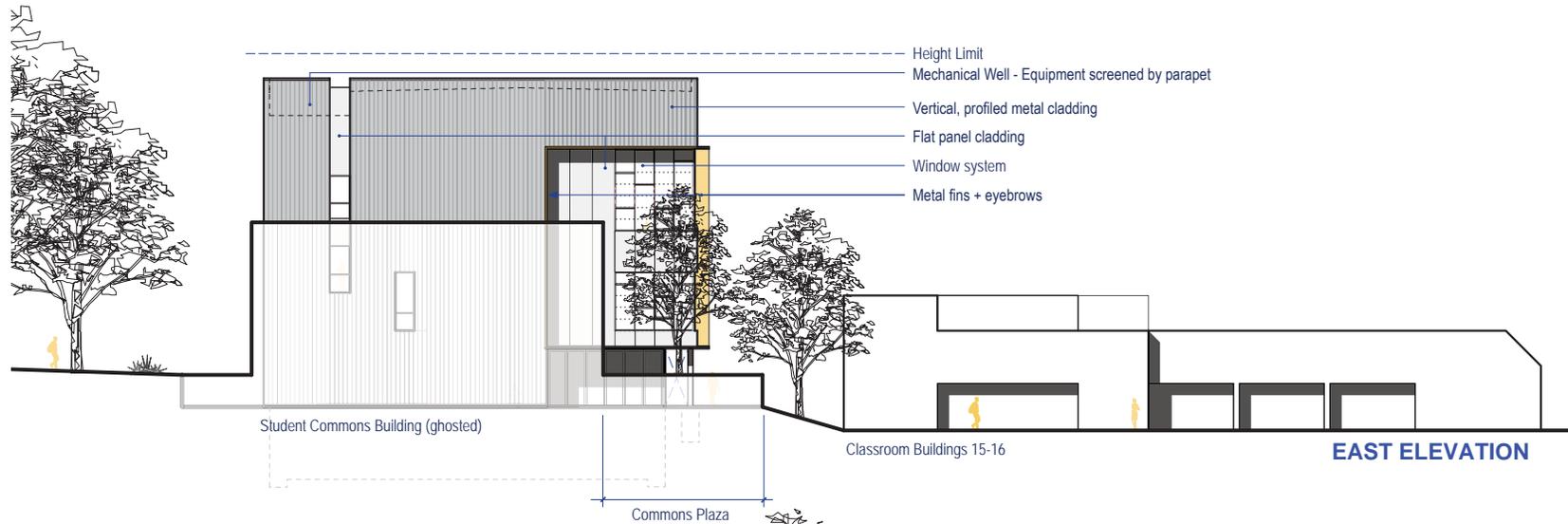
PROPOSED MATERIAL PALETTE

Vertical, profiled metal cladding
 • charcoal / graphite

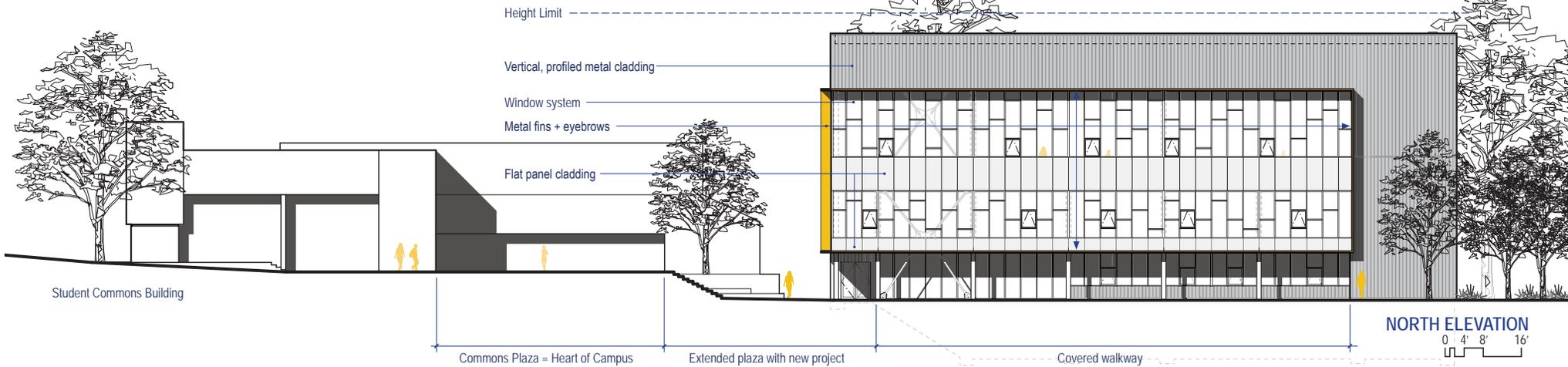
Flat panel cladding
 • light gray

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

Window system (fiberglass)
 • light gray or anodized aluminum



EAST ELEVATION

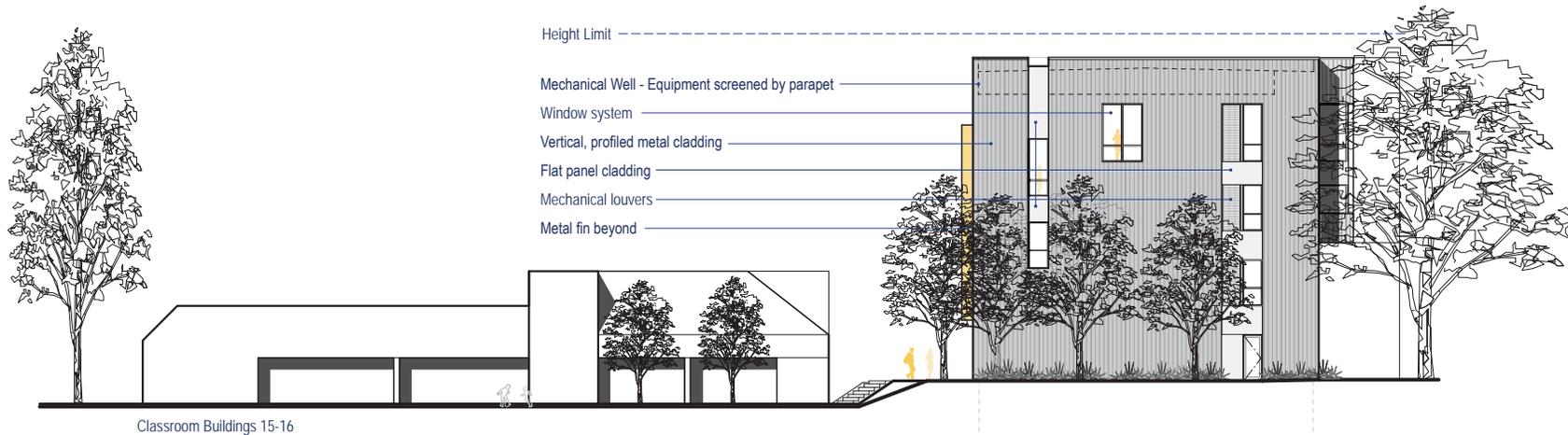


NORTH ELEVATION

BUILDING ELEVATIONS

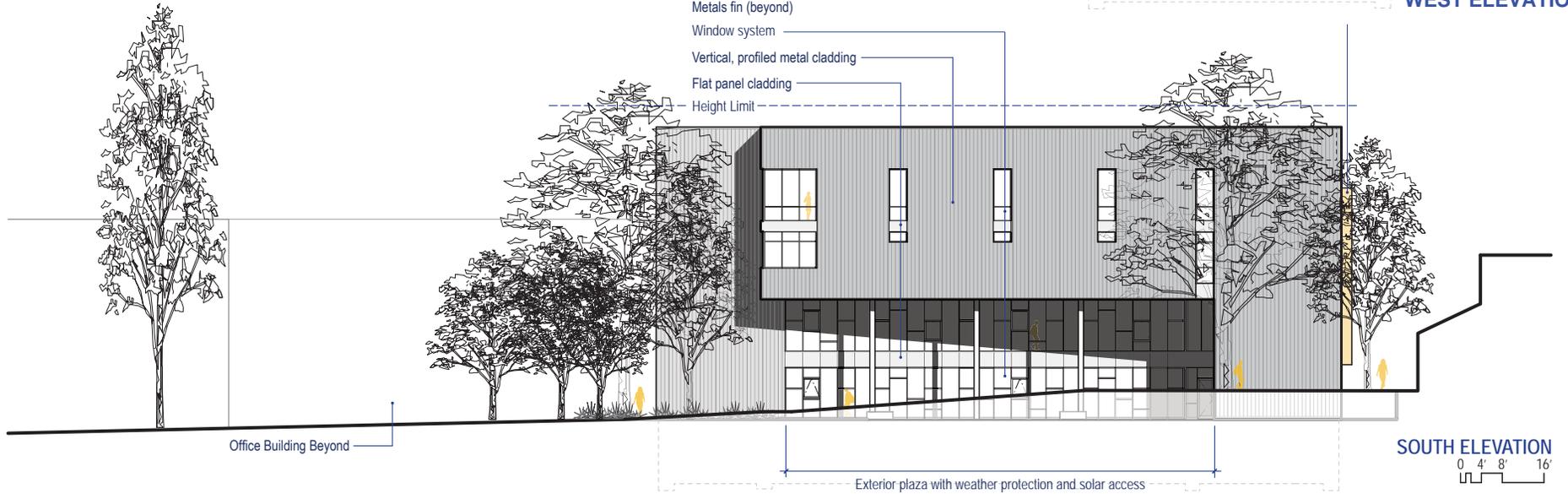
PROPOSED MATERIAL PALETTE

- 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
 0 4' 8' 16'

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 playful composition of mullions.

Fire Lane

Access restricted to emergency response only



PERSPECTIVE
View from Northup Way

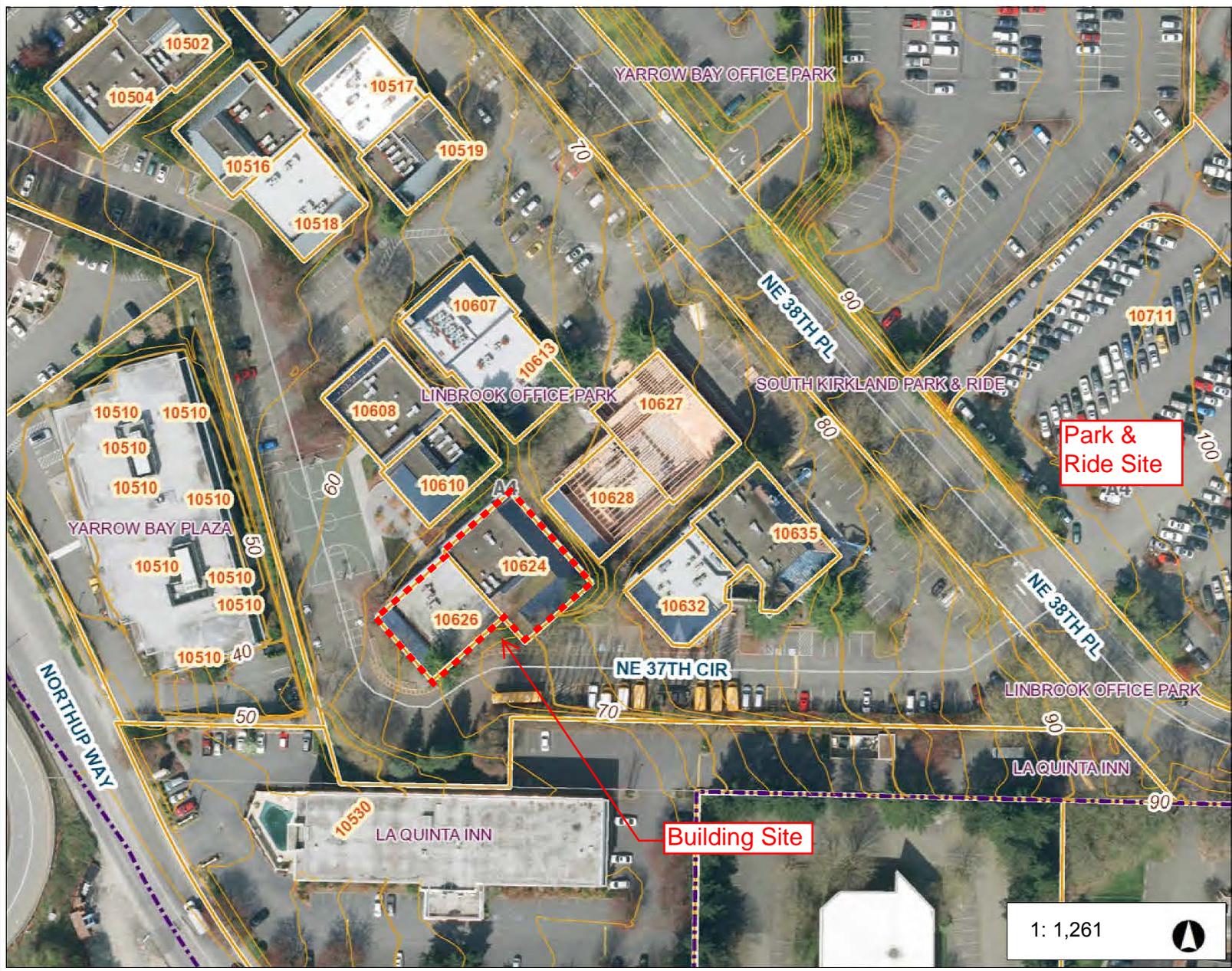


PERSPECTIVE
View from State Route 520





Eastside Prep - Topography Map



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

Park & Ride Site

Building Site

1: 1,261

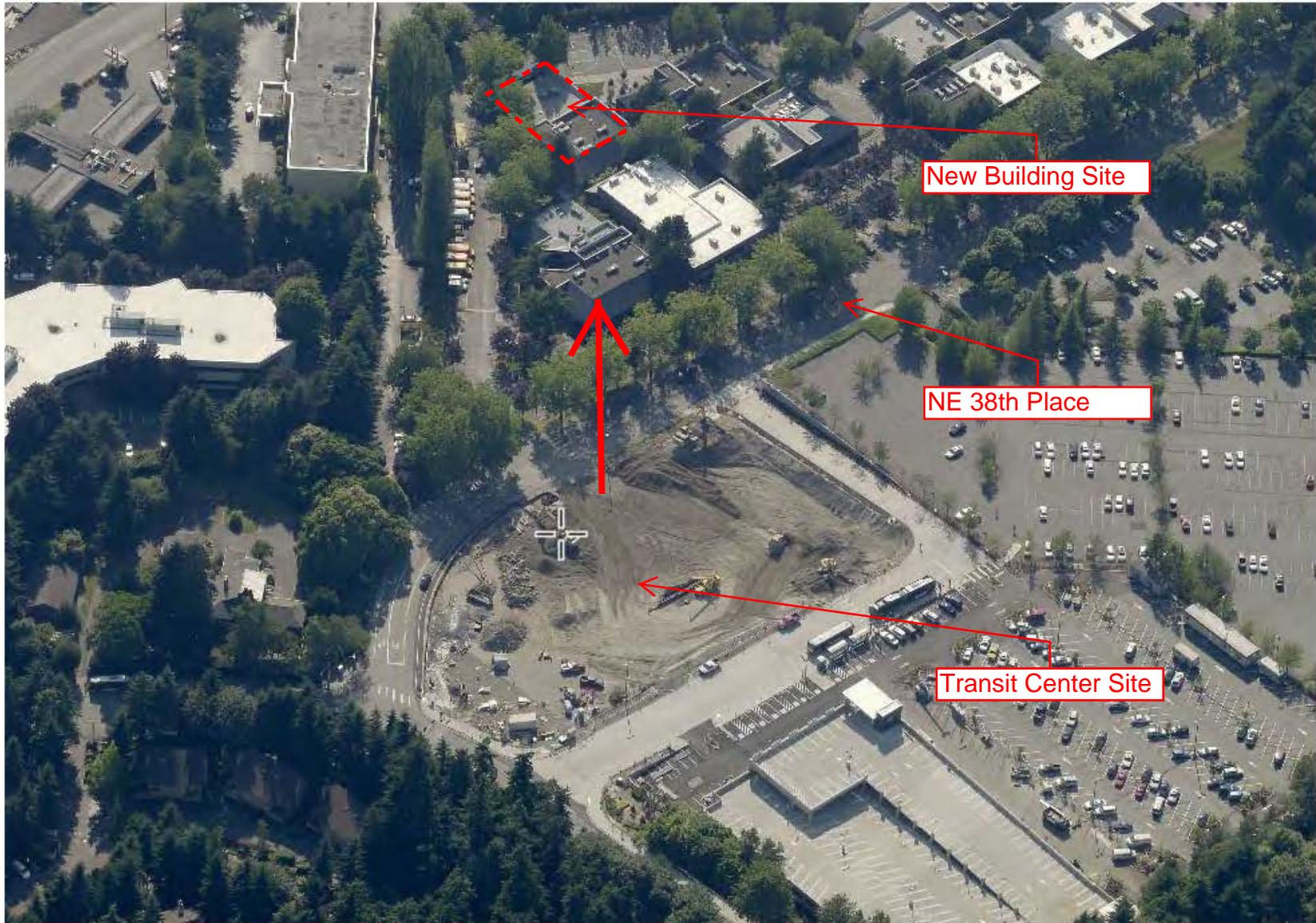


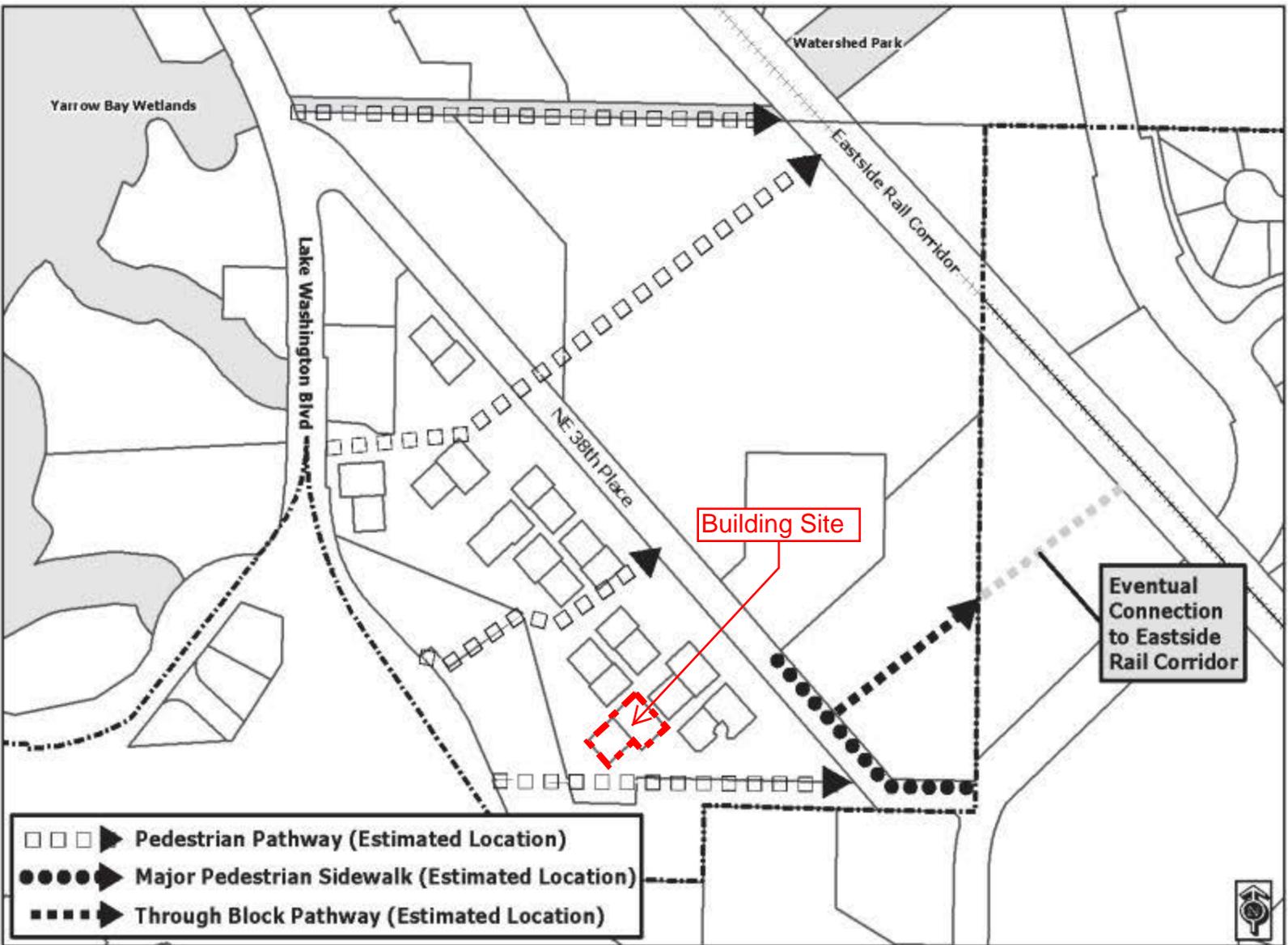
NAD_1983_StatePlane_Washington_North_FIPS_4601_Feet

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Notes

View of Building Site
from Park & Ride Site







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. 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. 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. 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. 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. 7. Developments in parts of this zone may be limited by Chapter 83 or 90 KZC, regarding development near streams, lakes, and wetlands. 8. Development adjoining the Cross Kirkland Corridor or Eastside Rail Corridor shall comply with the standards of KZC 115.24.
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USE ZONE CHART

DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS													
Section 56.20	USE ↓ REGULATIONS ↓	Required Review Process	MINIMUMS			MAXIMUMS		Lot Coverage	Height of Structure	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)									
				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%	In YBD 2, 55' above average building elevation. In YBD 3, 60' above average building elevation.	A	E	See KZC 105.25.	<ol style="list-style-type: none"> The following uses and activities are prohibited: <ol style="list-style-type: none"> The outdoor storage, sale, service and/or rental of motor vehicles, sailboats, motor boats, and recreational trailers. 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. 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. 	
.020	Restaurant or Tavern	D.R., Chapter 142 KZC	None	0' adjacent to NE 38th Place and Northup Way.	0'	0'	80%	In YBD 2, 55' above average building elevation. In YBD 3, 60' above average building elevation.	C	E	1 per each 100 sq. ft. of gross floor area.	<ol style="list-style-type: none"> The following uses and activities are prohibited: <ol style="list-style-type: none"> Drive-in or drive-through facilities. 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. 	
.030	Office Use			Otherwise, 20'.	D	E					<ol style="list-style-type: none"> If medical, dental or veterinary office, then one per each 200 sq. ft. of gross floor area. Otherwise, 1 per each 300 sq. ft. of gross floor area. Ancillary assembly and manufacture of goods on the premises of this use are permitted only if: <ol style="list-style-type: none"> The ancillary assembled or manufactured goods are subordinate to and dependent on this use. The outward appearance and impacts of this use with ancillary assembly or manufacturing activities must be no different from other office uses. 		

Section 56.20

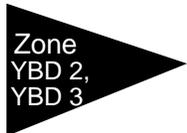
Zone
YBD 2,
YBD 3

USE ZONE CHART

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

Section 56.20	USE ↓ REGULATIONS →	Required Review Process	Lot Size	MINIMUMS			MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)			
				REQUIRED YARD (See Ch. 115)			Lot Coverage	Height of Structure							
				Front	Side	Rear									
.040	Hotel or Motel	D.R., Chapter 142 KZC	None	0' adjacent to NE 38th Place and Northup Way. Otherwise, 20'.	0'	0'	80%	In YBD 2, 55' above average building elevation.	C	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. 2. 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.			
.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 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. 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. 3. 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	A	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.

Section 56.20



USE ZONE CHART

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

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						
.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%	In YBD 2, 55' above average building elevation.	C	B	1 per each 300 sq. ft. of gross floor area	
.090	Hospital Facility										See KZC 105.25.	
.100	Public Utility											
.110	Church										1 for every 4 people based on maximum occupant load of any area of worship. See Spec. Reg. 2.	
											1. May include accessory living facilities for staff persons. 2. No parking is required for day-care or school ancillary to the use.	

(Revised 5/14)

Section 56.20



USE ZONE CHART

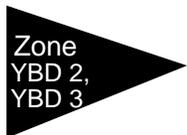
DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS

Section 56.20	USE ↓ REGULATIONS ↑	Required Review Process	MINIMUMS			MAXIMUMS		Lot Coverage	Height of Structure	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)									
				Front	Side	Rear							
.120	School or Day-Care Center	D.R., Chapter 142 KZC	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.	D	B	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 surrounding residential 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								E				

ATTACHMENT 10
FILE NO. DRY/14-01332
KIRKLAND ZONING CHART

(Revised 9/13)

Section 56.20



USE ZONE CHART

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

Section 56.20	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)	Special Regulations (See also General Regulations)	
			Lot Size	REQUIRED YARD (See Ch. 115)			Lot Coverage					Height of Structure
			Front	Side	Rear							
.140	Government Facility Community Facility	D.R., Chapter 142 KZC	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	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

Contents

Summary
Assignment & Scope of Report
Methods
Observations & Discussion
Recommendations
Glossary
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.

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)

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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 532 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 533 to northeast & 535 to southwest; previously climbed with spurs; root exploration along existing sidewalk to southeast & along closest extent of proposed excavation would be required if attempting to retain
535	<i>Tsuga heterophylla</i>	Western hemlock	14.0	Fair	Fair	N/A			14		Remove	3	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
536	<i>Prunus serrulata</i>	Flowering cherry	7.0	Fair	Fair	N/A	10	11	4	11	Remove	1	Surface roots with damage along entire planting strip; not viable for retention, located within proposed area of excavation
537	<i>Acer platanoides</i> 'Columnare'	'Columnare' Norway maple	20.5	Good	Good	N/A	16	16	18	15	Remove	6	Grows on mound next to northwest corner of existing structure; bark mulch present; not viable for retention, located within proposed area of excavation



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 rockery 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		

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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.