
Lake Washington High School
Master Plan and PUD
ZON07-00035
RH 2B
RH 2C
RS 7.2
PR 3.6
RM 3.6
RS 7.2
RM 5.0 (2)
RS 5.0
RS 7.2
12033 NE 80th Street
Lake Washington Senior High School
Holy Family School
NE 81st Ct
NE 80th St
NE 75th Pl
NE 75th St
NE 74th St
NE 73rd St
NE 78th St
118th Ave NE
118th Ct NE
120th Ave NE
122nd Ave NE
124th Ave NE
116th Ave NE
117th Ave NE
119th Ave NE
123rd Ave NE
121st Ln NE

Master Plan & PUD Approval Submittal
Lake Washington High School
19 February 2008

Project Description

The new Lake Washington High School is a replacement of the existing high school originally built in 1948. Construction will occur in two phases, so the existing school can remain operational during construction. Phase one will be construction of the new school. Phase two will be demolition of the existing school and construction of the new parking lot. The proposed structure is designed to fit with the existing topography of the site. New educational wings proposed to be located along the south of the property are two stories at the southeast wing and three stories at the southwest wing, stepping down with the natural topography.

The total current proposed gross floor area is 208,800 square feet, including a commons, performing arts center, main gym & auxiliary gym. Northstar Junior High School will also be housed in the new proposed building with a separate entrance. A classroom building wing may be added as a future project to the north of the gym building.

The stadium, tennis courts and ball fields will remain the same and are not a part of this project. The one exception is that the ball fields will be used temporarily for student parking and construction storage during construction. They will be restored to their existing conditions in phase II. Future classroom portable buildings may be located adjacent to the ball fields.

Compliance with applicable Zoning Code requirements

Site

- Minimum lot size is 7,200 sf. LWHS lot size is 38.1 acres (1,659,118 sf)
- Maximum lot coverage 70%
- Existing impervious area is 757,703 sf
- Proposed impervious area 654,172 sf
- Proposed lot coverage = 654,172/1,659,118 = 39.4%
- The ball fields currently have perimeter fencing as required by the Zoning code and Washington State Health Code.

Site circulation and parking

The main entry at NE 80th Street and 120th will remain the same. Parking north of the building will be reconfigured to accommodate 499 stalls. The existing parking lot off of NE 75th St. will be eliminated. Seven parking stalls will be located near the southwest corner of site for use by visitors to the Northstar Junior High School located in the SW wing.

The required number of parking spaces is not specified in KZC 105.25. A total of 506 parking stalls are proposed (2.4 spaces per 1,000 sf GFA). This is a reduction from the current amount of parking provided on site. The location of future parking stalls is shown on sheet C9.00.

A passenger drop off/loading area is proposed as part of the new entry plaza to the north of the school main entrance. Additional drop off/loading areas will be provided near the Northstar Junior High School entry as well as the daycare and special needs lab along the south of the building.

Concrete walkways will be added and maintained to provide through-connections to NE 75th St., NE 80th St., and 122nd Ave. NE.

Landscape

The landscape design for the site will be governed by the following City of Kirkland codes:

- Landscape design for the parking lot: Pursuant to KZC 92.25.4 – Internal Parking Lot Landscaping, and 95.40. 7.a.1
- West side of site: Pursuant to KZC 95.40.6.b, Land Use Buffering Standard 2. The applicant plans to modify this requirement per KZC Section 95.40.6.J.

Building

Required building set backs: front, rear and each side are all 50'.
Proposed set backs are all greater than 50':

- North (front) = 838'
- East (side) = 562'
- South (rear) = 76'
- West (side) = 93'

Please note that these setbacks may be revised as the building design develops further, but the setbacks will remain greater than 50'.

The building is not required to comply with the façade modulation requirements due to location being greater than 100' from an adjoining low density zone.

Maximum allowable building height is 30' with provisions to increase to 35'. The proposed building height exceeds the allowable 35' limit. See additional documentation provided for average building elevation calculations and summary of locations where the building exceeds the height limit.

The proposed PUD seeks to increase the maximum building height from 35' to 50'.

Compliance with PUD Criteria

1. ***The proposed PUD meets the requirements of chapter 125.***
   Yes, the proposed PUD meets the requirements of chapter 125.

2. ***Any adverse impacts or undesirable effects of the proposed PUD are clearly outweighed by specifically identified benefits to the residents of the City.***
   Benefits to the City of the proposed PUD:
   - Reduced building foot print: The total building area footprint of the proposed new high school is less than the footprint of the existing high school. This will increase the open area on site as compared to a design without the proposed PUD.
   - The new buildings are sited in the Southwest quadrant of the site, resulting in contiguous open area for the balance of the site.
   - Open space will be more contiguous to the north of the school and across the site as compared to the existing school.
   - Reduced impervious area: The impervious surface area of the proposed new project is significantly less than the impervious area of the existing site and compared to a design without the proposed PUD.
   - The project will provide Low Impact Design / improved storm water quality entering the public system, streams and lakes.
   - Buses will be rerouted to the north parking lot to eliminate bus fumes and noise which is currently caused while waiting on 75th Street for Northstar Students.
   - Vehicular traffic will be routed one-way through the drive loop parallel to 75th. This will eliminate the current bottleneck at the southwest driveway. This drive loop is primarily for deliveries and drop off/pick up of Northstar, daycare and special needs students. The main student body and teacher/staff parking is located to the north of the building.
   - Parking will be minimized on the south side of the site. The existing student parking lot on the south will be eliminated, which will reduce traffic impacts on 75th Street.
   - Both entries to the south drive loop will be gated to keep vehicles out of the drive loop after school hours.
   - The new building will be set back and buffered from 75th Street. The setback is greater than the zoning code minimum.
   - The building will focus school and public activities inwardly. Virtually all primary entries and activity spaces are accessed from the north edge of the building or interior courtyard significantly reducing the impact of noise and activity to neighboring properties.
   - Trees will be added along 75th Street to supplement the existing buffer.
   - LWSD will coordinate with neighbors along 122nd to strategically group trees to preserve existing views.
   - The District is proposing to add parallel parking stalls as an added feature to the 122nd Street improvements.
   - The project will provide a modern, state of the art, school facility for the community.

- Noise currently coming from the roof-top HVAC units will be eliminated. The new building will not have roof-top HVAC units along 75th Street.
- The proposed building placement and orientation maximizes solar exposure for the classrooms creating a healthier learning environment.

3. The applicant is providing one or more of the following benefits to the City as part of the proposed PUD:

a. The applicant is providing public facilities that could not be required by the City for development of the subject property without a PUD:

The performing arts center is a major component to the new school and a significant asset to the Kirkland community. This will be a state of the art facility providing a valuable performance venue for the community. The performance hall will have a capacity of 400 seats. The stage has a three quarter height fly loft for the rigging of lighting and scenery. The fly loft is an important feature of the theatre allowing performance to have scenery changes from overhead. The fly loft also provides for enhanced acoustics for vocal, orchestra and musicals. The height increase requested under the PUD allows us to construct the fly loft and turn what would otherwise be just an auditorium into a significant performing arts center. The performing arts center is also located the furthest away from any of the adjoining neighbors as to minimize any impact on the neighbors.

b. The proposed PUD will preserve, enhance or rehabilitate natural features of the subject property such as significant woodlands, wildlife habitats or streams that the City could not require the applicant to preserve enhance or rehabilitate through development of the subject property without a PUD.

- The proposed design for Lake Washington High School will provide a greater amount of open space than the existing facility.

c. The design of the PUD incorporates active or passive solar energy systems.

The design for the high school currently includes a proposal to utilize a ground loop heating and cooling system that uses the constant temperature of the earth in lieu of non - renewable resource energies to heat and cool a majority of the facility.

A demonstration photovoltaic array is also proposed that will provide information to a learning kiosk as to the availability and power of solar energies in this area and potentially power 4 classrooms.

d. The design of the proposed PUD is superior in one or more of the following ways to the design that would result from development of the subject property without a PUD:

1) Increased provision of open space or recreational facilities.

The new LWHS design will provide increased open space in comparison to the existing facility.

2) Superior circulation patterns or location or screening of parking facilities.

- Parking for the new facility has been consolidated primarily to the area north of the building and in turn reducing vehicle trip generation on 75th street. The current site allows access to all parking from

- The majority of the parking areas are located at the middle of the site and will provide significant landscape screening and distance from neighboring properties.
-

3) Superior landscaping, buffering, or screening in or around the proposed PUD.

- The District is proposing to utilize Low Impact Development features in the redevelopment of the High School site.
- The major elements for low impact landscape design in this project will be the use of rain gardens as part of the storm drainage system and the use of mostly northwest native plants in the planting plan. Rain gardens will assist in attenuating storm water run flows prior to being routed to the detention ponds. In addition, the rain gardens will provide water quality treatment mimicking naturally occurring filtration. Using northwest native plants will reduce the amount of water consumption as there will be no need for an irrigation system once the plants are established.

- In the parking lots to the north of the proposed building the planter beds between the rows of parking will be planted as rain gardens. Surface water from storm run off will be directed into these planter beds which will be depressed approximately eighteen inches below adjacent grades. Water will be collected in these depressed planter beds and allowed to slowly filter through the planted soil and provide water quality treatment. Excess water not absorbed into the soil will be collected by a piped storm drainage system and carried away to the existing detention ponds. The planter beds will contain moisture tolerant northwest native plants which will also assist with cleansing storm water run off and provide some water uptake.

- Located between the administration wing, gym and classrooms are two courtyards for outside learning and gathering. The landscape or softscape portions of these courtyards will also serve as rain gardens. Storm water run off from the building roofs will be directed down rain leaders but instead of being routed directly to the underground storm system as is usually done, the water will daylight into concrete receptacles. From these receptacles the water will be channeled to the planting beds (rain gardens) in the middle of the courtyards. Similar to the parking lots the water will slowly filter through the planted soil below and provide water quality treatment. Excess water not absorbed into the soil will be collected by the storm drainage system and carried away to the detention ponds. These courtyards will also contain moisture tolerant northwest native plants which will also assist with cleansing storm water run off and provide some water uptake.

4) Superior architectural design, placement, relationship or orientation of structure.

- The entire building will be new construction, utilizing environmentally conscientious materials and landscaping, which will replace the existing 50+ year-old facility.
- The proposed building design is sited in the southwest corner of the property to allow for more contiguous open space to the east and north of the site as well as utilize the existing site grade change to visually screen the larger, "civic" portions of the school, from neighboring properties to the south.
- Solar orientation of the building is optimized to allow for all classrooms to make significant use of natural daylight.
- The south elevation of the building will be modulated to reduce the scale of the building, utilizing materials, such as masonry and cement board siding to contextually blend with residential properties to the south.
- The multi-level design integrates with the topographic grade change across the site to allow accessible routes through the building and the site.
- Building programmatic areas have been zoned to allow for community use of the facility during non school hours, i.e. the gyms, commons, performing arts center and library.
- All HVAC equipment will be located within the building envelope to reduce noise and visual impacts to neighboring properties.
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5) Minimum use of impervious surfacing materials.

The use of impervious surfaces has been reduced in comparison to the existing facility by a significant amount. (please see area data presented above)

Building Height Calculations
Lake Washington High School

Master Plan & PUD Submittal
15 February 2008

The proposed design solution for the new Lake Washington High School is a three-story structure with a maximum building height of 52'-0" above finish floor**.** The finish floor elevation is proposed to be 410.00'. Average building elevation calculations result in an ABE of 413.95'.

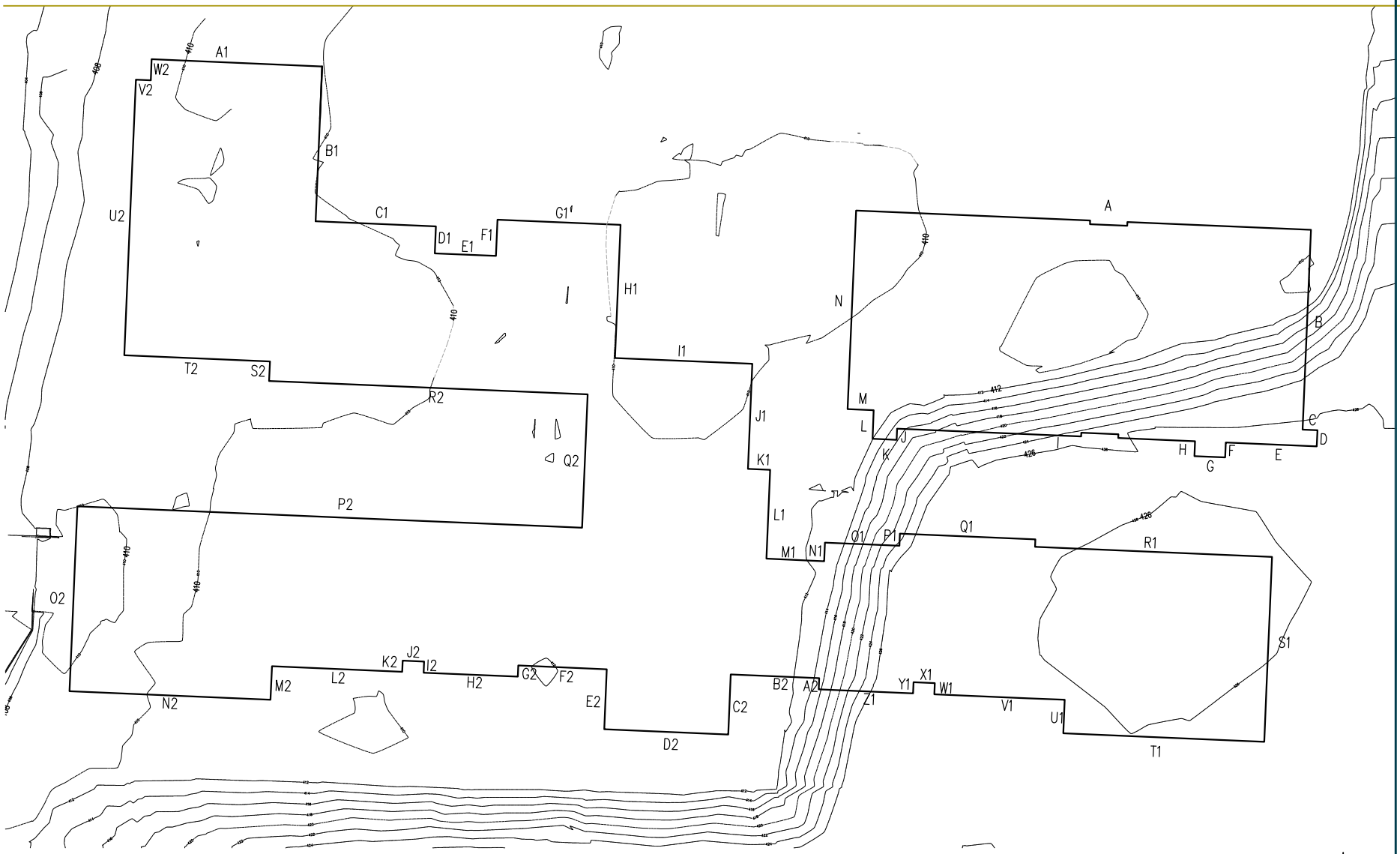
The following is a list of building elements that exceed the allowable 35'-0" building height:

- Educational/library/building core façade along 75th street
  - Max height above ABE = 43'-0 5/8"
  - Exceeds allowable height by 8'-0 5/8"
- Performing arts center on interior of site facing west property line
  - Max height above ABE = 48'-0 5/8"
  - Exceeds allowable height by 13'-0 5/8"

The proposed PUD seeks to increase the maximum allowable building height from 35' to 49' above the ABE. The 49' request exceeds the current design by about one foot which allows for a small amount of design contingency.

Lake Washington High School				
Average Building Elevation Calculation				
February 15, 2008				
	Wall designation	Mid point grade elevation	Wall segment length	Elev x Length
Gym	A	410	244.5	100245.00
Gym	B	418	108.67	45424.06
Gym	C	426	8	3408.00
Gym	D	426	8.67	3693.42
Gym	E	426	49	20874.00
Gym	F	426	8	3408.00
Gym	G	426	16.5	7029.00
Gym	H	426	8	3408.00
Gym	I	420	160	67200.00
Gym	J	415	6	2490.00
Gym	K	414	13	5382.00
Gym	L	412	15.33	6315.96
Gym	M	410	14	5740.00
Gym	N	410	106.67	43734.70
Main	A1	410	91.5	37515.00
Main	B1	410	83.17	34099.70
Main	C1	410	64.67	26514.70
Main	D1	410	14.5	5945.00
Main	E1	410	32.83	13460.30
Main	F1	410	19.5	7995.00
Main	G1	410	66.17	27129.70
Main	H1	410	71.5	29315.00
Main	I1	410	73.83	30270.30
Main	J1	410	56.5	23165.00
Main	K1	410	12	4920.00
Main	L1	411	47.75	19625.25
Main	M1	411.5	31	12756.50
Main	N1	413	10	4130.00
Main	O1	418	40	16720.00
Main	P1	424	6.5	2756.00
Main	Q1	426	72.83	31025.58
Main	R1	426	127.33	54242.58
Main	S1	426	99.33	42314.58
Main	T1	426	108	46008.00
Main	U1	426	18	7668.00
Main	V1	426	70	29820.00
Main	W1	426	6	2556.00
Main	X1	426	11.5	4899.00
Main	Y1	426	6	2556.00

Main	Z1	425	50.67	21534.75
Main	A2	415	6	2490.00
Main	B2	411	47.5	19522.50
Main	C2	410	32.25	13222.50
Main	D2	410	66.67	27334.70
Main	E2	410	32.25	13222.50
Main	F2	410	47.5	19475.00
Main	G2	410	6	2460.00
Main	H2	410	50.67	20774.70
Main	I2	410	6	2460.00
Main	J2	410	11.5	4715.00
Main	K2	410	6	2460.00
Main	L2	410	70	28700.00
Main	M2	410	18	7380.00
Main	N2	410	108	44280.00
Main	O2	410	99.33	40725.30
Main	P2	410	271.25	111212.50
Main	Q2	410	71.5	29315.00
Main	R2	410	171.17	70179.70
Main	S2	410	10.5	4305.00
Main	T2	409	78.25	32004.25
Main	U2	409	148	60532.00
Main	V2	409	8	3272.00
Main	W2	409	11.33	4633.97
			∑ wall length =	∑ elev x length=
			3435.09	1421970.70
			ABE = (∑ wall length) / (∑ wall elev x length)	
			ABE =	**413.95**



AVERAGE BUILDING ELEVATION WALL DESIGNATION PLAN

1"=50'-0" PROJECT NORTH

project_
LAKE WASHINGTON HIGH SCHOOL

client_
LAKE WASHINGTON SCHOOL DISTRICT

date_
15 FEB 08

mcg-ARC

SITE PLAN

DESIGN DEVELOPMENT PHASE

SCALE: 1" = 60'-0"

0 30' 60' 120' 240' FT

project_
LAKE WASHINGTON HS

client_
Lake Washington School District

date_
February 19, 2008

McGRANAHAN architects

EXTERIOR BUILDING ELEVATIONS

DESIGN DEVELOPMENT PHASE

SCALE: 1" = 20'-0"

SOUTH ELEVATION

SOUTH ELEVATION as viewed from 75th Street

EAST ELEVATION

project_
LAKE WASHINGTON HS

client_
Lake Washington
School District

date_
February 19, 2007

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EXTERIOR BUILDING ELEVATIONS

DESIGN DEVELOPMENT PHASE

SCALE: 1" = 20'-0"

NORTH ELEVATION

NORTH ELEVATION as viewed from the courtyard

WEST ELEVATION

project_
LAKE WASHINGTON HS

client_
Lake Washington
School District

date_
February 19, 2007

EAST VIEW as seen from 122nd Avenue NE
(Existing Site Condition)

3D VISUALIZATION
IMAGE

DESIGN DEVELOPMENT
PHASE

project_
LAKE WASHINGTON HS

client_
Lake Washington
School District

date_
February 19, 2007

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EAST VIEW as seen from 122nd Avenue NE
(Proposed Building Design foreshortened to 35' height above the Average Building Elevation of 413.95')

3D VISUALIZATION
IMAGE

DESIGN DEVELOPMENT
PHASE

project_
LAKE WASHINGTON HS

client_
Lake Washington
School District

date_
February 19, 2007

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EAST VIEW as seen from 122nd Avenue NE
(Proposed Building Design)

3D VISUALIZATION
IMAGE

DESIGN DEVELOPMENT
PHASE

project_
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Lake Washington
School District

date_
February 19, 2007

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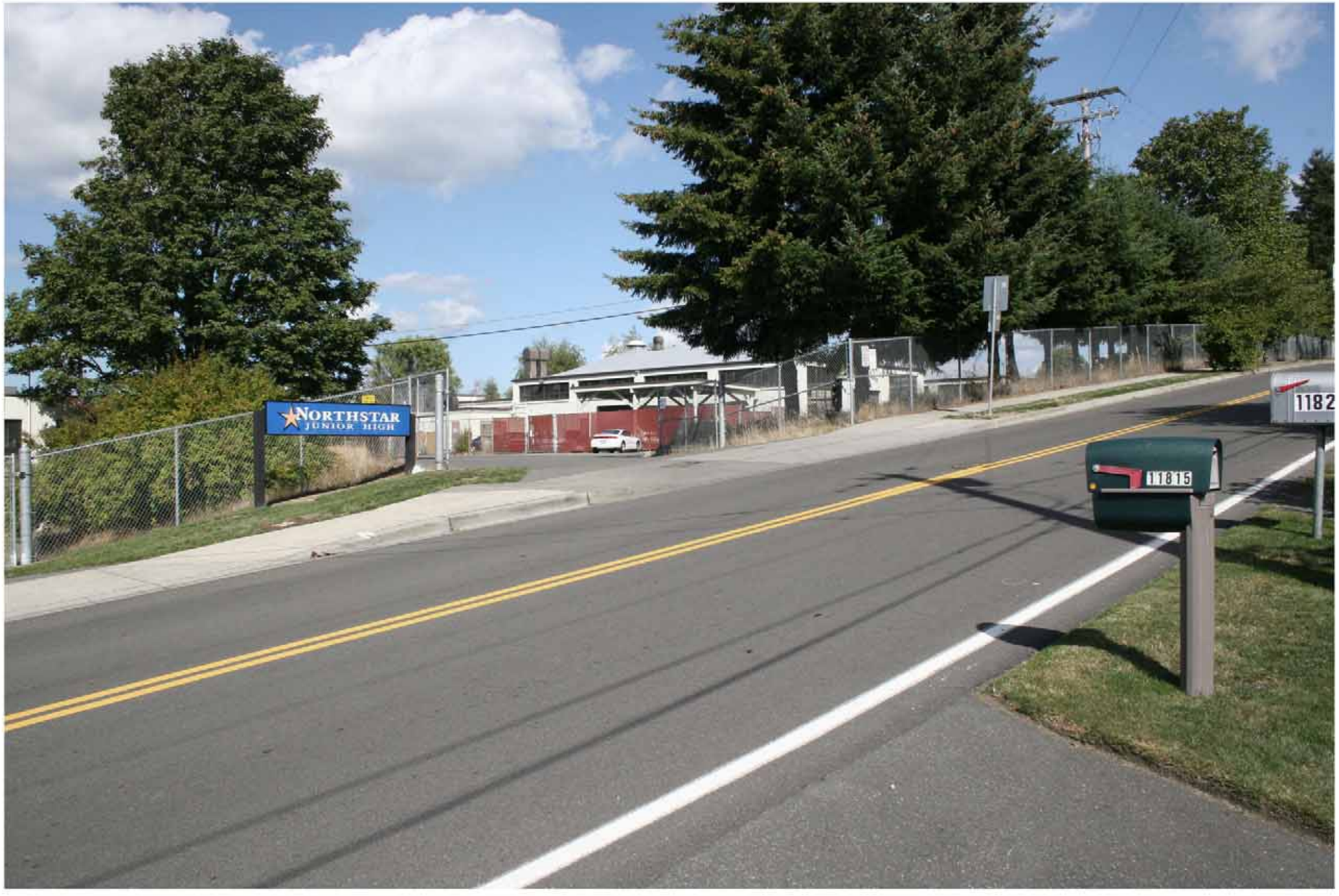

SOUTHWEST VIEW as seen from NE 75th Street
(Existing Site Condition)

3D VISUALIZATION
IMAGE

DESIGN DEVELOPMENT
PHASE

project_
LAKE WASHINGTON HS

client_
Lake Washington
School District

date_
February 19, 2007

SOUTHWEST VIEW as seen from NE 75th Street
(Proposed Building Design)

3D VISUALIZATION
IMAGE

DESIGN DEVELOPMENT
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