



3117 NE 133RD St.

SEATTLE, WASHINGTON

EARLY DESIGN GUIDANCE

11/15/2013

DPD PROJECT # 3015903

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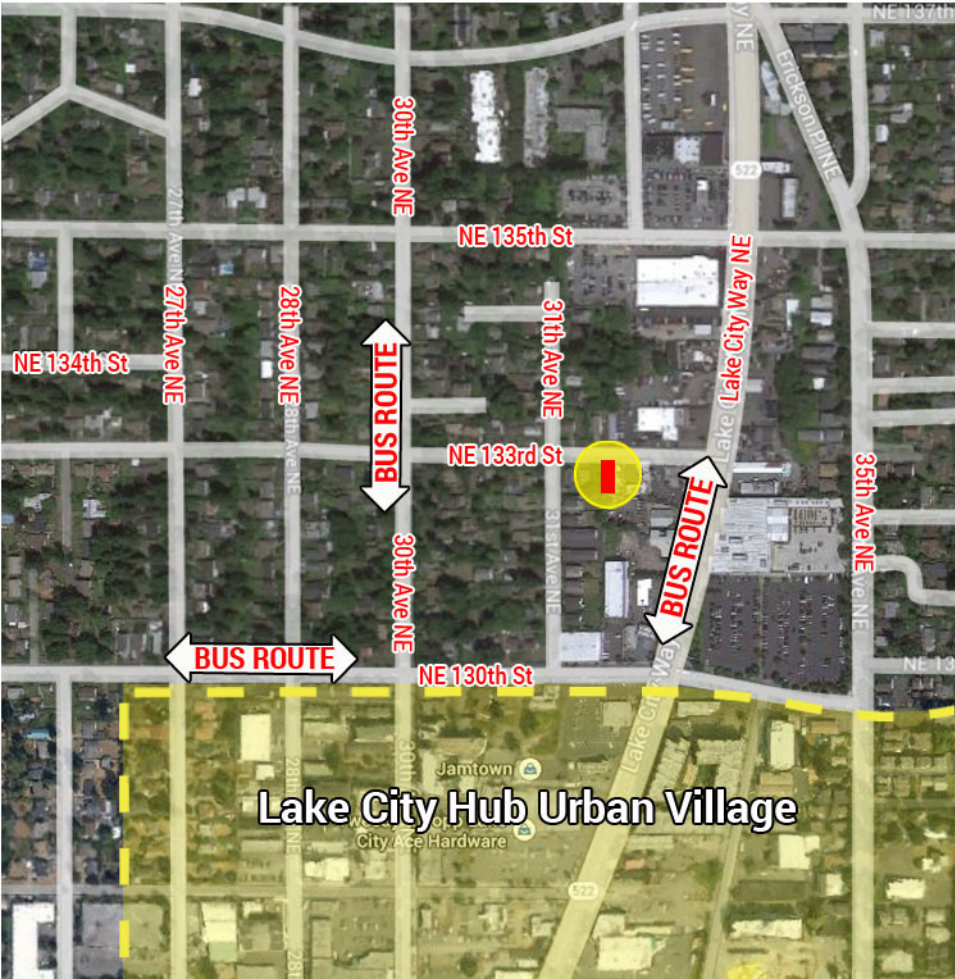
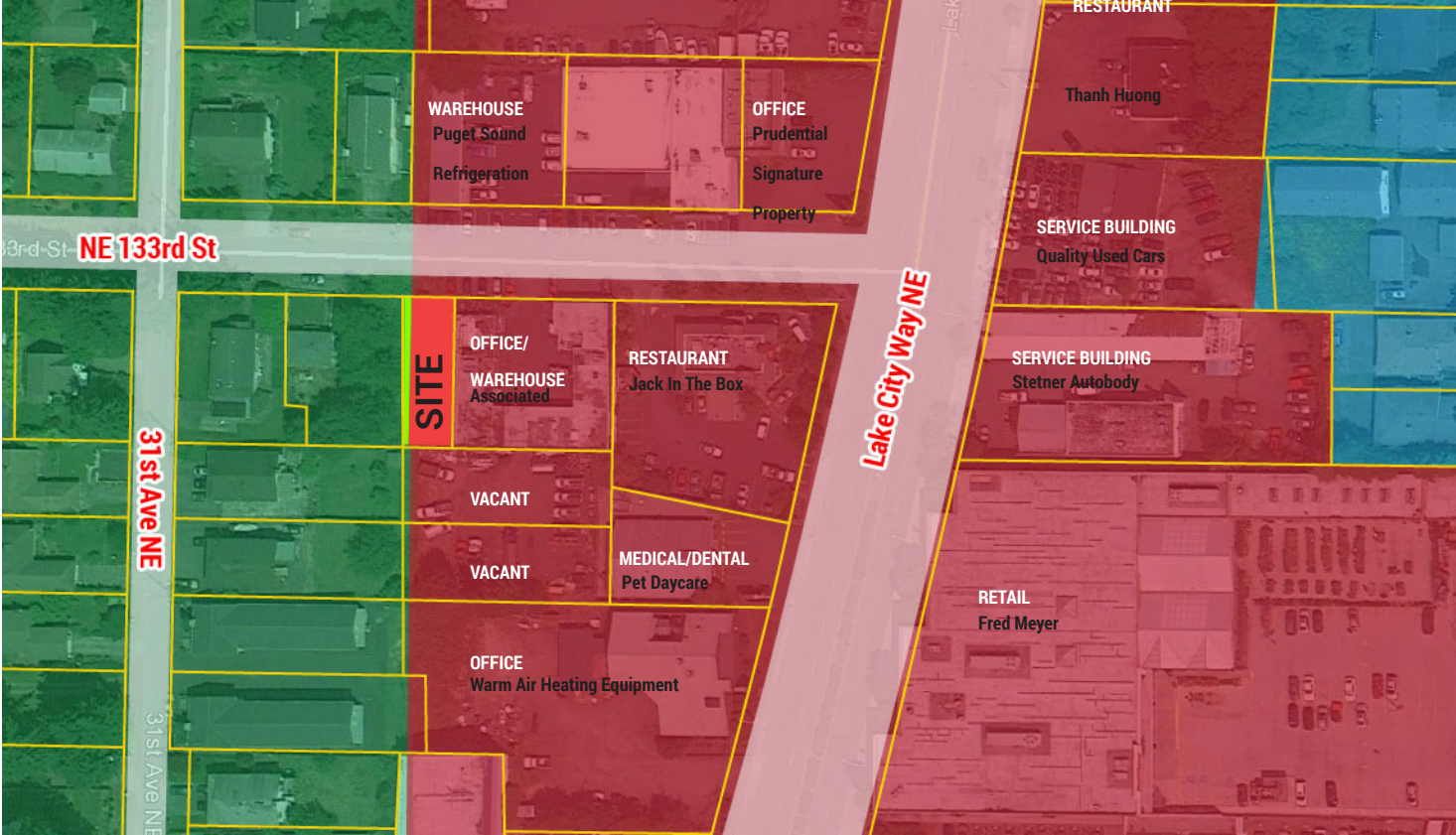
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APPENDIX:

Metro Bus Schedules.pdfi - xx

SITE ANALYSIS

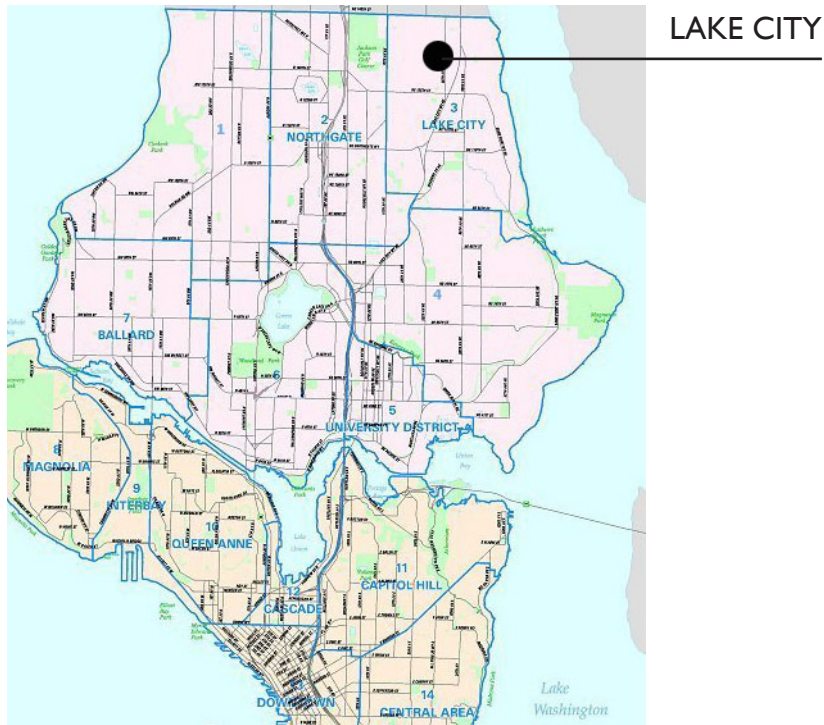
VICINITY MAPS



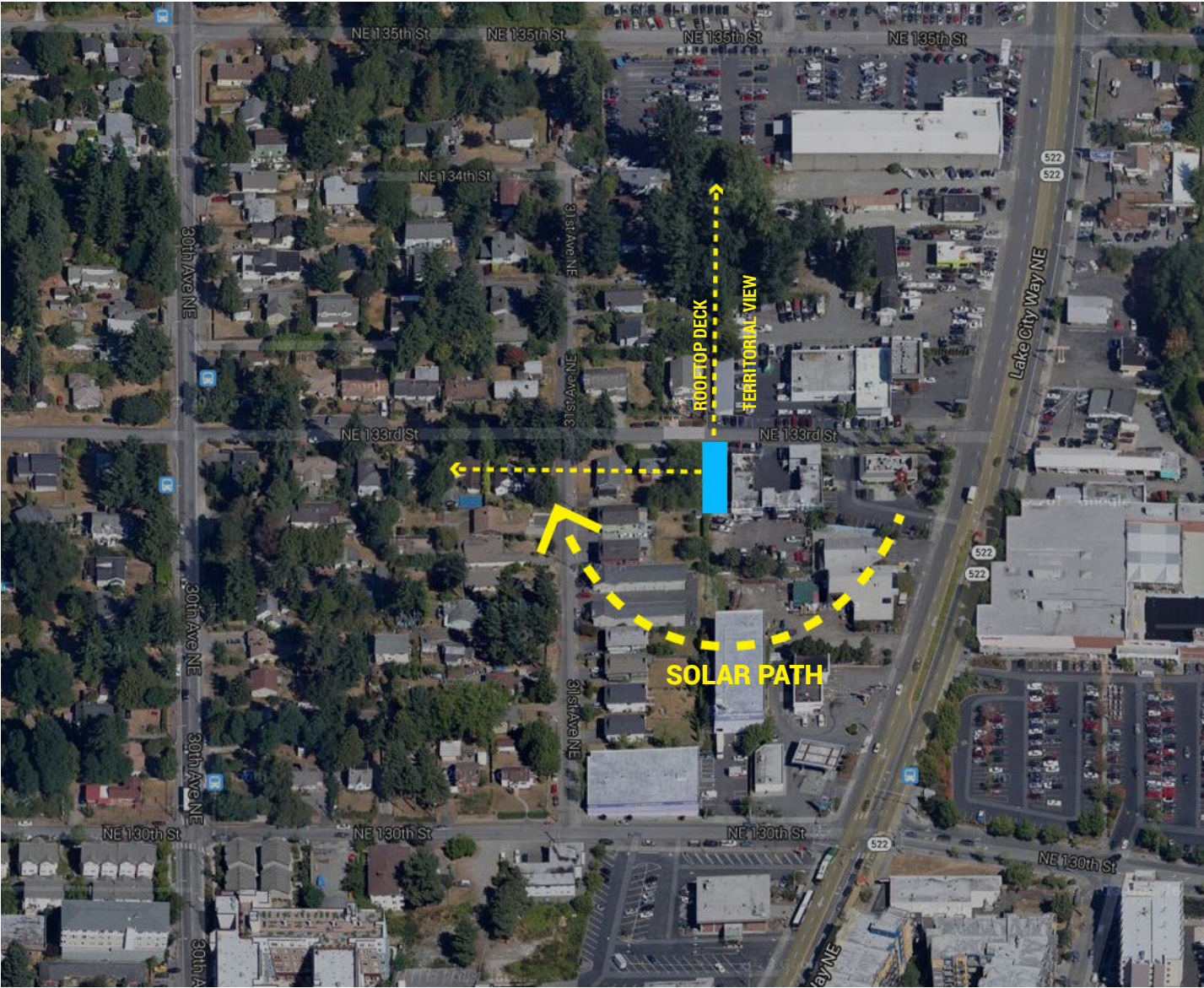
The site is located three blocks north of the Lake City Hub UrbanVillage, 1/2 block west of Lake City Way. The site is in a commercial zone (CI-40), with approximately 3.5' on the west side of the lot in a single family (SF-7200) zone.

The side streets are mostly unimproved, and the traffic there is quite light. Lake City way is a main arterial, heavily trafficked, with good pedestrian access. There are several frequently serviced bus stops within walking distance. The transit study (pages 19-20) demonstrates that onsite parking can be reduced by 50%.

The neighborhood is a mix of older warehouse/manufacturing buildings in the commercial zone, and single family houses with large lots in the residential zone. The site is close to restaurants and businesses on Lake City Way as well as within easy access of major arterials providing access to downtown, the University District and other areas of the city. It will also serve as an attractive buffer to the ugly manufacturing concerns that border the neighborhood.



SITE CONDITIONS



VIEWS- SOLAR PATH-MAIN ARTERIALS

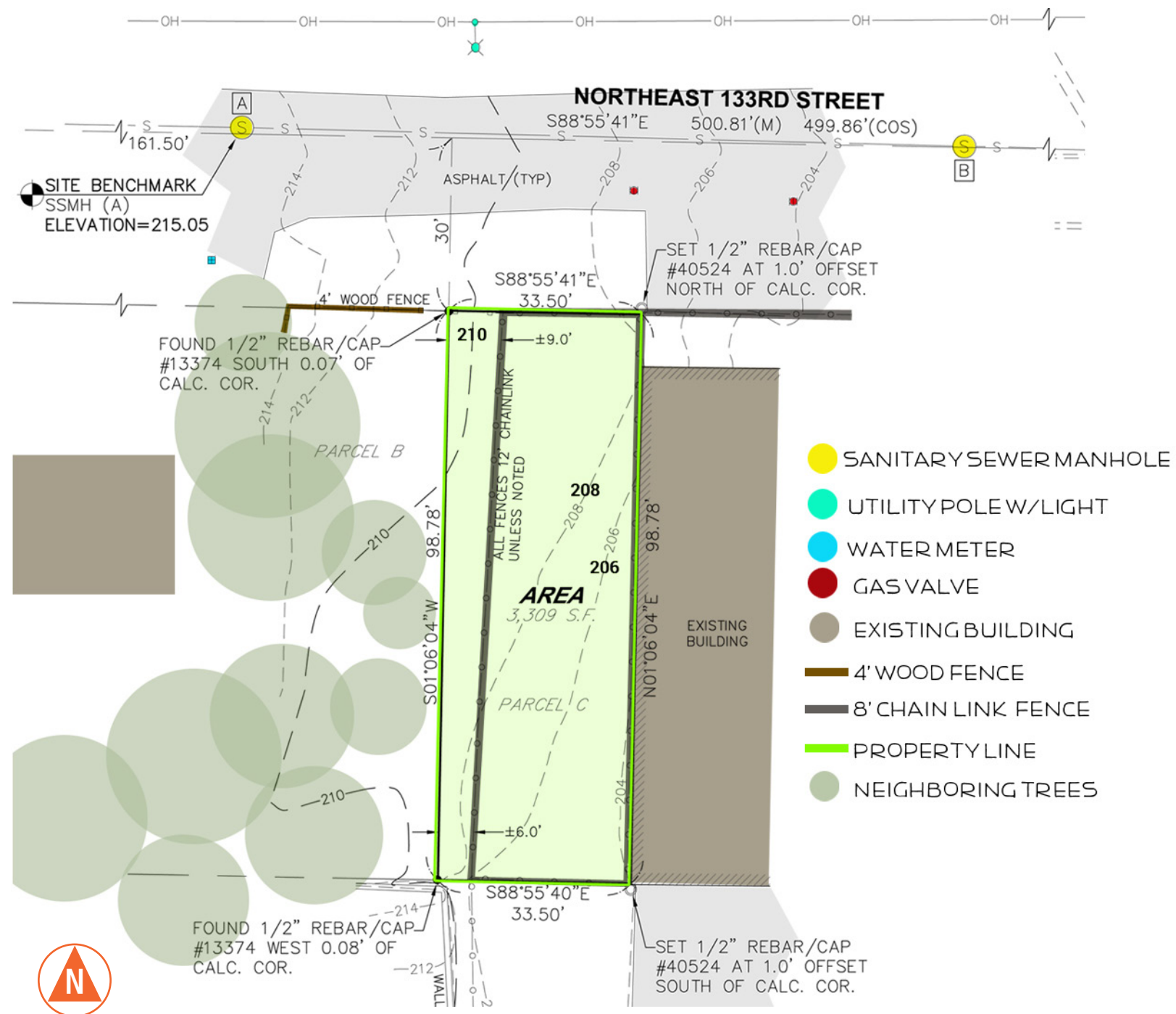


SITE TREE CANOPY COVERAGE

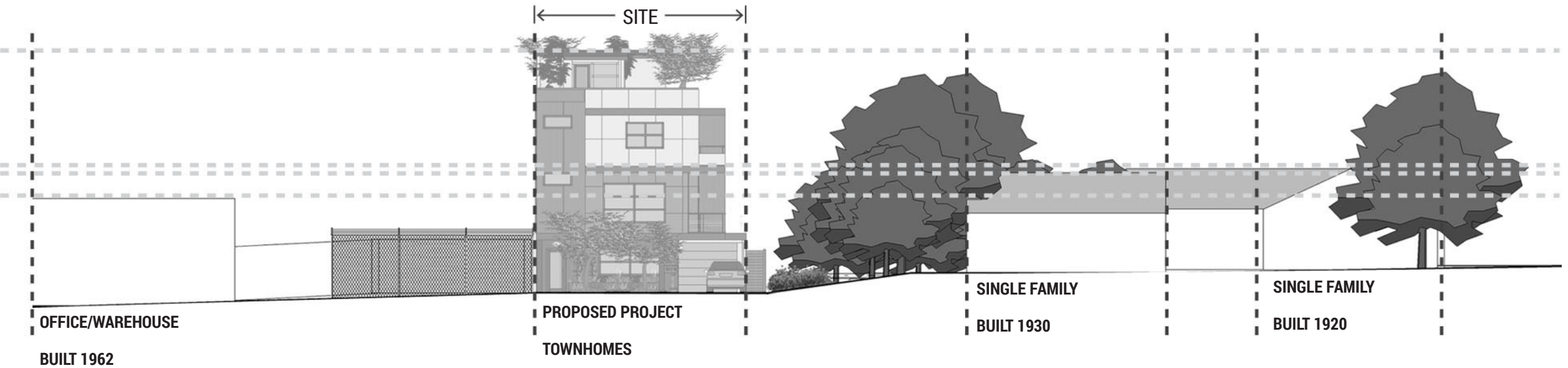
The site slopes approximately 4 feet from the southeast corner to the northwest corner. The site is covered with underbrush, mostly blackberries. Parcel B to the west is covered by brush and native trees with a one story house beyond. There is an existing building on the property line to the east. This is an unattractive cement block structure housing a roofing business. Directly north of the site, across the street is Puget Sound Refrigeration. There are two single family to the west of this. The street is unimproved, with no sidewalks.

The tree canopy is dense to the west and north of the site. Planned rooftop gardens will create a transition from the wooded neighborhood to the barren strip lining Lake City Way.

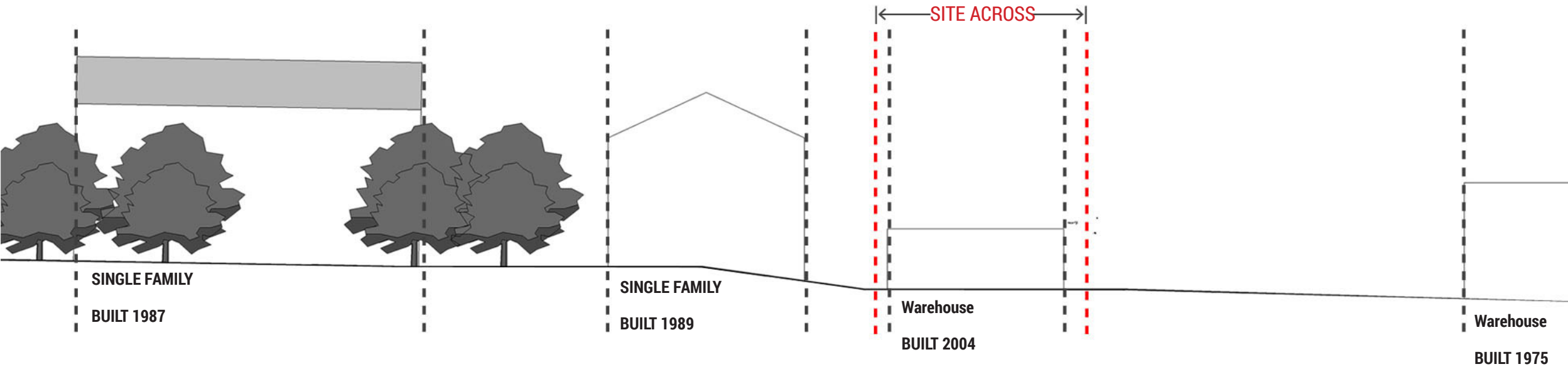
SITE CONDITIONS



NEIGHBORHOOD BUILDING analysis



NE 133RD ST. LOOKING SOUTH



NE 133RD ST. LOOKING NORTH

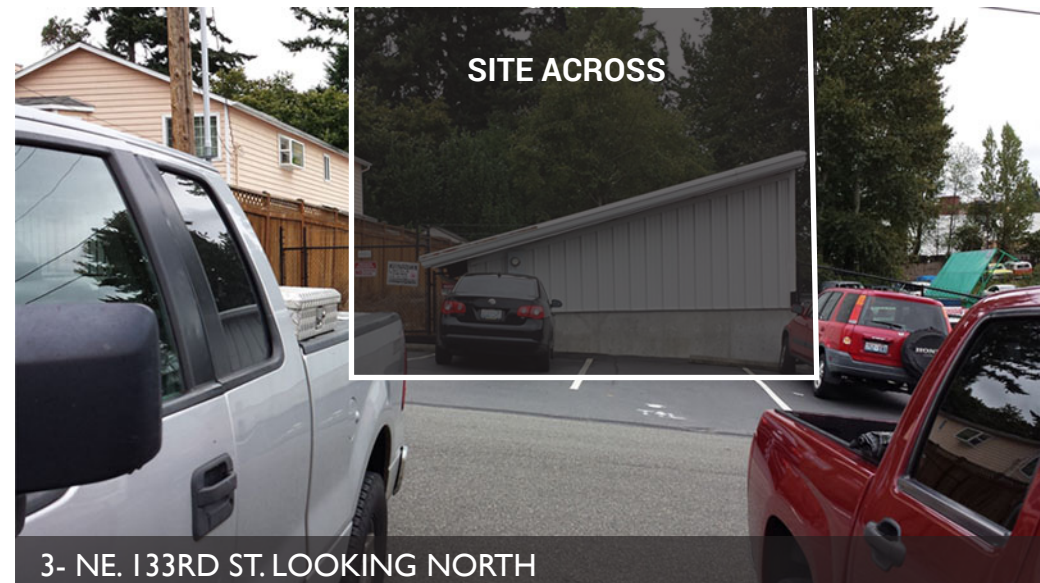
NEIGHBORHOOD PHOTOS



1- NE. 133RD ST. LOOKING WEST



2- NE. 133RD ST. LOOKING NORTH



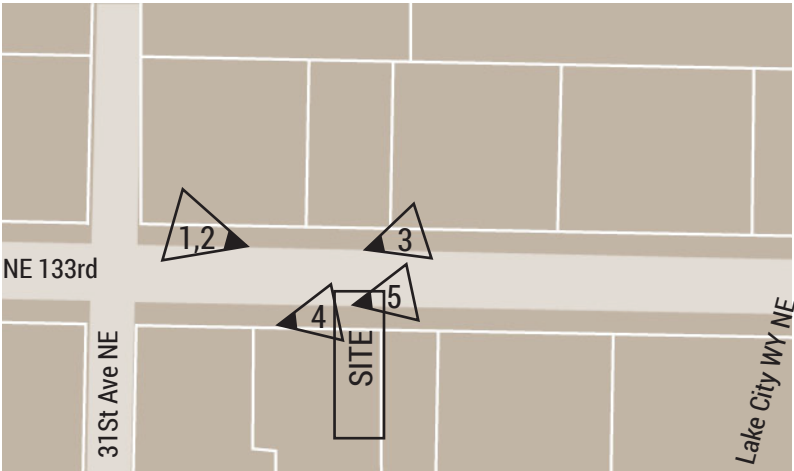
3- NE. 133RD ST. LOOKING NORTH



4- NE. 133RD ST. LOOKING NORTHEAST



NEIGHBORHOOD PHOTOS



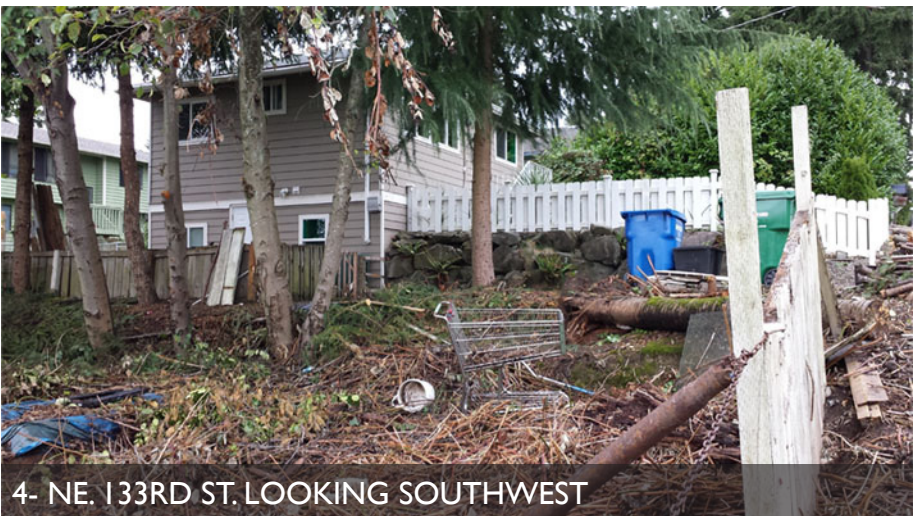
1- NE. 133RD ST. LOOKING EAST



2- NE. 133RD ST. LOOKING EAST (BUILDING OVERLAY)



3- NE. 133RD ST. LOOKING WEST

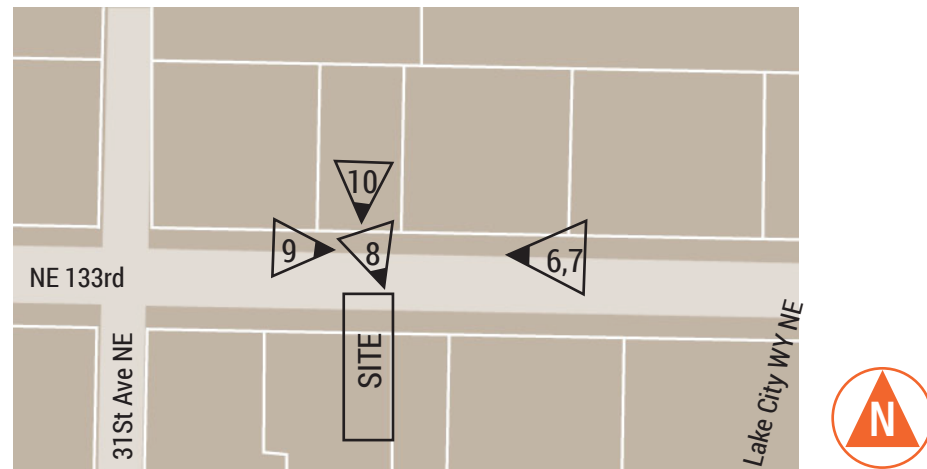


4- NE. 133RD ST. LOOKING SOUTHWEST



5- NE. 133RD ST. LOOKING SW

NEIGHBORHOOD PHOTOS



DEVELOPMENT OBJECTIVES

The proposed development will create 4 townhomes, 2 with onsite parking. The street facing unit will provide street trees and a pedestrian sidewalk. The rooftops of all units will provide amenity space with rooftop gardens. All walkways and driveway will have permeable pavement. Parking requirements can be reduced by 50% due to frequent bus service. This development will provide affordable housing in a quiet neighborhood, while also being within walking distance of the Lake City Hub Urban Village and is accessible to major arterials providing access to downtown, the University District and other areas of the city.

DEVELOPMENT STATISTICS SUMMARY

SITE ADDRESS:

3117 NE 133RD ST. SEATTLE, WA 98125

DPD PROJECT # 3015903

PROJECT AREA:

TOTAL LOT SIZE: 3308 SF

BUILDING FOOT PRINT: 2086 SF

TOTAL FLOOR SPACE: 6464 SF

ALLOWABLE FAR: 3

PROPOSED FAR: 2

PARKING: 2 CAR PORTS

UNIT 1: 1542 SF

UNIT 2: 1619 SF

UNIT 3: 1619 SF

UNIT 4: 1684 SF

BUILDING HEIGHT: 37 FT

LEGAL DESCRIPTION:

PARCEL C OF CITY OF SEATTLE SHORT PLAT NO. 2200304
ACCORDING TO THE SHORT PLAT THEREOF RECORDED UNDER
AUDITOR'S FILE NO. 20021212900013, RECORDS OF KING
COUNTY, WASHINGTON. SUBJECT TO EASEMENTS, RESTRICTIONS,
CONDITIONS AND COVENANTS OF RECORD, IF ANY



CONCEPTUAL MODEL: VIEW FROM NORTHWEST CORNER

DESIGN GUIDELINES

A-SITE PLANNING

A-1 RESPOND TO SITE CHARACTERISTICS

The design guidelines state that the development should reflect rather than obscure the natural topography. The site is basically flat, with a four foot difference of elevation diagonally across the site. The site is covered by scrub and blackberries, there is no significant or important vegetation to be preserved.

A-2 STREETScape COMPATIBILITY

The Design Guidelines state that reinforcing the pedestrian streetscape and protecting public view corridors are particularly important. The proposed project will not obscure any available view of the vicinity. The building will take full advantage of natural sunlight, and its shadow impact will be mainly on the east adjacent warehouse. (See Sun Studies p.18)

A-3 ENTRANCES VISIBLE FROM STREET

Unit A will have its entrance facing the street. There will be clearly identifiable signage showing the location of the entrances to the other units.

A-4 HUMAN ACTIVITY

The project will provide a sidewalk across the front perimeter, as well as landscaping, providing a welcoming access for pedestrians.

A-5 RESPECT FOR ADJACENT SITES

The building is at a lower elevation than the residences to the west, in addition there are existing trees that will provide screening. An eight foot fence at the west perimeter blocks all coming and going activity at the site.

A-6 TRANSITION BETWEEN RESIDENCE AND STREET

Right of way landscaping, followed by a pedestrian sidewalk, and a courtyard garden, transitions Unit A from the quiet, facing street.

A-7 RESIDENTIAL OPEN SPACE

Residential open space is provided by the roof top gardens. Deck surfaces, planting boxes and anchoring trees will be provided for each unit.

A-8 PARKING AND VEHICLE ACCESS

The car ports and driveway are not visible to the neighboring residential sites. In addition the driveway and fence provides a buffer to the neighboring properties.

B- HEIGHT BULK AND SCALE

B-1 HEIGHT, BULK, AND SCALE COMPATIBILITY

The proposed building is significantly taller than surrounding residential structures, but does create an attractive barrier to ugly commercial buildings on commercial side. Existing tall pines help to alleviate this height difference.

C- ARCHITECTURAL ELEMENTS AND MATERIALS

C-1 ARCHITECTURAL CONTEXT

The neighborhood has no architectural consistency, structures vary from ugly commercial, to mid century homes to 1980's residential.

C-2 ARCHITECTURAL CONCEPT AND CONSISTENCY

Through color, vertical separations, and rooftop overhangs, the basically rectangular building is articulated and defined to fit elegantly into the surrounding area.

C-3 HUMAN SCALE

Windows are grouped together, with small multiple panes of glass. The street facing unit has a garden courtyard and covered entry. Roof deck gardens provide intimate human outdoor spaces. Units are separated by vertical elements. Second floor balcony provides weather protection for pedestrians.

C-4 EXTERIOR FINISH MATERIALS

The exterior finish materials will be a combination of fiber cement panels and corrugated steel. The fiber cement panels will be 4' x 4'. The bottom story will be a dark brown, second story a medium brown, and top story a light tan to ground the structure and create a lighter feeling. The overhangs will be a darker color, creating bands that separate the stories. Rust colored corrugated steel will separate the units and provide articulation.

D-PEDESTRIAN ENVIRONMENT

D-1 PEDESTRIAN OPEN SPACES AND ENTRANCES

Unit A has a street facing covered entry with an attractive garden area.

Tile walkways and permeable paved driveway create accented walking and pavement surfaces.

Sidewalk trees and landscaping softens the zone where the building meets the sidewalk.

Tiled walkways create a visible pedestrian access into the site from the public sidewalk.

Pedestrian scaled lighting is provided on the ground floor.

E- LANDSCAPING

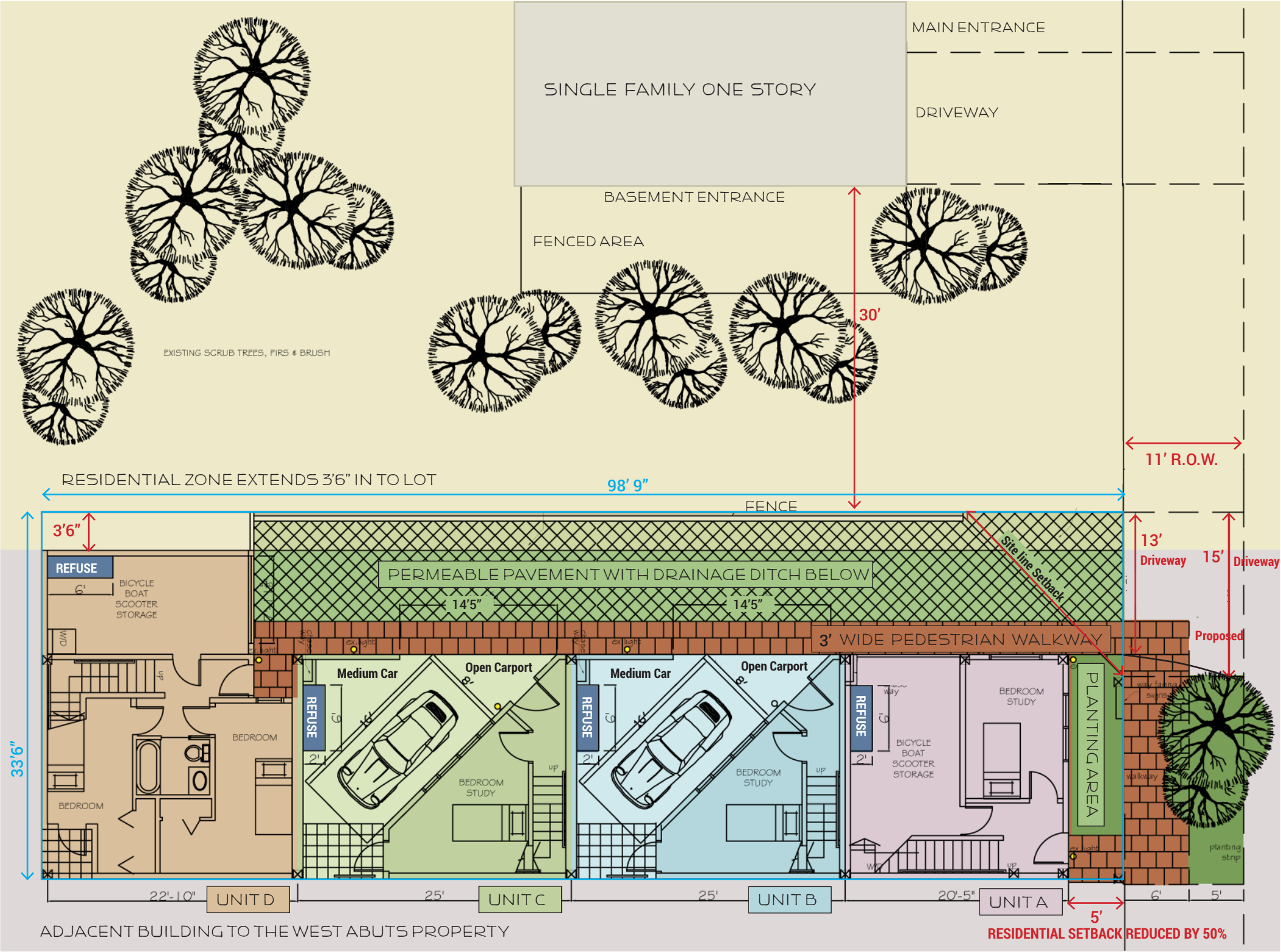
Landscaping is provided on the street and in front of unit A. In addition there will be vines that cover the separating fence. Rooftop gardens provide greenery and outdoor space for each individual unit.

SITE PLAN

SF - 7200

CI - 40

LOT LINE



N

SITE PLAN

SCALE:

NS

FLOOR PLANS

LOT LINE

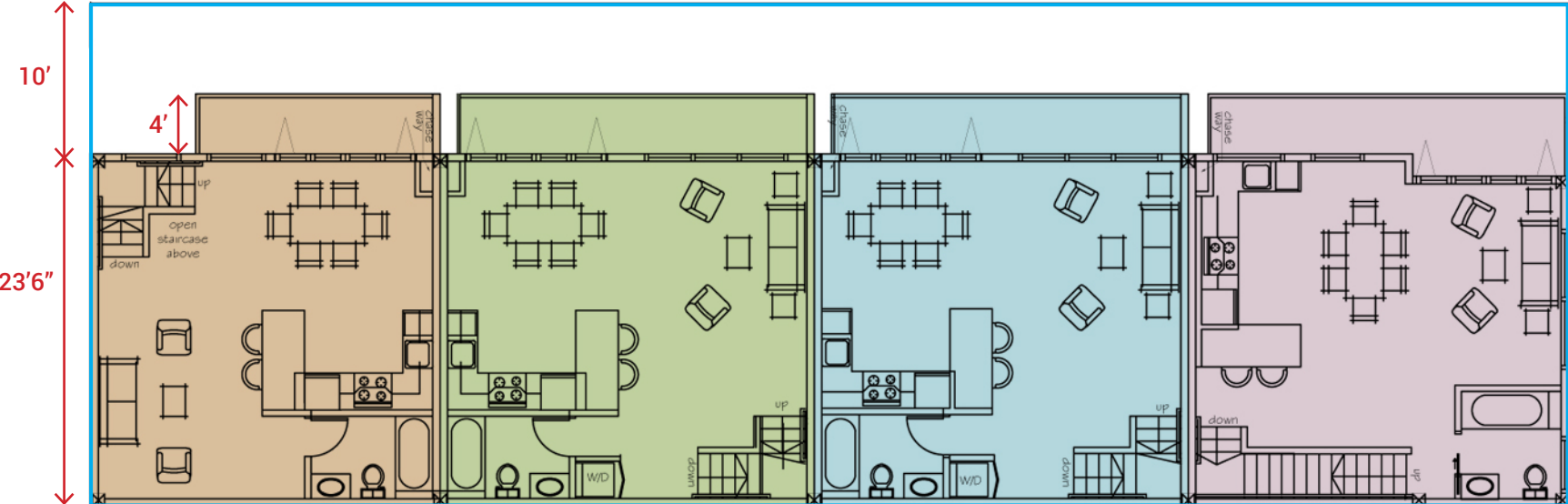
UNIT A

UNIT B

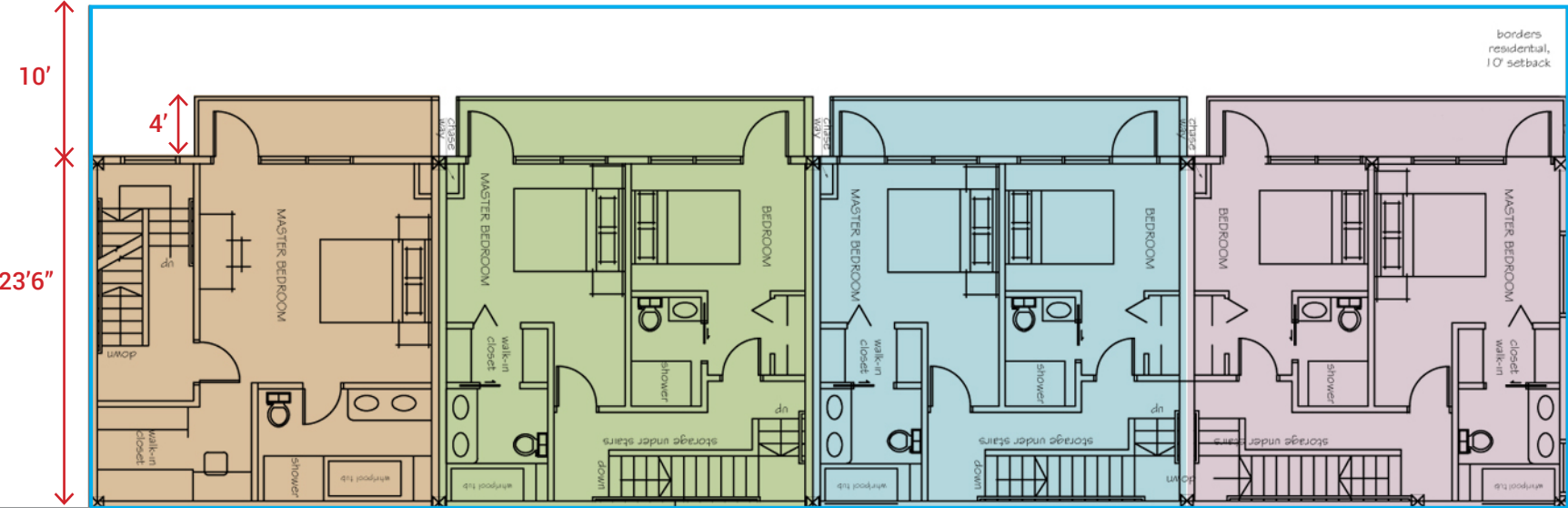
UNIT C

UNIT D

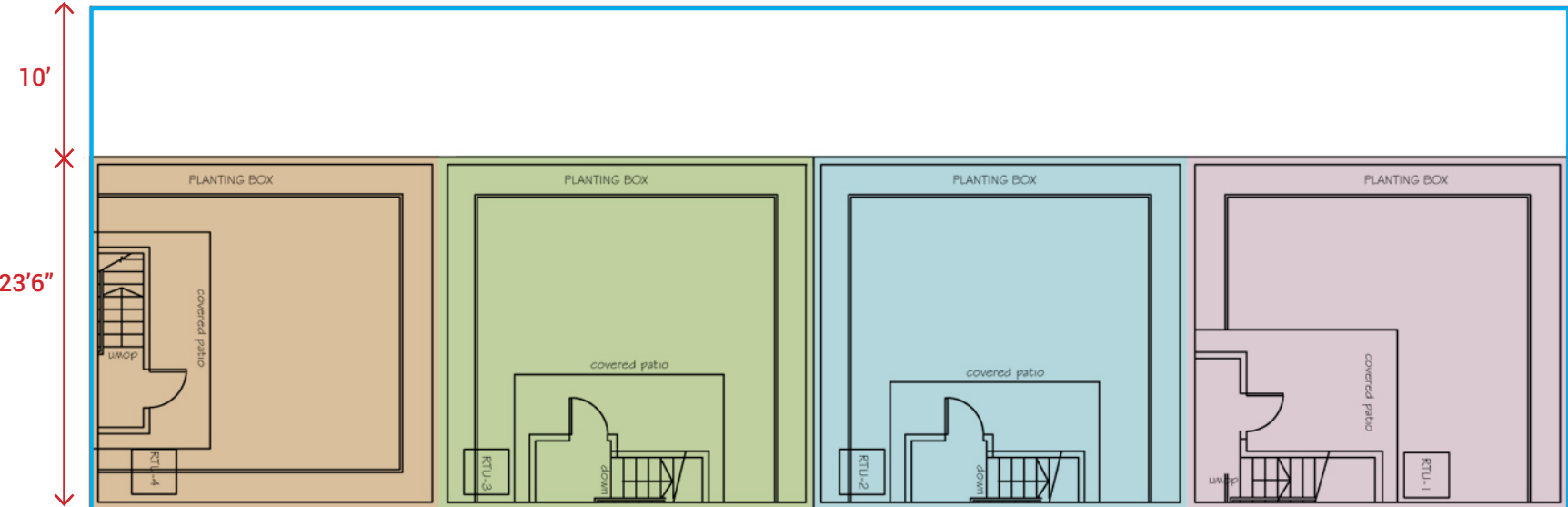
FLOOR 2 (LIVING)



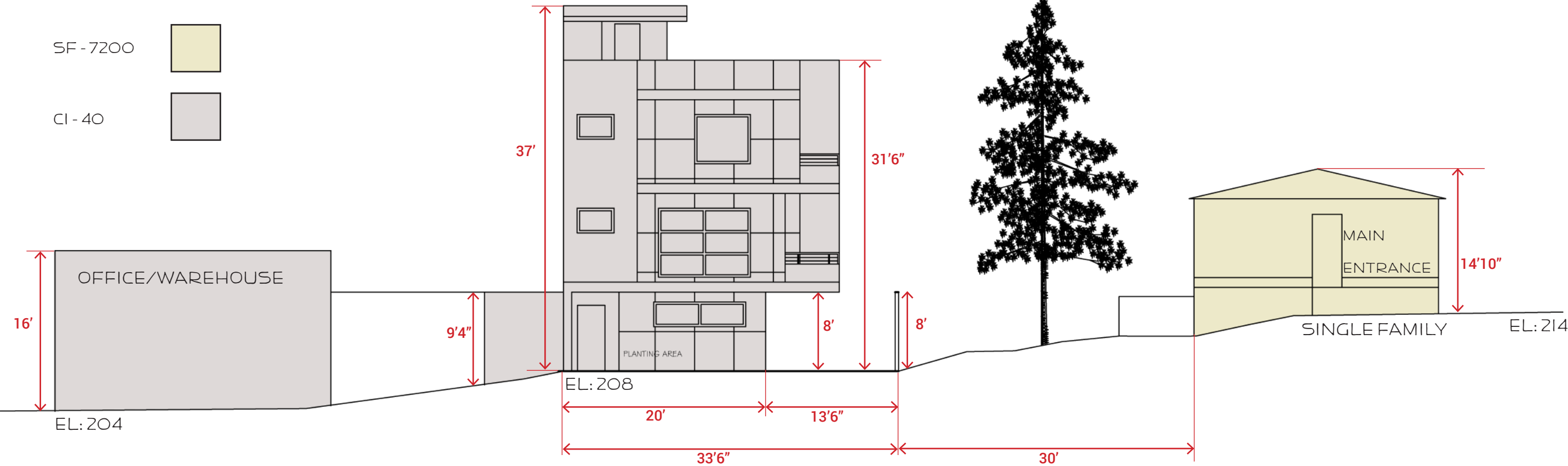
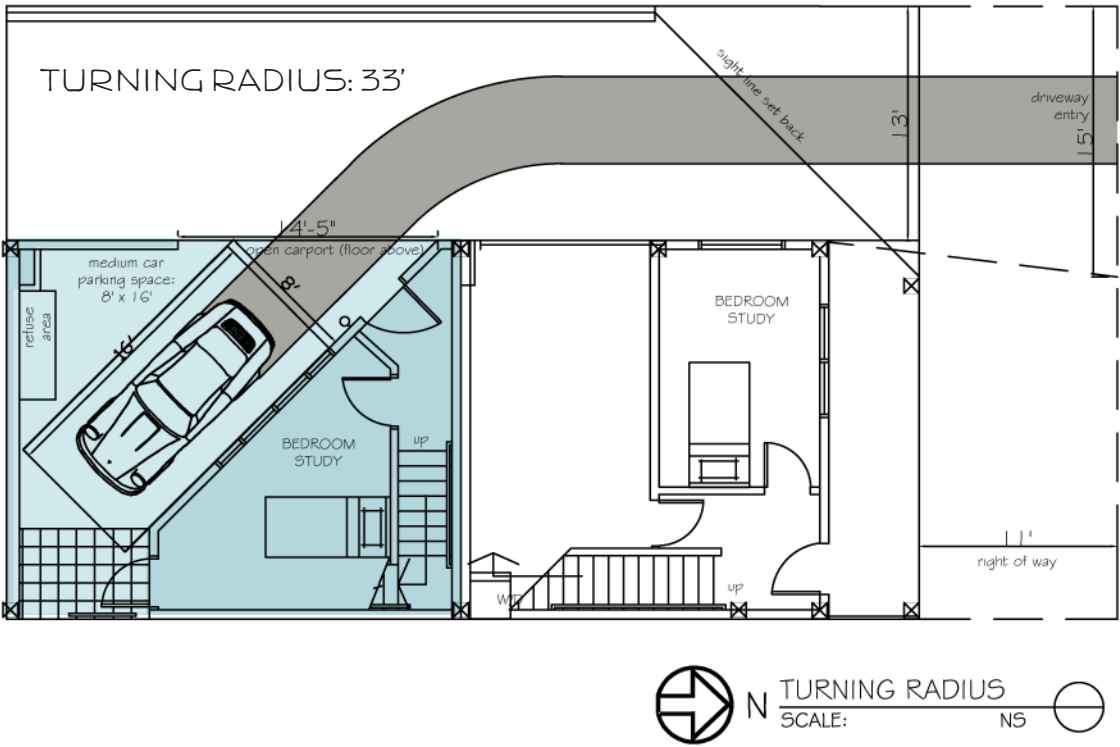
FLOOR 3 (BEDROOMS)



ROOFTOP



SITE ELEVATION/TURNING RADIUS



ARCHITECTURAL RESPONSE TO GUIDELINES



FRONT VIEW



FROM NW CORNER

The long, narrow, building has an attractive front view, with a garden entry and street trees which creates a facade that will not overpower neighboring structures.

The west facing facade that is visible to neighboring single family residences is articulated to create individual residences. This facade is separated from the neighboring residences by existing tall trees, and a high fence.

The east facade that faces existing commercial enterprises has no windows or openings, but creates visual interest through color and juxtaposition of materials.



FROM EAST (NEXT TO COMMERCIAL)



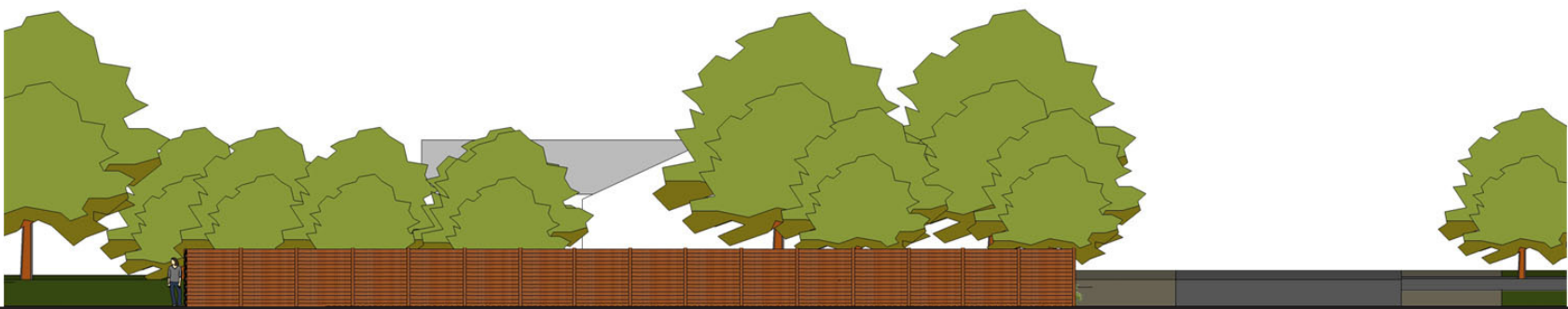
FROM S W CORNER

ARCHITECTURAL RESPONSE TO GUIDELINES



LOOKING EAST FROM NEIGHBORING SINGLE FAMILY

Existing trees create a buffer between single family houses and the development.



LOOKING WEST TOWARDS NEIGHBORING SINGLE FAMILY



LOOKING WEST FROM LAKE CITY WAY NE

Patterns and colors on the east facade creates interest to the view from Lake City Way.

ARCHITECTURAL RESPONSE TO GUIDELINES (DETAILS)



ENTRANCE TO INTERIOR UNITS



PEDESTRIAN APPROACH FROM EAST



PEDESTRIAN APPROACH FROM WEST



STREET SIDE ENTRY



BALCONIES



ROOFTOP GARDENS

DEPARTURES

SET BACK REQUIREMENTS

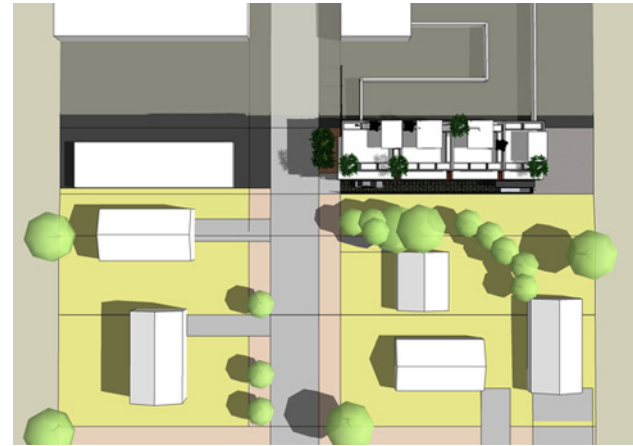
Lindsay King confirmed that the 10' residential setback requirement of SMC 23.47A.008 D2 may be reduced by up to 50% through the SDR review process per SMC 23.41.018 D4. To meet the intent of City Adopted Design Guidelines, the reduced setback width provides a quality semi-private buffer area between the unit and the street. The setback area includes a short landscape retaining area 2' wide that separates the private space from the street property line.

PARKING REQUIREMENTS

The site is not mapped as a frequent transit service corridor in GIS but an analysis is provided for review according to the standards of DR 11-2012. The site qualifies as a frequent transit service corridor, parking can be reduced by up to 50% per SMC 23.54.020 F2. (See pages 19-20 and appendix for analysis).

The two parking spaces are exempt from the 50 ft. max. backing requirement, meeting backing standards listed in SMC 23.54.030 C2.

SUN STUDIES



JUNE 21ST - 9AM



MARCH/SEPTEMBER 23RD - 9AM



DECEMBER 21ST - 9AM



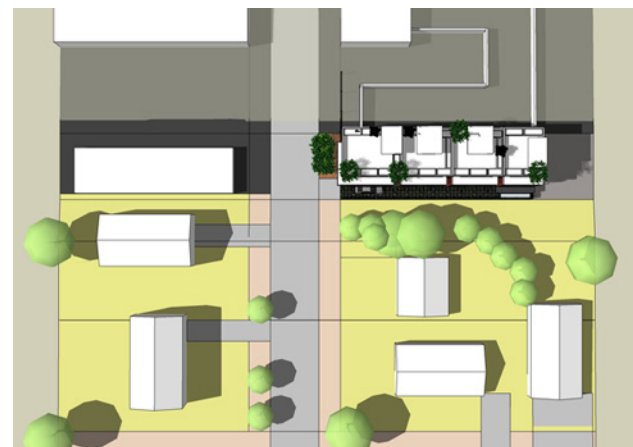
JUNE 21ST - NOON



MARCH/SEPTEMBER 23RD - NOON



DECEMBER 21ST - NOON



SUMMER SOLSTICE
JUNE 21ST - 3PM

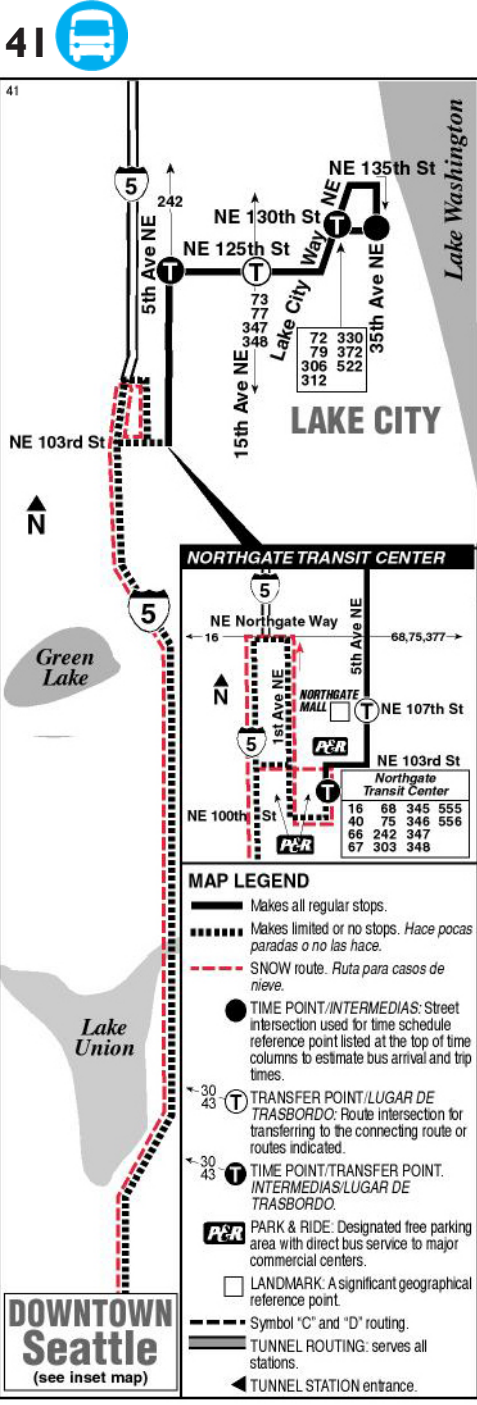
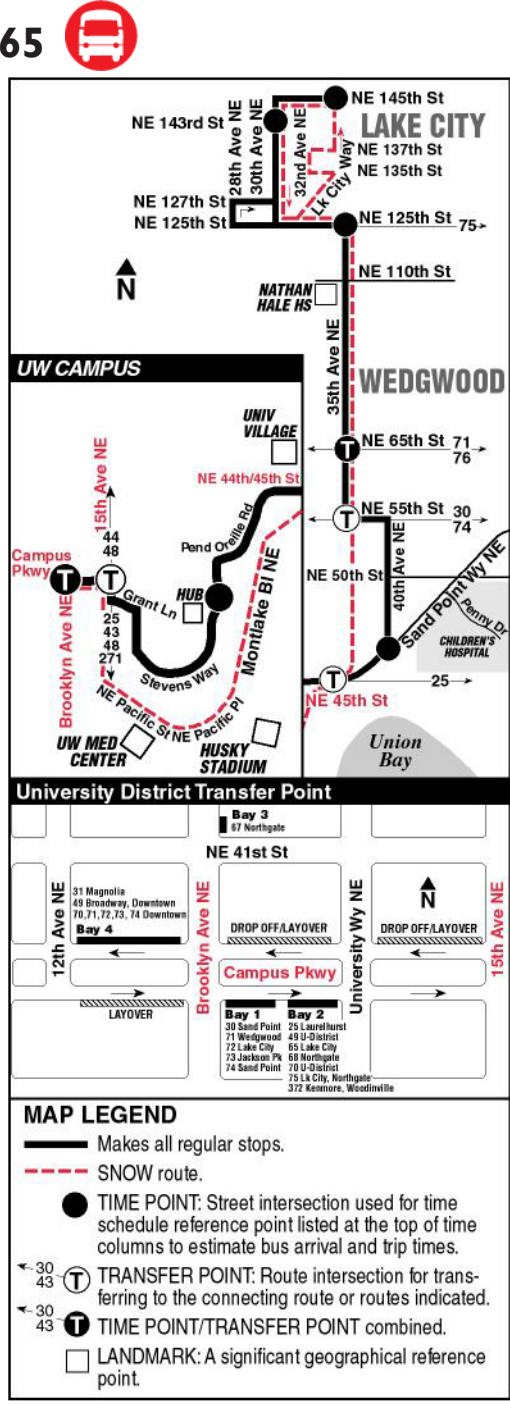
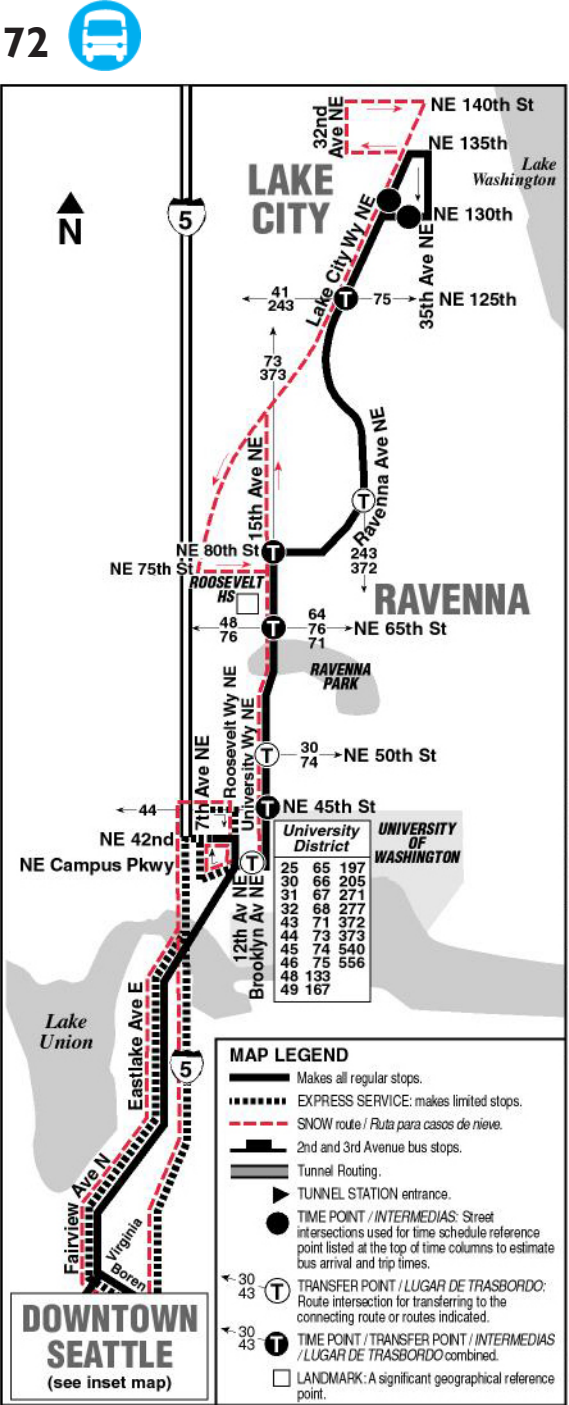
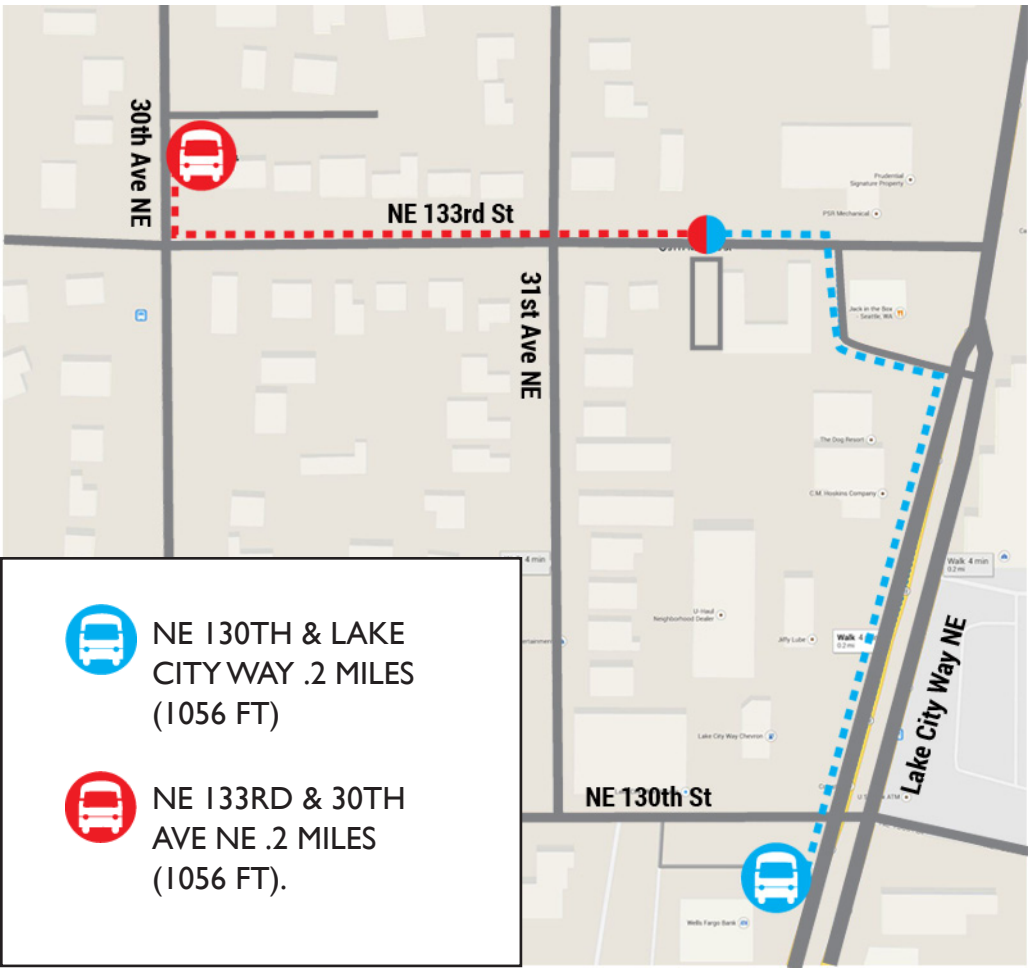


EQUINOX
MARCH/SEPTEMBER 23RD - 3PM



WINTER SOLSTICE
DECEMBER 21ST - 3PM

TRANSIT STUDY



TRANSIT STUDY

STOPS WITHIN 1/4 MILE OF 3117 NE 133RD ST



NE 130TH & LAKE CITY WAY .2 MILES (1056 FT)



NE 133RD & 30TH AVE NE .2 MILES (1056 FT).

| Weekdays | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------|---------------------------|---|---|----|----|---|---|---|---|---|---|---|----|---|---|---|---|---|---|---|---|--|--|--|--|------------|
| Time of Day | | | 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| Route | Direction | Stop | Frequency | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | S | NE 130th & Lake City Way | | 4 | 5 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | | | | | |
| 72 | S | NE 130th & Lake City Way | | 3 | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 2 | 1 | 3 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | | | | | |
| 65 | SE | 30th ave NE & NE 133rd St | | 2 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 hr avg. |
| | | Total pick-ups per hour | | 9 | 10 | 10 | 9 | 7 | 9 | 9 | 8 | 8 | 8 | 10 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 3 | | | | | 8.6 |
| 18-hour average of total picku | | | | | | | | | | | | | | | | | | | | | | | | | | | 7.3 |
| Conclusion: 8.6 pick-ups exceeds the necessary minimum of 4 pick-ups | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Saturday | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|------------|--|-----|
| Time of Day | | | 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| Route | Direction | Stop | Frequency | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | S | NE 130th & Lake City Way | | 1 | 2 | 2 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 3 | 4 | 5 | 3 | 2 | 2 | 2 | 1 | 1 | | | | | |
| 72 | S | NE 130th & Lake City Way | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | |
| 65 | SE | 30th ave NE & NE 133rd St | | | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 12 hr avg. | | |
| | | Total pick-ups per hour | | | 5 | 6 | 8 | 8 | 9 | 8 | 8 | 8 | 8 | 7 | 8 | 9 | 6 | 5 | 5 | 5 | 3 | 3 | | | | | 7.7 |
| 18-hour average of total picku | | | | | | | | | | | | | | | | | | | | | | | | | 6.6 | | |
| Conclusion: 7.7 pick-ups exceeds the necessary minimum of 4 pick-ups | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Sunday | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------|---|-----------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|------------|
| Time of Day | | 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 | | | | | | | | | | | | | | | | | | | | | | | |
| Route | Direction | Stop | Frequency | | | | | | | | | | | | | | | | | | | | | | |
| 41 | S | NE 130th & Lake City Way | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | | | | |
| 72 | S | NE 130th & Lake City Way | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 2 | 1 | 1 | 1 | | | |
| 65 | SE | 30th ave NE & NE 133rd St | | | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 18 hr avg. |
| | | Total pick-ups per hour | | | 3 | 4 | 5 | 5 | 5 | 6 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 3 | 3 | | | 4.6 |
| Conclusion: the Sunday pick-ups exceeds minimum of 2 pick-ups; the 7-day 18-hour average also exceeds 2 pick-ups | | | | | | | | | | | | | | | | | | | | | | | | | |

GREEN FACTOR SCORE SHEET

Revised 12/28/10

SEATTLE×green factor

Green Factor Score Sheet

Project title:

enter sq ft of parcel

Parcel size (enter this value first) *

3,332

SCORE

0.403

| Landscape Elements** | | Totals from GF worksheet | Factor | Total |
|---|---|---------------------------------|--------------------------|-------|
| A Landscaped areas (select one of the following for each area) | | | | |
| 1 | Landscaped areas with a soil depth of less than 24" | enter sq ft 0 | 0.1 | - |
| 2 | Landscaped areas with a soil depth of 24" or greater | enter sq ft 108.6 | 0.6 | 65.2 |
| 3 | Bioretention facilities | enter sq ft 0 | 1.0 | - |
| B Plantings (credit for plants in landscaped areas from Section A) | | | | |
| 1 | Mulch, ground covers, or other plants less than 2' tall at maturity | enter sq ft 0 | 0.1 | - |
| 2 | Shrubs or perennials 2'+ at maturity - calculated at 12 sq ft per plant (typically planted no closer than 18" on center) | enter number of plants 52624 | 0.3 | 187 |
| 3 | Tree canopy for "small trees" or equivalent (canopy spread 8' to 15') - calculated at 75 sq ft per tree | enter number of plants 2150 | 0.3 | 45 |
| 4 | Tree canopy for "small/medium trees" or equivalent (canopy spread 16' to 20') - calculated at 150 sq ft per tree | enter number of plants 00 | 0.3 | - |
| 5 | Tree canopy for "medium/large trees" or equivalent (canopy spread of 21' to 25') - calculated at 250 sq ft per tree | enter number of plants 00 | 0.4 | - |
| 6 | Tree canopy for "large trees" or equivalent (canopy spread of 26' to 30') - calculated at 350 sq ft per tree | enter number of plants 00 | 0.4 | - |
| 7 | Tree canopy for preservation of large existing trees with trunks 6"+ in diameter - calculated at 20 sq ft per inch diameter | enter inches DBH 00 | 0.8 | - |
| C Green roofs | | | | |
| 1 | Over at least 2" and less than 4" of growth medium | enter sq ft 0 | 0.4 | - |
| 2 | Over at least 4" of growth medium | enter sq ft 560 | 0.7 | 392.0 |
| D Vegetated walls | | | | |
| | | enter sq ft 512 | 0.7 | 358.4 |
| E Approved water features | | | | |
| | | enter sq ft 0 | 0.7 | - |
| F Permeable paving | | | | |
| 1 | Permeable paving over at least 6" and less than 24" of soil or gravel | enter sq ft 1030 | 0.2 | 206.0 |
| 2 | Permeable paving over at least 24" of soil or gravel | enter sq ft 0 | 0.5 | - |
| G Structural soil systems | | | | |
| | | enter sq ft 0 | 0.2 | - |
| | | sub-total of sq ft = | 2,985 | |
| H Bonuses | | | | |
| 1 | Drought-tolerant or native plant species | enter sq ft 668 | 0.1 | 66.8 |
| 2 | Landscaped areas where at least 50% of annual irrigation needs are met through the use of harvested rainwater | enter sq ft 77.6 | 0.2 | 15.5 |
| 3 | Landscaping visible to passersby from adjacent public right of way or public open spaces | enter sq ft 78 | 0.1 | 8 |
| 4 | Landscaping in food cultivation | enter sq ft 0 | 0.1 | - |
| | | | Green Factor numerator = | 1,344 |

* Do not count public rights-of-way in parcel size calculation.

** You may count landscape improvements in rights-of-way contiguous with the parcel. All landscaping on private and public property must comply with the Landscape Standards Director's Rule (DR 6-2009)

GSI TO MEF REQUIREMENT CALCULATOR

City of Seattle GSI to MEF Requirement Calculator (2013-03-01)

Building Permit No. →

Project Address →

Project Type →

Project Area →

New plus Replaced Impervious Area →

Area Requiring Mitigation →

Parcel

3,359 sf

3,020 sf

3,020 sf

| Runoff Reduction Methods | | Facility Size | Credit | Area Mitigated |
|------------------------------------|---------|---------------------------|----------------------------|---|
| Retained Trees | | | | |
| Existing Evergreen | # Trees | 0 | Total Canopy Area of Trees | 0 sf |
| Existing Deciduous | # Trees | 0 | Total Canopy Area of Trees | 0 sf |
| New Trees | | | | |
| New Evergreen | # Trees | | 50 sf/tree = | |
| New Deciduous | # Trees | 2 | 20 sf/tree = | 40 |
| | | | | Total Area Mitigated by Trees = 40 sf |
| Dispersion ¹ | | | | Note: Maximum tree credit is 25% of Area Requiring Mitigation |
| Downspout or Sheet Flow Dispersion | | Dispersed Impervious Area | | |
| | | | 100.0% | |

| Infiltration and Reuse Facilities | | Facility Size | Sizing Factor | Area Mitigated |
|---|--|-------------------------|---------------------------------------|--|
| Infiltrating Facilities | | | | |
| Bioretention Cell (without Underdrain) | | | | |
| 1 Contributing Area | | | Bioretention Bottom Area | |
| Ponding Depth | | | Enter Contributing Area | |
| Design Infiltration Rate | | | | |
| 2 Contributing Area | | | | |
| Ponding Depth | | | Bioretention Bottom Area | |
| Design Infiltration Rate | | | Enter Contributing Area | |
| 3 Contributing Area | | | | |
| Ponding Depth | | | Bioretention Bottom Area | |
| Design Infiltration Rate | | | Enter Contributing Area | |
| Detention Cistern to Bioretention Cell (BC) (without Underdrain) ² | | | | |
| Contributing Area | | | Bioretention Bottom Area | |
| Number Cisterns | | | Only for SFR | |
| BC Ponding Depth | | | | |
| BC Design Infiltration Rate | | | | |
| Permeable Pavement Facility (may receive run-on) ³ | | | | |
| Contributing Area | 600 sf | Permeable Pavement Area | 1196.61 sf | |
| Ponding Depth ⁴ | ≥ 6 in | | 0.3333 | 600 sf |
| Design Infiltration Rate | 0.25 in/hr | | Plus Permeable Pavement Facility Area | 1,197 sf |
| | | | | Note: A contributing area of up to 3590 sf may be mitigated by a facility of this size |
| Reuse Facilities ¹ | | | | |
| Rainwater Harvesting | Applicant must provide documentation of area mitigated by rainwater harvesting | | | |

| Impervious Surface Reduction Methods | | Facility Size | Credit | Area Mitigated |
|---|-------------------------|--------------------------|-------------------------|----------------|
| Alternative Pavement Surfaces | | | | |
| Permeable Pavement Surface (Subgrade Slope ≤ 2%) | Permeable Pavement Area | 1,197 sf | 100.0% | 1,197 sf |
| Permeable Pavement Surface (Subgrade Slope > 2-5%) | Permeable Pavement Area | | 55.0% | |
| Alternative Roof Surfaces ¹ | | | | |
| Green Roof (Single/Multi-Course / 4" Growth Medium) | Green Roof Area | 560 sf | 55.0% | 308 sf |
| Green Roof (Multi-Course / 8" Growth Medium) | Green Roof Area | | 84.0% | |
| Partial Infiltration ¹ | | | | |
| Bioretention Cell with Detention (without Underdrain) | | | | |
| Contributing Area | | Bioretention Bottom Area | | |
| Ponding Depth | | | Enter Contributing Area | |
| Design Infiltration Rate | | | | |

| Non-Infiltrating Facilities | | Facility Size | Credit | Area Mitigated |
|--|--|--------------------------|-------------------------|----------------|
| Non Infiltrating Facilities | | | | |
| Bioretention Planter (with underdrain) | | | | |
| Contributing Area | | Bioretention Bottom Area | | |
| Ponding Depth | | | Enter Contributing Area | |
| Detention Cistern with Harvesting Capacity ^{5, 6} | | | | |
| Contributing Area | | Min Cistern Area | | |
| | | Min Live Cistern Volume | | |

Total Area Mitigated →

Area Requiring Mitigation →

% Impervious Area Mitigated →

GSI to MEF Target Achieved? →

3,341 sf

3,020 sf

110.6 %

YES

Notes:

GSI - Green Stormwater Infrastructure

sf - square feet

in - inch

eqn - equation

BC - bioretention cell

min - minimum

ft - feet

in/hr - inch per hour

gal - gallons

infiltr - infiltration

1. Single family residential projects and trail/sidewalk projects are not required to evaluate this BMP.

2. Each above ground cistern must have 6.68 sf minimum bottom area, a 0.25 inch orifice and a minimum of 3 feet of live storage above the orifice. If using two cisterns they must be connected and have only one orifice. Flow from cistern orifice must be routed to bioretention cell.

3. The area contributing runoff to a facility shall be no larger than 3 times the permeable pavement facility area corresponding to a minimum sizing factor of 33.3%.

4. Average subsurface ponding depth in aggregate storage reservoir.

5. Cistern must be above ground. Cistern area must be rounded up to next commercially available product. Cistern need not have more than 3 feet of live storage volume above orifice.

6. Water collected using the detention cistern may be used for non-potable uses only (e.g., irrigation). For additional uses of harvested water consider the "Rainwater Harvesting" BMP.

This calculator does not provide conveyance flow calculations.

Applicant is responsible to ensure system overflow conveyance is provided per Section 4.2.5 of the Stormwater Manual Volume 3.