

724 EAST 56TH AVENUE: VIRTUAL OPEN HOUSE - REZONING

Context:

The 724 E56th Avenue site is currently zoned RS-1, permitting residential up to 3 storeys. The City of Vancouver has adopted the *Affordable Housing Choices Interim Rezoning Policy (AHC IRP)* under which this application is applying.

The adjacent site indicated at 7280 Fraser St is also being developed by the same owner as a 95 unit residential rental and commercial mixed-use development under a separate rezoning application, also under the AHC IRP.

City of Vancouver *Affordable Housing Choices Interim Rezoning Policy (AHC IRP)*:

The AHC IRP is aimed at encouraging innovation and enabling real examples of affordable housing types to be tested for potential wider application that will provide ongoing housing opportunities.

Projects that would be considered must meet one of the following Affordability criteria:

- where 100% of the residential floor space is rental housing;
- where units are sold for at least 20% below market value and include a secure mechanism for maintaining that level of affordability over time (e.g. resale covenant, 2nd mortgage, etc.);
- innovative housing models and forms of tenure such as co-housing, when they can demonstrate enhanced affordability as determined by the City;
- where a Community Land Trust model is employed to secure increasing affordability over time

Sites fronting an arterial street and within 500 m of a local shopping area may be considered for buildings up to 6 storeys, subject to urban design performance

Sites within approximately 100 m of an arterial may be considered for ground-oriented forms up to 3.5 storeys subject to urban design performance

No more than two projects can be considered within 10 blocks along an arterial street

Development Proposal Summary:

724 East 56th Avenue:

- A 3 storey townhouse development with 12 units for market rental housing, under the AHC IRP
- A stacked townhouse development providing 4 residential apartments and 4 townhomes facing 56th Avenue, a central courtyard for access from the side lane in the middle of the site and a row of 4 residential townhomes facing South to the rear lane
- The stacked layout enables all units to have North and South light access, with the end units benefiting from side windows to the East and West also.
- The lower units feature garden patios in the courtyard and small patio gardens to either the North or South frontages
- The south units feature roof patios at level 3 for sun exposure
- The scheme provides 33 % one bed apartments and 66% three bedroom townhome units
- Parking is provided off the lane to the West on the adjacent development site at 7280 Fraser St. This 1.5 level underground parkade provides residential parking for this building at level P1. Bike storage is also provided at P1.

Statistics:

Site Area: 8,217 SF
FSR: 1.4
FSR AREA: 11,506 SF
Approximate Gross Area including CoV FSR Exclusions: 12,063 SF

*This project is to be built to the **Passive House** standard. The Passive House standard is one of the highest performing building standards in the world providing high levels of insulation & thermal comfort, strict air tightness standards, heat recovery ventilation with up to 90% efficiency, fossil fuel free heat pump hot water systems and energy savings of approximately 90% for heating and / or cooling compared to a baseline code standard building. The Passive House standard achieves performance levels above Level 4 of the BC Energy Step Code.*

Project Team:

Owner
Spire Developments Corporation
Address: Unit 106-7088 Venture St, Delta, BC, V4G 1H5 - 604-432-6650

Architectural
Cornerstone Architecture
Address: #307 - 611 Alexander St. Vancouver, BC, V6A 1E1 - 604-253-8800
Project No: 1821 / 1822

Passive House Consultant
RDH Building Science Inc.
Address: #400, 4333 Still Creek Drive, Burnaby, BC, V5C 6S6 - 604-873 1181

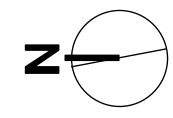
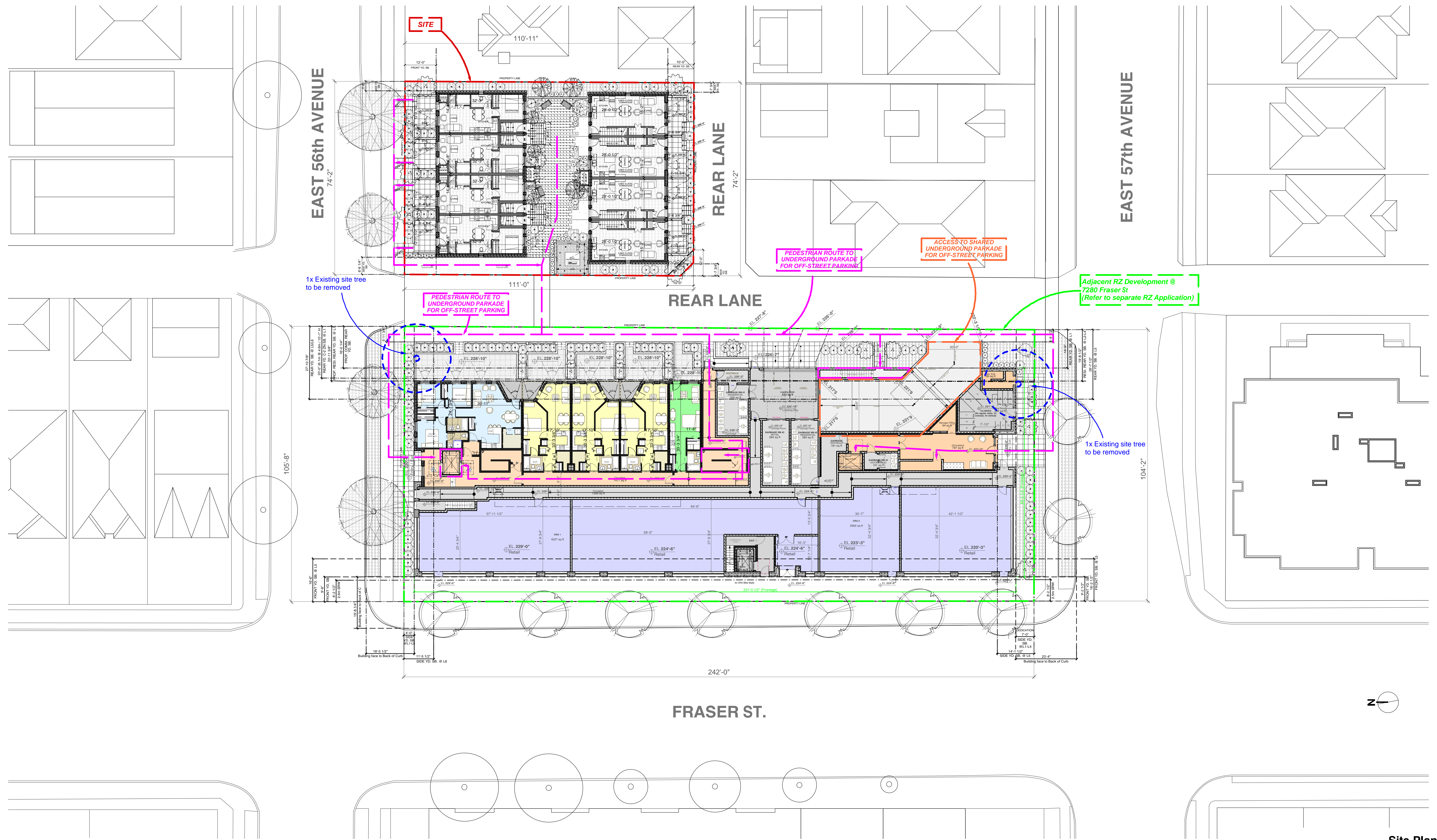
Mechanical & Electrical
Integral Group
Address: Suite #180, 200 Granville Street, Vancouver BC, V6C 1S4 - 604-687-1800



Context Plan:



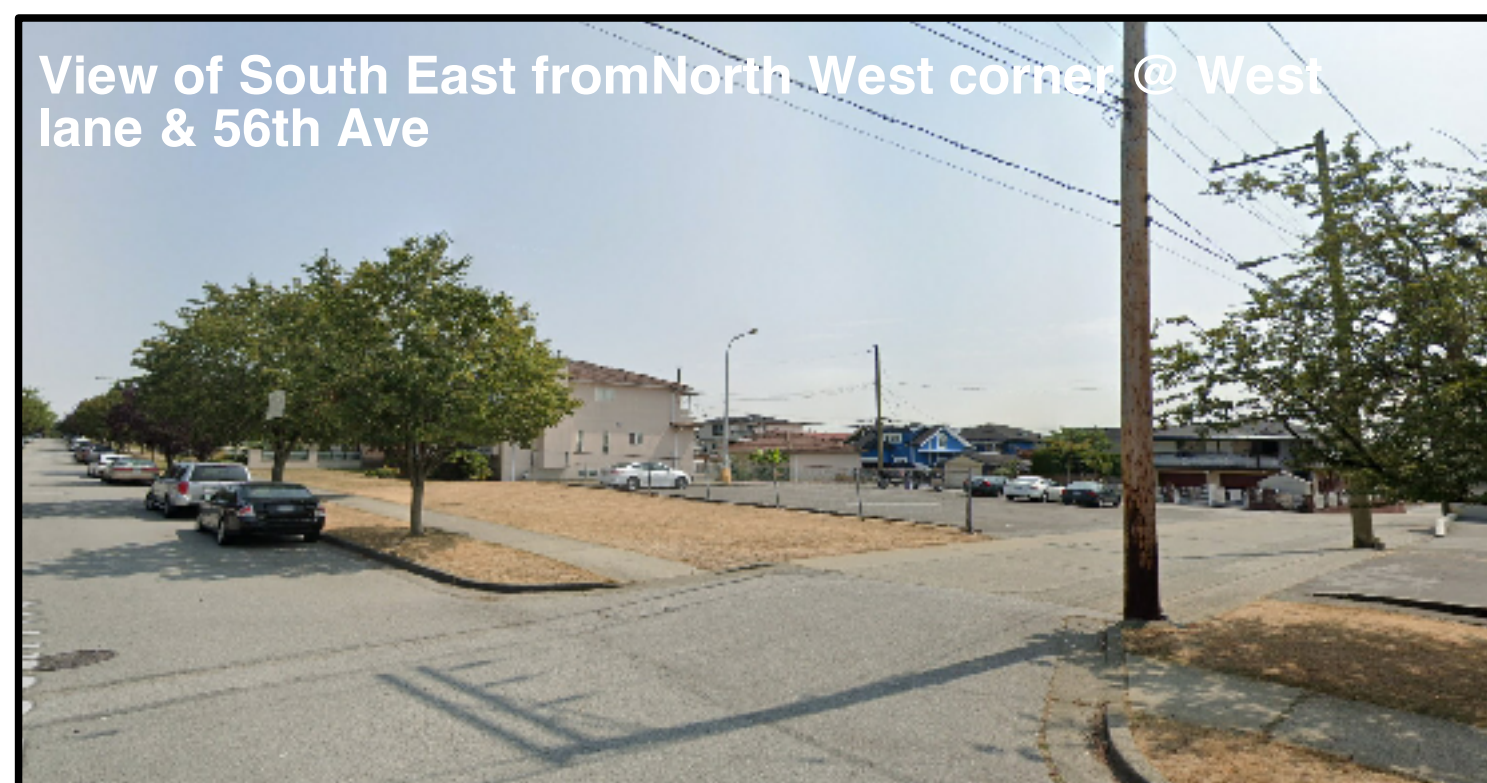
Existing Zoning Context Plan:



Site Plan



■ Proposed development site
■ Proposed adjacent co-development site
 (Mixed-Use - Part of separate RZ Application)



Context Analysis

724 East 56th Ave
 12 Unit Residential Townhouse Passive House Development
PROJECT OVERVIEW
 Rezoning Submission December 2019

Rezoning intent:

The purpose of this rezoning is to provide a 3 storey residential rental townhouse development on an existing RS-1 site. The aim is to provide affordable family size housing through the 'Affordable Housing Choices Interim Rezoning Policy' and deliver a very high performance, low energy building, built to the Passive House Standard.

Context Overview:

The site of this proposed development occupies a consolidated double lot East of Fraser Street on East 56th Avenue. The existing site is zoned RS-1. The site is currently occupied by an open car park that serves the adjacent former food store site at 7280 Fraser St. Another open car park is present on this adjacent site to the West, separated from this site by a city lane on the West. To the south the site backs onto another city lane. Two storey residential single family units occupy the other adjacent lots to the East and South.

This adjacent lot at 7280 Fraser St. is proposed to be co-developed by this developer as part of this project and rezoned from C-1 to provide a 6 storey 95 unit mixed-use residential and commercial development.

As part of this co-development, the main building at 7280 Fraser St. will accommodate the parking for the 724 East 56th Avenue Townhouses within its underground parkade.

Context Detail:

The site features a slope of approximately 3'-6" from 56th Avenue at the front down to the lane to the South (rear). A cross slope also exists from the West lane to the East PL of approximately 2ft across the rear lane and 1ft across 56th Avenue.

2 storey single family residences surround the development across 56th Avenue to the North, directly adjacent to the East and further away to the South beyond the rear lane. As mentioned above, the existing single storey commercial unit and car park across the lane to the West is proposed to be replaced with a 6 storey residential and commercial mixed-use development with a single level of commercial to the ground floor. Loading and parkade access will be from the Southern portion of the West lane.

Development Proposal:

The development proposal features are:

- A 3 storey townhouse development with 12 units for market rental housing, under the 'Affordable Housing Choices Interim Rezoning Policy'
- The North units fronting 56th Avenue consist of 2 and 3 bed, 2 level townhouse units, stacked over single level 1 bed apartments. The South units facing the courtyard and lane are a more conventional 3 storey townhouse model. This provides 8 residential townhomes facing 56th Avenue with a courtyard for access from the lane in the middle of the site and a row of 4 residential townhomes facing South
- The stacked layout enables all units to have North and South light access, with the end units benefiting from side windows to the East and West also
- The lower North units feature garden patios facing 56th Avenue. The upper North units feature North facing patios at level 2. The South units feature patios to the south off the rear lane and roof top patios facing south at level 3
- The scheme provides 33% one bedrooms, 17% 2 bedrooms and and 50% three bedroom units

- Statistics: Site Area: 8,217 SF
 FSR: 1.4
 FSR AREA: 11,506 SF
 Approximate Gross Area including Exclusions: 12,062 SF

Parking is accessed off the lane to the West on the adjacent development site at 7280 Fraser St. This 2 level underground parkade provides residential parking for this building at level P1. Bike storage is also provided at P1.

Garbage storage in this adjacent development is located at L1 adjacent to the loading bay and accessed through it from the rear lane.

Public Benefits:

This proposal represents revitalization of currently underutilized land as a car park. The development will increase the supply of housing, specifically market rental family orientated housing.

Sustainability Measures / Green Buildings Policy:

We are targeting Passive House construction for the project, which supports the City's greenest City objectives.

The Passive House design approach will deliver the following performance criteria:

- Heating Demand - 15 kWh/(m2.a)
- Heating Load - 10 W/m2
- Primary Energy - 60 kWh/(m2.a)
- Air Tightness - 0.6ach
- Thermal Bridge free design
- Up to 90% reduction in heating energy compared to a base level code building

The Passive House design strategy:

- High insulation levels for walls, roofs and slabs
- Triple glazed thermally broken doors and windows
- Heat Recovery Ventilation with minimum 83% efficiency
- Hot Water production with CO2 heat pumps with C.O.P. of 1:5
- Electric baseboard heating or hydronic heating from CO2 heat pumps
- Possible active cooling delivered in ventilation air stream
- No gas appliances

Urban Design:

The images attached show the existing building context.

Our proposal is setback from the property line on 56th Avenue by 12ft and a rear yard setback from the lane of 10ft. A side yard setback of 6'-6" is proposed to the West for fire access, and a 3'-8" side yard proposed to the East. A relaxation of 4" is requested for the increased thickness of the Passive House wall and high R-Value and also due to using a brick finish. The overall building height varies from front to rear from approximately 30'-6" to 33'-6". This height is within the relaxable remit of the by-law.

Our preliminary expression for the building includes a strong tectonic base of brick to the side end walls providing an aesthetically pleasing 'book end' effect to visually separate from the adjacent proposed park and other development. White cementitious panel siding to the upper levels mixed with bays of vertical metal siding for patterning is featured to the upper levels.



Design Rationale

724 E56TH AVENUE - SUSTAINABILITY: Built to the Passive House Standard

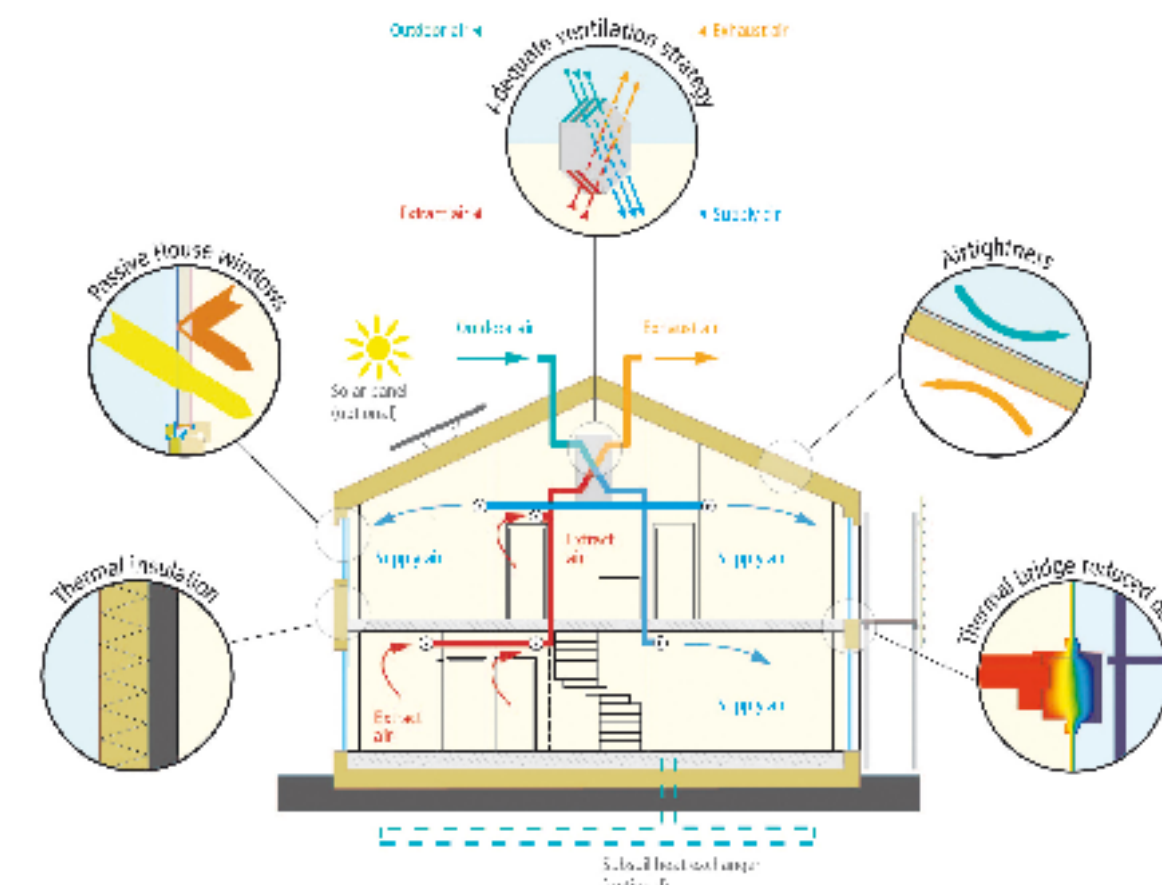
The Passive House standard is one of the highest performing building standards in the world providing high levels of insulation & thermal comfort, strict air tightness standards, heat recovery ventilation with up to 90% efficiency, fossil fuel free heat pump hot water systems and energy savings of approximately 90% for heating and / or cooling compared to a baseline code standard building. The Passive House standard achieves performance levels above Level 4 of the BC Energy Step Code.

**PASSIVEHOUSE
CANADA** Build better.
Feel better.



Passive House Performance Metrics Requirements:

- Heating / Cooling Demand – 15kWh/m2a
- Heating Load – 10kWh/m2
- PER (Primary Energy Renewable) – 60kWh/m2a
- or
- PR (Primary Energy) – 120kWh/m2a
- Airtightness – 0.6 ACH @ 50Pa
- Thermal Bridge Free Design – $\Psi \leq 0.01$ W/(mK)



Proposed Passive House Performance Metrics:

Accurate at current stage for building design and PHPP modelling:

- Heating Demand – 15kWh/m2a
- Heating Load – 10kWh/m2
- Cooling Demand – TBD
- PER (Primary Energy Renewable) – 55kWh/m2a
- Airtightness (targeted) – 0.5 ACH @ 50Pa
- Thermal Bridges modelled – $\Psi \leq 0.01$ W/(mK) & + 0.01 W/(mK)

Project Passive House Strategy / System Details:

Ventilation: Individual Heat Recovery Ventilation w/ Cooling

- 1x individual Zehnder ComfoAir 200 HRV with Zehnder Comfo-Cool located on the top floor of each 3 storey townhouse unit and 1x individual Zehnder ComfoAir 160 HRV located in the bedroom closet of the single level apartments. This will provide continuous heat recovery ventilation to all suites. Supply air will be delivered to bedrooms and living areas and exhaust air will be taken from the kitchens and bathrooms. Anticipated 75% typical background ventilation rate, with boost ventilation to 100% (ASHRAE rates) controlled by switches in the bathrooms and kitchens. Recirculating kitchen hoods will use charcoal filters.

Tempering cooling will be provided in the larger townhouses, which, when combined with exterior solar shading provided by fixed and adjustable mechanical blinds to the South and West elevations, will prevent over-heating in the summer months.

Hot Water: Electric Only CO2 Heat Pumps

- Highly efficient Sanden CO2 Heat Pumps will provide the hot water with individual tanks for each unit. Compressors will be located on the roofs. The building will require no gas connection, and will operate only on electrical power.

Heating: Simple & Minimal

- The minimal heating required will be provided by simple electric base boards, controlled with thermostats in each suite living room and bedroom.

Windows: Triple Glazed with Thermal Bridge Free Installation

- Residential triple glazed vinyl windows with a U-Install of approx. 0.7 (Euroline Windows is the anticipated supplier) with tilt & turn operation and Low SHG glass (approx. 0.3SHG) to minimize overheating.

Wall Assembly: Out-sulation

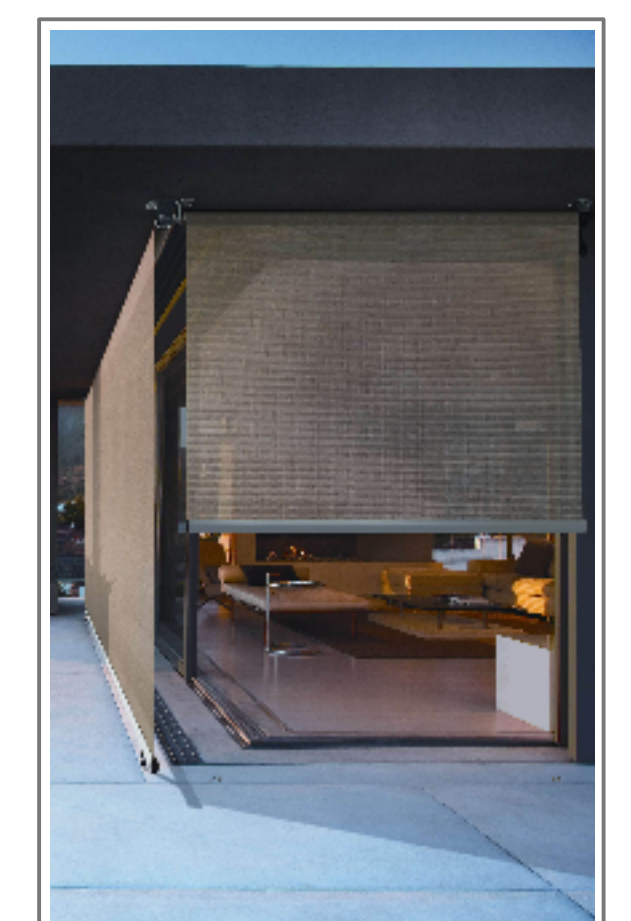
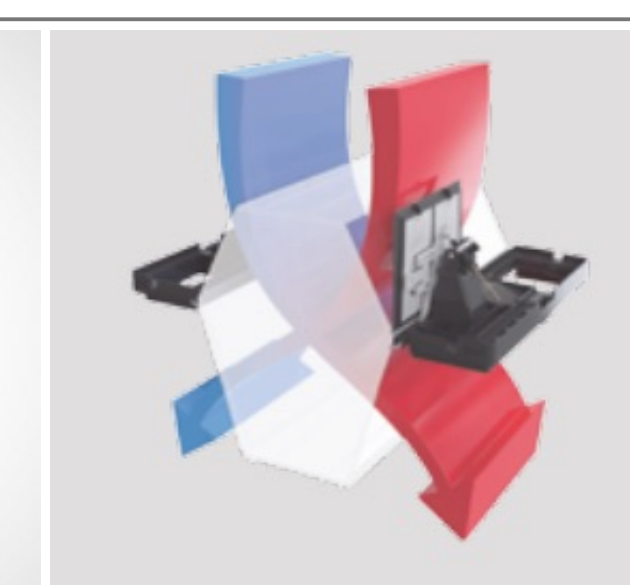
- 2x6" structural stud wall with continuous 6" Rigid Roxul or EPS exterior insulation. The A/V Barrier will be located at the plywood, with joints taped and sealed. An interior 2x4" service cavity wall will be further insulated with batt insulation. Thermally broken cladding clips or galvanized screws with strapping will be used to attach the exterior cladding.

Thermal Bridging: Thermal Bridge Free Detailing

- Balconies, floor edges, slab connections and overhangs will all be detailed to minimize thermal bridging and all details digitally modelled for heat loss.



Zehnder HRV



Exterior Solar Shading



Sanden CO2 Hot Water Heat Pumps

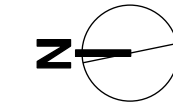


Triple Glazed Windows

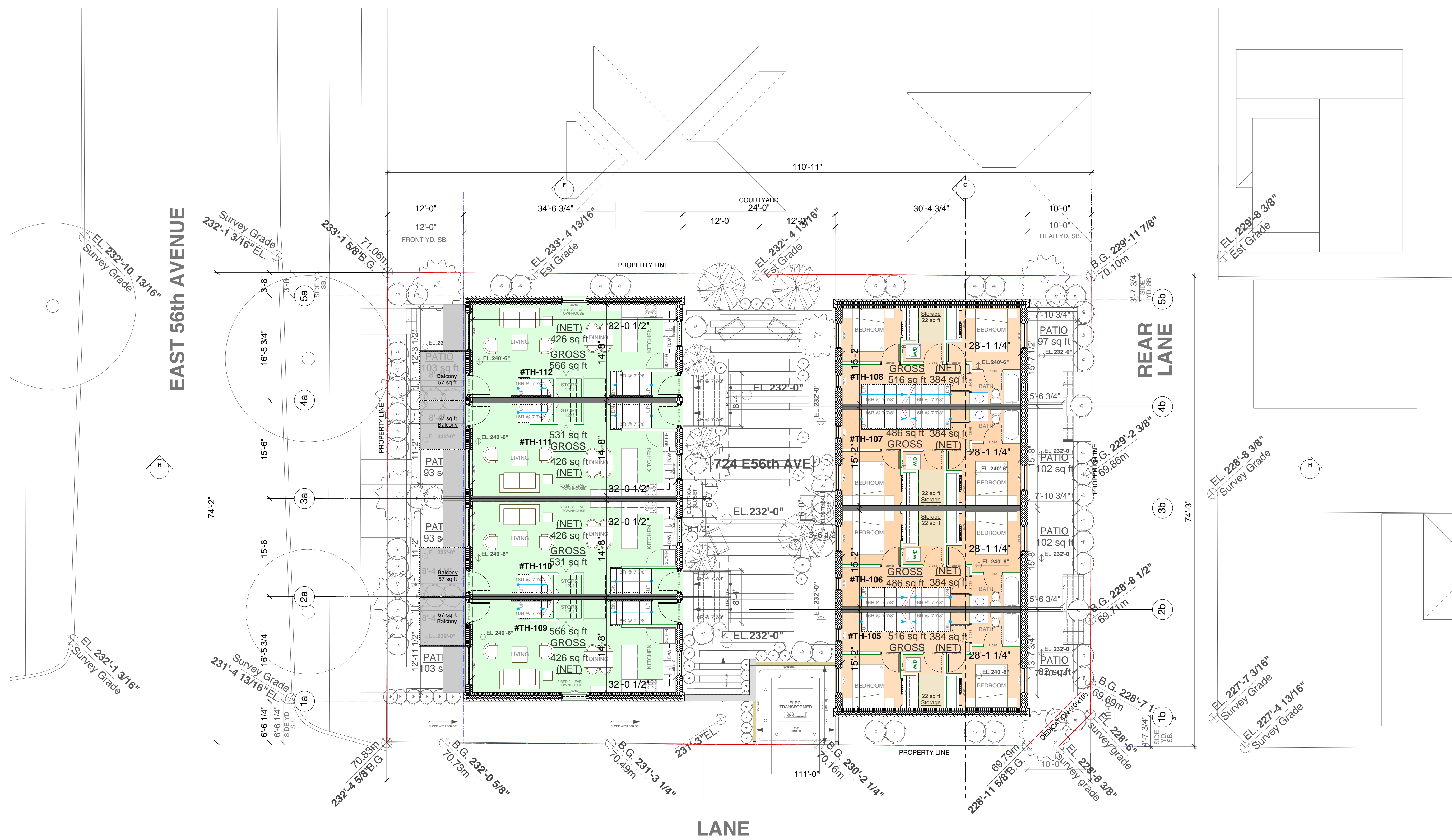


Continuous Exterior Insulation

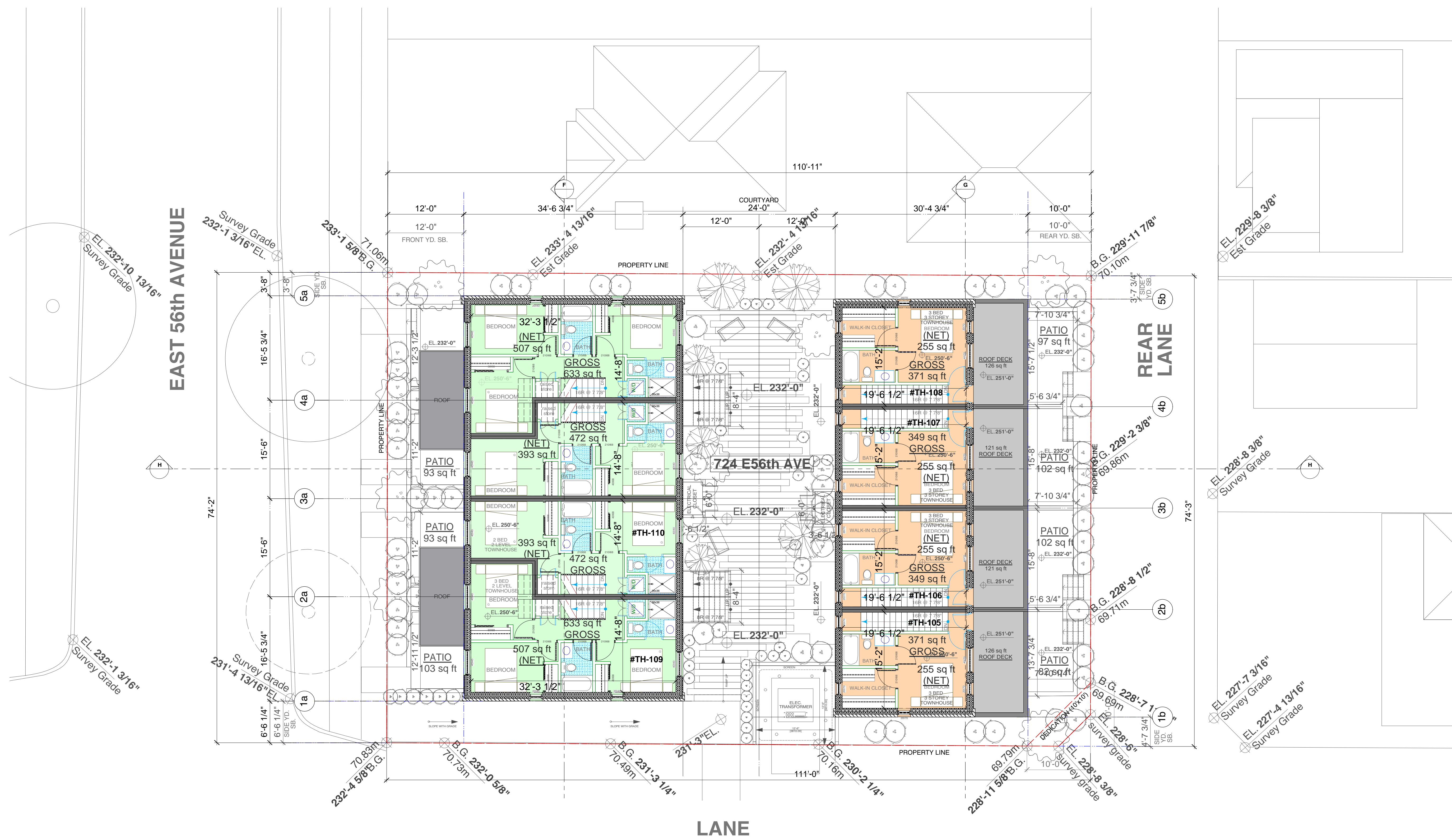
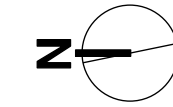
Sustainability Rationale: Passive House



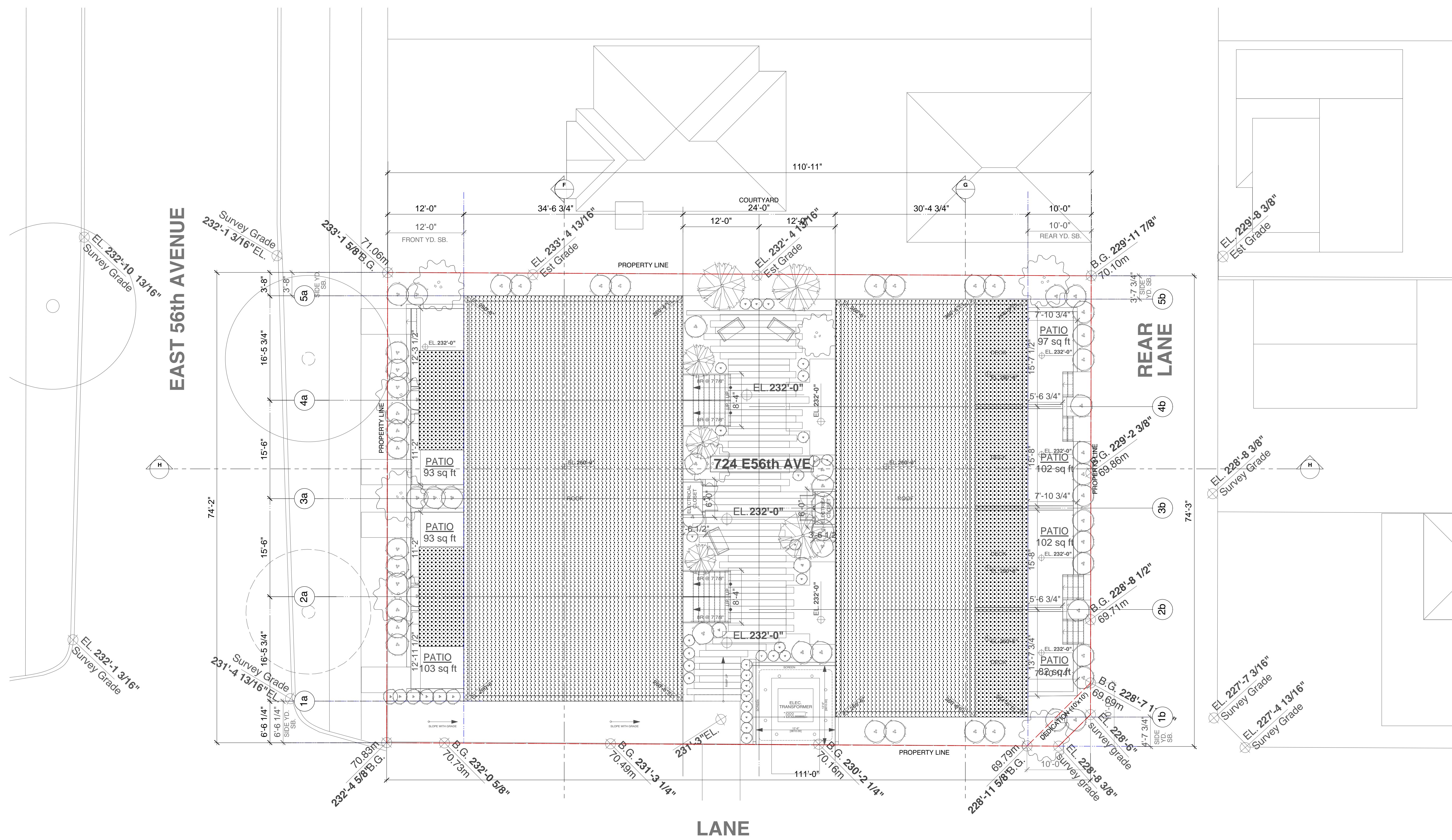
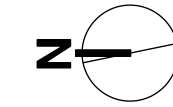
Level 1 Plan



Level 2 Plan

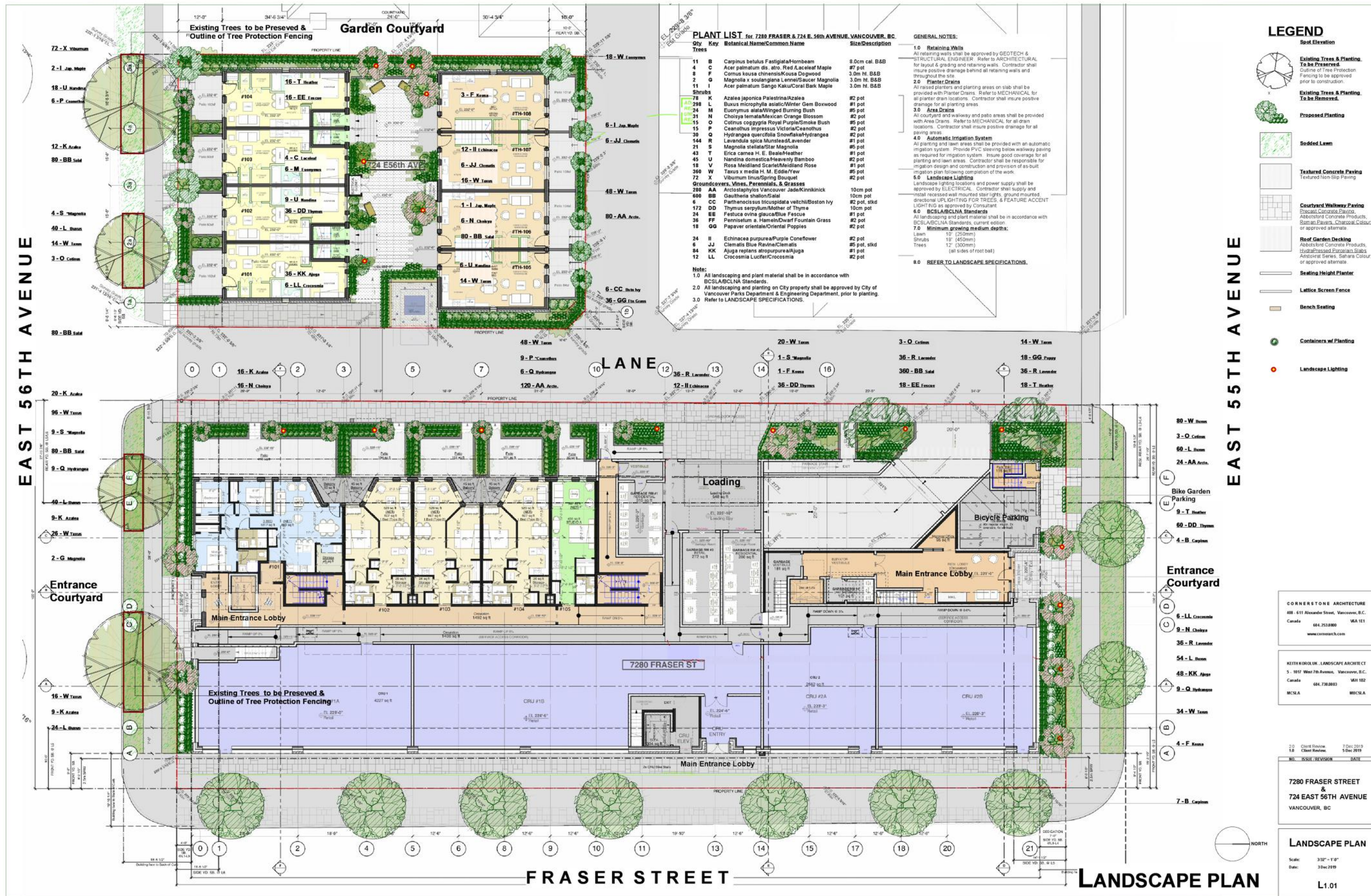


Level 3 Plan



LANE

Roof Plan



PLANT LIST for 7280 FRASER & 724 E. 56TH AVENUE, VANCOUVER, BC.

Qty	Key	Botanical Name/Common Name	Size/Description
11	B	Carpinus betulus Fastigiata/Hornbeam	8.0cm cal. B&B
4	C	Acer palmatum dis. atro. Red Laceleaf Maple	#7 pot
8	F	Cornus kousa chrysantha/Kousa Dogwood	3.0m H. B&B
2	G	Magnolia x soulangeana Lennox/Saucer Magnolia	3.0m H. B&B
11	I	Acer palmatum Sango Kaku/Coral Bark Maple	3.0m H. B&B
Shrubs			
78	K	Azalea japonica Palestrina/Azalea	#2 pot
298	L	Buxus microphylla asiatica/Winter Gem Boxwood	#1 pot
24	M	Eucryphia alata/Winged Burning Bush	#5 pot
31	N	Choisya ternata/Mexican Orange Blossom	#2 pot
15	O	Cotinus coggygria Royal Purple/Smoke Bush	#5 pot
15	P	Ceanothus impressus Victoria/Ceanothus	#2 pot
36	Q	Hydrangea quercifolia Snowflake/Hydrangea	#2 pot
144	R	Lavandula spica Munstead/Lavender	#1 pot
21	S	Magnolia stellata/Star Magnolia	#5 pot
43	T	Erica carnea H. E. Beale/Heather	#1 pot
45	U	Nandina domestica/Heavenly Bamboo	#2 pot
18	V	Rosa Meidland Scarlet/Meadland Rose	#1 pot
360	W	Taxus x media H. M. Eddie/Fox	#5 pot
72	X	Viburnum tinus/Spring Bouquet	#2 pot
Groundcovers, Vines, Perennials, & Grasses			
280	AA	Arctostaphylos Vancouver Jade/Kinnikinnick	10cm pot
460	BB	Gaultheria shallon/Sail	10cm pot
6	CC	Parthenocissus tricuspidata veltchii/Boston Ivy	#2 pot, stkd
172	DD	Thymus serpyllum/Mother of Thyme	10cm pot
24	EE	Festuca ovina glauca/Blue Fescue	#1 pot
36	FF	Pennisetum s. Hameln/Dwarf Fountain Grass	#2 pot
18	GG	Papaver orientale/Purple Poppies	#2 pot
24	II	Echinacea purpurea/Purple Coneflower	#2 pot
6	JJ	Clematis Blue Ravine/Clematis	#5 pot, stkd
84	KK	Ajuga reptans atropurpurea/Ajuga	#1 pot
12	LL	Crococissia Lucifer/Crococissia	#2 pot

GENERAL NOTES:

- Retaining Walls:** All retaining walls shall be approved by GEOTECH & STRUCTURAL ENGINEER. Refer to ARCHITECTURAL for layout & grading and retaining walls. Contractor shall insure positive drainage behind all retaining walls and throughout the site.
- Planter Drains:** All raised planters and planting areas on slab shall be provided with Planter Drains. Refer to MECHANICAL for all planter drain locations. Contractor shall insure positive drainage for all planting areas.
- Area Drains:** All courtyard and walkway and patio areas shall be provided with Area Drains. Refer to MECHANICAL for all drain locations. Contractor shall insure positive drainage for all paving areas.
- Automatic Irrigation System:** All planting and lawn areas shall be provided with an automatic irrigation system. Provide PVC sleeving below walkway paving as required for irrigation system. Insure good coverage for all planting and lawn areas. Contractor shall be responsible for irrigation design and construction and provision of as-built irrigation plan following completion of the work.
- Landscape Lighting:** Landscape lighting locations and power supply shall be approved by ELECTRICAL. Contractor shall supply and install recessed wall mounted start lights, ground mounted directional UPLIGHTING FOR TREES, & FEATURE ACCENT LIGHTING as approved by Consultant.
- BCSLAB/CLNA Standards:** All landscaping and plant material shall be in accordance with BCSLAB/CLNA Standards, current edition.
- Minimum growing medium depths:**
 - Lawn: 10" (250mm)
 - Shrubs: 18" (450mm)
 - Trees: 12" (300mm)
 (all sides of root ball)
- REFER TO LANDSCAPE SPECIFICATIONS.**

- LEGEND**
- Spot Elevation
 - Existing Trees & Planting To be Preserved: Outline of Tree Protection Fencing to be approved prior to construction.
 - Existing Trees & Planting To be Removed.
 - Proposed Planting
 - Sodded Lawn
 - Textured Concrete Paving: Textured Non-Slip Paving
 - Courtyard Walkway Paving: Precast Concrete Paving, Abbotsford Concrete Products, Stone Pavers, Charcoal Colour, or approved alternate.
 - Roof Garden Decking: Abbotsford Concrete Products, Hydrophobic Porcelain Slabs, Absolute Series, Sahara Colour, or approved alternate.
 - Seating Height Planter
 - Lattice Screen Fence
 - Bench Seating
 - Containers w/ Planting
 - Landscape Lighting

Note:

- All landscaping and plant material shall be in accordance with BCSLAB/CLNA Standards.
- All landscaping and planting on City property shall be approved by City of Vancouver Parks Department & Engineering Department, prior to planting. Refer to LANDSCAPE SPECIFICATIONS.
- Refer to LANDSCAPE SPECIFICATIONS.

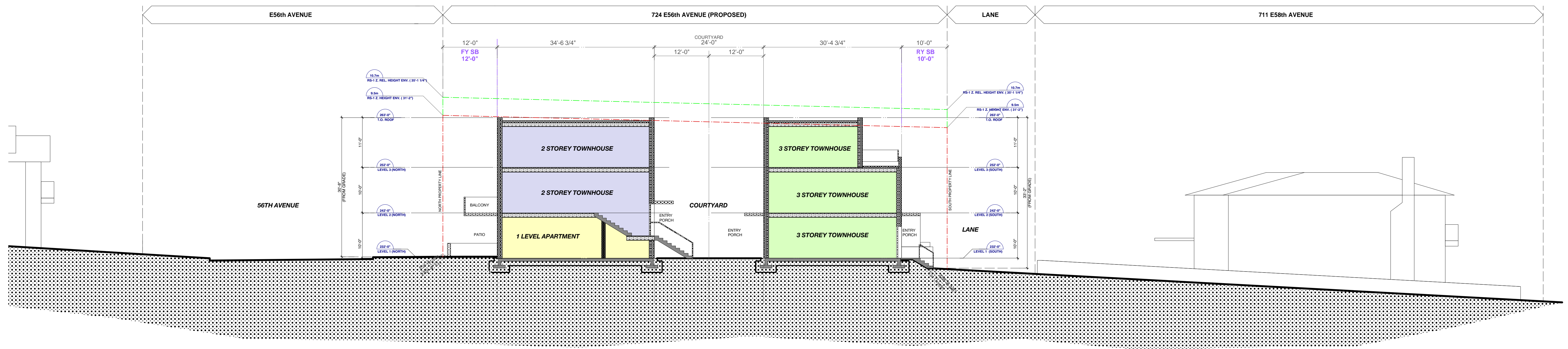
CORNERSTONE ARCHITECTURE
 408 - 611 Alexander Street, Vancouver, B.C.
 Canada 604.253.8800 V6A 1E1
 www.cornerstone.ca

KEITH KOROLUK, LANDSCAPE ARCHITECT
 5 - 1917 West 7th Avenue, Vancouver, B.C.
 Canada 604.738.0803 V6H 1B2
 MCLSA MCLSA

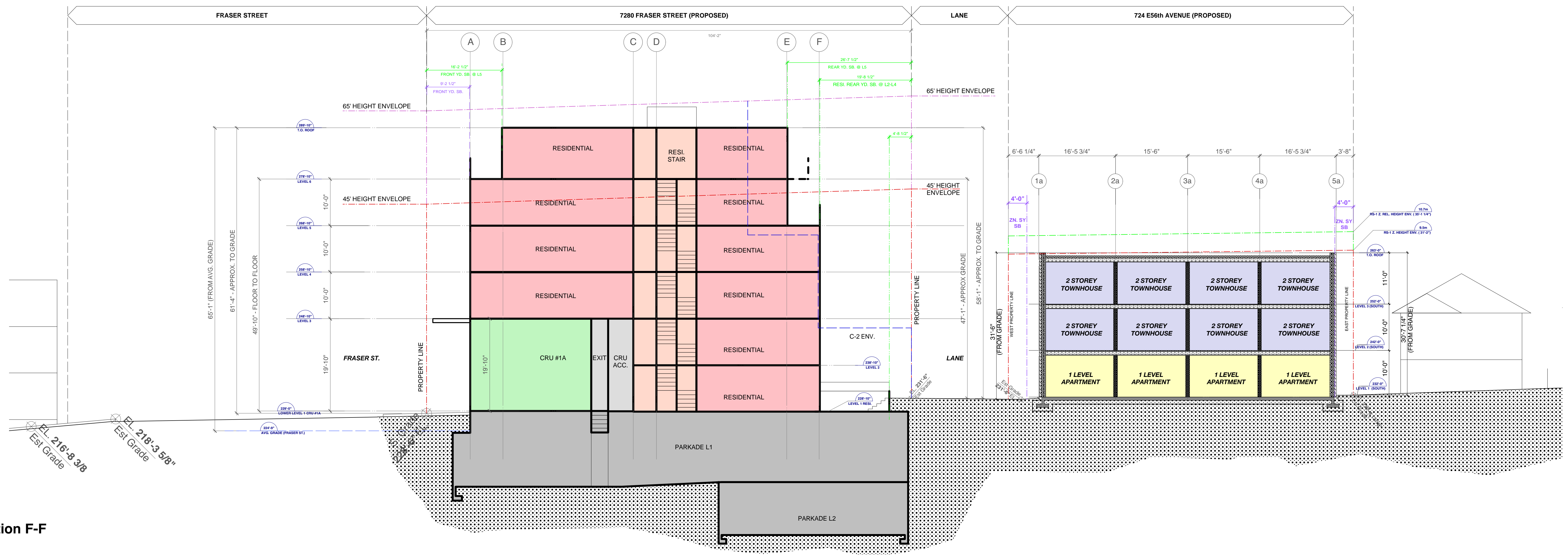
2.0 Client Review 7 Dec 2019
 1.0 Client Review 5 Dec 2019

7280 FRASER STREET & 724 EAST 56TH AVENUE
 VANCOUVER, BC

LANDSCAPE PLAN
 Scale: 3/32" = 1'-0"
 Date: 30 Dec 2019
 L1.01



Section G-G



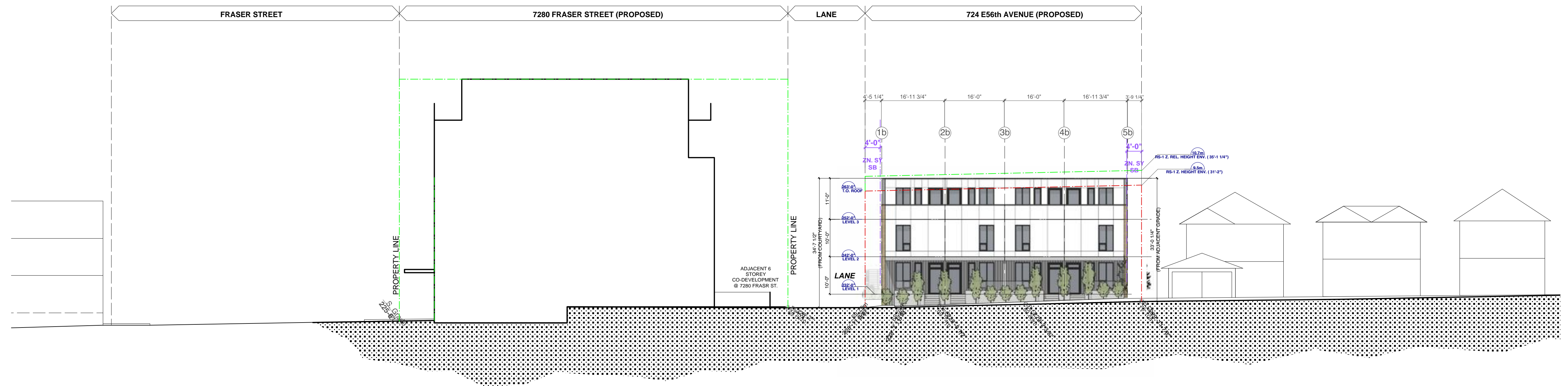
Section F-F



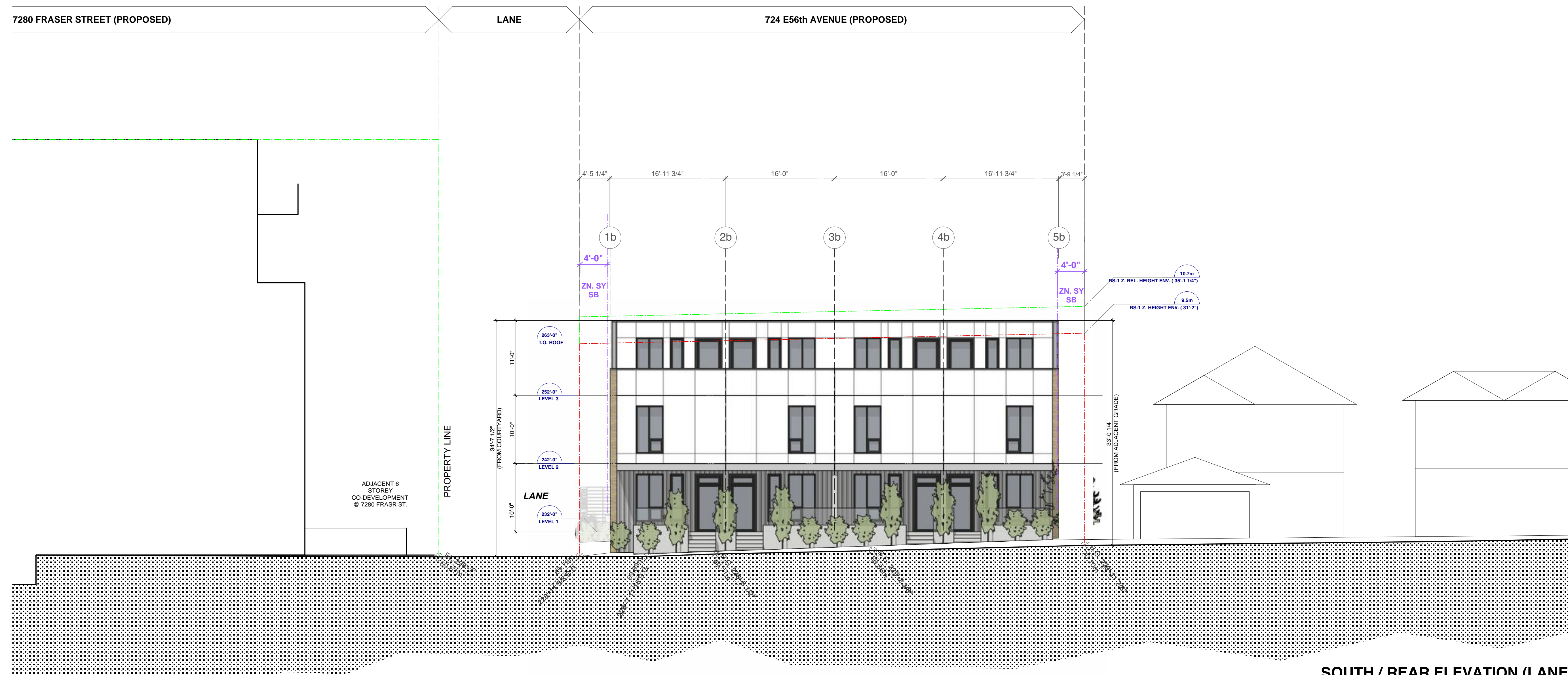
NORTH / FRONT CONTEXT ELEVATION (56th AVE.)



NORTH / FRONT ELEVATION (56th AVE.)



SOUTH / REAR CONTEXT ELEVATION (LANE)



SOUTH / REAR ELEVATION (LANE)



Interior / South Courtyard Elevation



Interior / North Courtyard Elevation



3D Visualizations

CORNERSTONE
architecture

307 - 611 Alexander Street
Vancouver, British Columbia
Canada, V6A 1E1

www.cornerarch.com
tel 604 253-8800
fax 604 253-8133



724 East 56th Avenue
Townhouse Passive House Development

724 E56th Ave. Vancouver B.C.

Rezoning From RS-1 12 Residential Units



3D Visualizations

CORNERSTONE
architecture

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SPIRE
DEVELOPMENT

724 East 56th Avenue
Townhouse Passive House Development
724 E56th Ave. Vancouver B.C.

Rezoning From RS-1 12 Residential Units



JUNE 22nd - 10am



JUNE 22nd - 12pm



JUNE 22nd - 2pm



JUNE 22nd - 4pm



SEPTEMBER 22nd - 10am



SEPTEMBER 22nd - 12pm

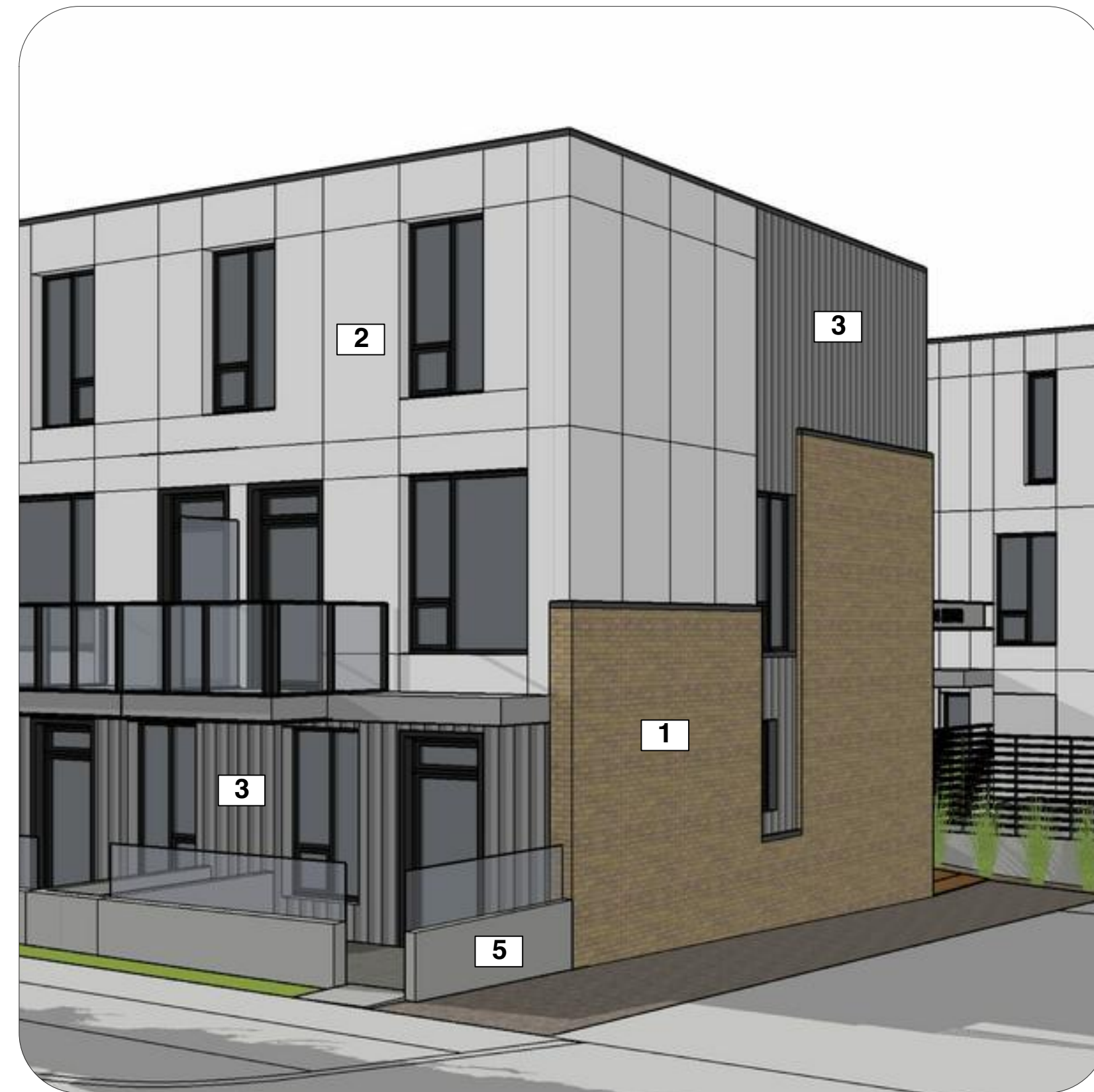


SEPTEMBER 22nd - 2pm

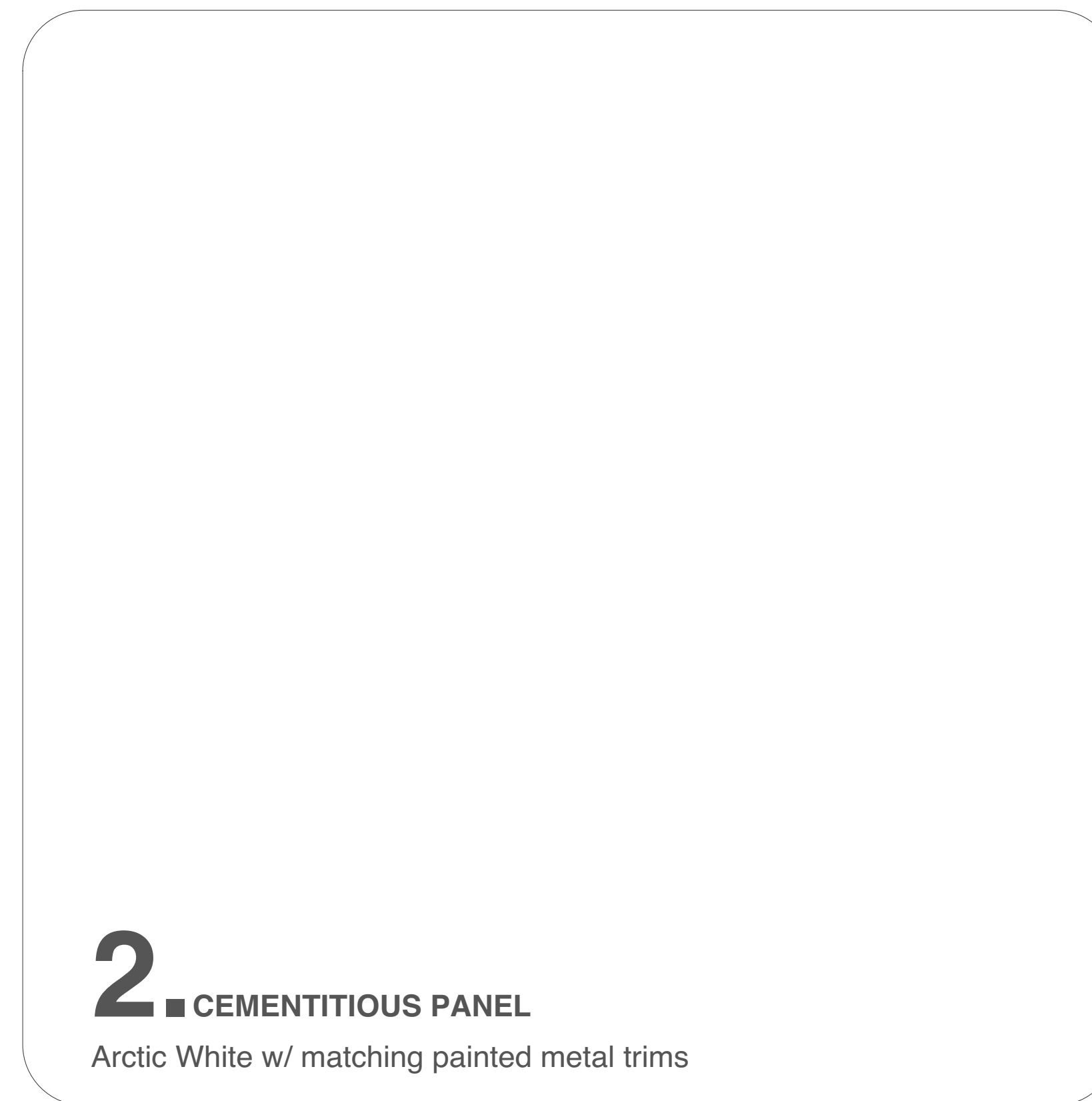


SEPTEMBER 22nd - 4pm

Shadow Studies



1 ■ BRICK
Chesapeake (London Stock style)



2 ■ CEMENTITIOUS PANEL
Arctic White w/ matching painted metal trims



3 ■ VERTICAL CEMENTITIOUS SIDING - HARDIE REVEAL
Light Grey w/ matching painted metal trims
(Standing Seam Metal Appearance)



4 ■ CHARCOAL GREY
Window Frames / Flashings / Trims



5 ■ CONCRETE
Sandblasted / Sealer Painted

Materials Board