PROJECT INFORMATION	
Developer	**Polygon Development 233 Ltd.**
Architect	GBL Architects
REAP Consultant	Edge Consultants
Project Name	UBC Lot 26, Wesbrook
Neighbourhood	Wesbrook
Lot No.	26
Street Address	Current address 6080 Gray Ave.
Gross Floor Area	180,442 SF
Project Stage	Development Permit Application
UBC DP Reference No.	
Date of Review	
Date of Submission	29-May-23
Date of Complete Submission	

UBC REAP 3.2 - Lot 26

Y	?	N	Energy & Emissions (E&E)		16/35
precondition			P1	Energy Step Code Compliance (Step 2)	-
precondition			P2	Overall R-Value	-
precondition			P3	Energy Star Appliances	-
precondition			P4	Programmable Thermostats	-
precondition			P5	Energy Modeling Workshop	-
precondition			P6	Commissioning	-
precondition			P7	Building Level Energy Metering and Reporting	-
precondition			P8	Domestic Hot Water Energy Use Sub-metering and Reporting	-
precondition			P9	Greenhouse Gas Intensity Reporting	-
precondition			P10	Refrigerant Emission Reporting	-
precondition			P11	Electric Vehicle Charging Infrastructure	-
precondition			P12	Contribution to Low Carbon Transportation	-
8		13	1.1	Optimized Energy Performance (Step Code 3/4/PH)	21
0		6	2.1	Renewable Energy	6
5		0	3.1	Enhanced Energy Submetering and Reporting	5
3		0	4.1	Electric Vehicle Charging Stations	3

Y	?	N	Water (W)		3/15
precondition			P1	Low-Flow Plumbing Fixtures	-
precondition			P2	Outdoor Water Use Reduction	-
precondition			P3	Water Efficient Appliances	-
precondition			P4	Rainwater Management	-
1		6	1.1	Total Water Use Reduction	7
1		3	2.1	On-Site Rainwater Management	4
1		3	3.1	Domestic Hot Water Metering	4

Y	?	N	Biodiversity (B)		4/8
precondition			P1	Ecological Planting	-
precondition			P2	Light Pollution Reduction	-
precondition			P3	Bird Friendly Design - Basic	-
3		0	1.1	Planting for Biodiversity and Ecosystem Health	3
1		0	2.1	Site Green Space	1
0		3	3.1	Bird Friendly Design - Enhanced	3
0		1	4.1	Food Growing Opportunity	1

Y	?	N	Materials & Resources (M&R)		4/8
precondition			P1	Zero Waste Ready	-
precondition			P2	Embodied Carbon Reporting	-
precondition			P3	Construction and Demolition Waste	-
2		2.0	1.1	Environmentally Responsible Materials	4.0
1		1	1.2	Local Materials	2
t targeted		1	1.3	Mass Timber Superstructure	1
1		0	1.4	Healthy Building Materials	1

Checklist Version Date 28-Mar-22

Y	?	N	Climate Adaptation (CA)		5/13
precondition			P1	2050 Climate Ready Thermal Comfort Modelling	-
3		4	1.1	2050 Climate Ready Energy Efficient Design	7
2		1	1.2	Enhanced Resiliency	3
0		3	1.3	On Site Backup Power	3

Y	?	N	Place & Experience (P&E)		5/5
precondition			P1	Project Community Amenity Spaces	-
5		0	1.1	Project Exemplary Community Amenity Spaces	5

Y	?	N	Health & Wellbeing (H&W)		7/8
precondition			P1	Bicycle Parking & Storage Room(s)	-
precondition			P2	Low-Emitting Products	-
precondition			P3	Construction Indoor Air Quality Management	-
1		0	1.1	IAQ Assessment	1
2		0	2.1	Additional Bicycle Facilities	2
2		0	3.1	Low-Emitting Products	2
1		0	4.1	Connection to Nature	1
1		0	5.1	Daylight Access	1
0		1	6.1	Active Living	1

Y	?	N	Quality (Q)		6/8
precondition			P1	Sustainability Statement	-
precondition			P2	Educate the Homeowner	-
precondition			P3	Educate the Sales & Leasing Staff	-
precondition			P4	Green Building Specialist	-
precondition			P5	Design for Security and Crime Prevention	-
4		0	1.1	Integrated Design	4
0		2	2.1	Durable Building	2
2		0	3.1	Education and Awareness	2

Y	?	N	Innovation & Research (I&R)		5/10
0		2	1.1	Exemplary Performance	2
0		3	1.2	Innovation or Pilot	3
5		0	2.1	Research	5

Total				55 /100+10
Y	?	N		
50	0	50.0	Total Credits	100
5	0	5	Additional Innovation & Research Credits	10
Gold				50
Gold Plus				60
Platinum				70
Platinum Plus				80

ENERGY & EMISSIONS

Green Building Action Plan Goals

UBC buildings will advance the campus towards net-positive energy use and greenhouse gas neutrality by reducing energy demand and focusing on site-specific
UBC buildings will have indoor thermal environments that are comfortable and enhance health and wellbeing.
UBC will integrate lessons learned to improve building energy performance.

E&E	Precondition	Submission BP	Submission OP	Comments
P1	**Energy Step Code Compliance (Step 2)** Design and construct buildings to conform to the following performance requirements: Energy Step Code, Step 2: 130 kWh/m2-yr (TEUI) and 45 kWh/ m2-yr (TEDI). Complete an airtightness test meeting the ASTM E779 or USACE Version 3 standard as specified by the Energy Step Code Regulation.	Required	Required	**Responsible:** Energy Modeler, Architect, Mechanical, Electrical, Building Envelope Consultant
P2	**Overall R-Value** Achieve an overall R-value target for each major building typology in a project (e.g., high rise, low rise or townhouse): 5.4 hr-ft2-f/BTU for high rise or 6.9 hr-ft2-f/BTU for low rise. This precondition credit is not required for projects that achieve the E&E 1.1: Optimized Energy Performance credit.	Required	Required	**Responsible:** Envelope Not required as project is targetting Step 3 (E&E 1.1)
P3	**Energy Star Appliances** Specify and install Energy Star-labelled, or equivalent performance, driers and refrigerators in each unit.		Required	**Responsible:** Mechanical, Interior Design
P4	**Programmable Thermostats** Specify and install programmable thermostats for at least the largest heating zone in each unit.	Required		**Responsible:** Mechanical Engineer, Electrical Engineer
P5	**Energy Modeling Workshop** Model the energy performance of the building and hold a workshop with the design team, a representative from UBC Sustainability and Engineering, and contractor to evaluate the results and optimize the design of the building.	Required		**Responsible:** Owner, Energy Modeler
P6	**Commissioning** Contract a third party Commissioning Authority to develop and implement a commissioning plan for all major building energy systems, in accordance with CSA Z5000-18, and verify that they are installed, calibrated, and perform according to design intent.	Required	Required	**Responsible:** Commissioning Authority
P7	**Building Level Energy Metering and Reporting** Support UBC in establishing an ENERGY STAR Portfolio Manager (ESPM) account and reporting building utility consumption by: • Providing completed auto upload permission forms where required; or • Sharing ESPM account(s) with UBC Sustainability and Engineering that have been established by a qualified service provider. For mixed-use developments, establish utility metering for each major use class (e.g., residential, commercial or retail) and building typology (e.g., high rise or townhouse).	Required	Required	**Responsible:** Mechanical, Electrical, Energy Modeler, Owner
P8	**Domestic Hot Water Energy Use Sub-metering and Reporting** Install energy metering for domestic hot water energy use for each major use class (e.g., residential, commercial or retail) and building typology (e.g., high rise or townhouse) and report energy use to UBC Sustainability and Engineering.	Required		**Responsible:** Mechanical
P9	**Greenhouse Gas Intensity Reporting** Report building greenhouse gas intensity (GHGI) of emissions.	Required	Required	**Responsible:** Energy Modeler, Owner
P10	**Refrigerant Emission Reporting** Determine and report the life cycle equivalent annual carbon dioxide emissions of refrigerants in buildings in kgCO2.	Required	Required	**Responsible:** Mechanical, REAP Executive
P11	**Electric Vehicle Charging Infrastructure** Provide a minimum of one energized level 2 outlet per residential unit for non-rental developments or provide energized outlets for 50% of resident parking stalls for rental developments. Level 2 charging capacity that provides a minimum of 40A service and a minimum performance level of 12 kWh per stall, over an eight (8) hour period must be provided. Load sharing (up to four-way) and load management systems may be utilized. Exceptions may be granted in cases where utility mandated transformer upgrades are required.	Required	Required	**Responsible:** Electrical Engineer
P12	**Contribution to Low Carbon Transportation** Contribute to the development of low-carbon transportation options or infrastructure by funding the equivalent of one community vehicle per 100 residential units.		Required	**Responsible:** Owner

E&E	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments

	Optimized Energy Performance (Step Code 3/4/PH)	8	21	Required	Required	
1.1	Design and construct the buildings to meet the following Energy Step Code Regulation performance requirements: • **Step 3**: 120 kWh/m2-yr (TEUI) and 30 kWh/ m2-yr (TEDI). **– 8 points** • **Step 4**: 100 kWh/m2-yr (TEUI) and 15 kWh/ m2-yr (TEDI). **– 8 points** • **Passive House Performance**: Design and construct the building to conform to the Passive House Planning Package, version 9 or newer, meeting the requirements of Section 10.2.3.3 (3) of the Energy Step Code Regulation. **– 5 points**					**Responsible:** Energy Modeler, Architect, Mechanical, Electrical, Building Envelope Consultant
	Renewable Energy	Not targeted	6	Required		
1.2	Use on site renewable energy systems to offset all or a portion of the building's annual electricity consumption as follows: • 4% **– 2 points** • 8% **– 4 points** • 12% **– 6 points**					**Responsibility:** Architect, Mechanical, Electrical
	Enhanced Energy Submetering and Reporting	5	5	Required	Required	
3.1	Install energy metering for the following: All major energy end uses (representing 10% or more of total energy consumption) for each major use class (e.g., residential, commercial or retail) and building typology (e.g., high rise or townhouse) and/or suite level thermal energy consumption. • Major end and space use submetering. **– 2 points** • Suite level thermal energy submetering. **– 3 points**					**Responsible:** Energy Modeler, Mechanical, Electrical
	Electric Vehicle Charging Stations	3	3	Required		
4.1	Install Level 2 charging stations for visitor or shared use and/or the following percentage of owners'/residents' parking. • 1 visitor and/or shared station per 100 units. **– 1 point** • 5% of owners'/residents' parking. **– 1 point** • 10% of owners'/residents' parking. **– 1 point**					**Responsible:** Electrical, Owner
	Total Optimization Points	**16**	**35**			

WATER

Green Building Action Plan Goals

UBC will practice responsible water management and use at the building and site scale by: advancing water conservation and efficiency, exploring alternative water supply and treatment solutions, and building water supply resiliency.

UBC will use a low-impact development approach to rainwater management at the site scale to mitigate risk and respect the natural hydrology of the campus.

W	Precondition	Submission BP	Submission OP	Comments
	Low-flow Plumbing Fixtures	Required		
P1	Specify and install: • Water-saving showerheads with a maximum flow rate of 5.7 L per minute in each shower. • Low flow faucets with aerators in all bathroom sinks with a maximum flow of 3.8 L per minute. • Low flow faucets with aerators in all kitchen sinks with a maximum flow of 6.8 L per minute.			**Responsible**: Mechanical, Interior Design
	Outdoor Water Use Reduction	Required		
P2	**Option 1:** Design and install a water-efficient irrigation system that includes an automated controller, rain or soil sensors and pressure regulator; for non-grass areas, use a micro- or drip-feed irrigation. Reduce the project's landscape water use by at least 30% from the site's calculated baseline of the peak watering month through plant selection and irrigation efficiency. **Option 2:** Install a temporary irrigation system.			**Responsible:** Landscape Architect
	Water Efficient Appliances		Required	
P3	Specify and install: • Energy Star labelled, or equivalent performance, clothes washers; if washers are available only as an option, specify and offer only models complying to this standard. • Energy Star labelled dishwashers,or equivalent performance; if dishwashers are available only as an option, specify and offer only models complying with this credit.			**Responsible:** Mechanical/Interior Design
	Rainwater Management	Required		
P4	Detain the 10-year, 24-hour storm volume and discharge at the 2-year, 40-hour pre- development rate on site or at a designated central facility using low-impact development and green infrastructure as far as possible.			**Responsible:** Civil

W	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
	Total Water Use Reduction	1	7		Required	
1.1	Reduce the total indoor and outdoor potable water use from the calculated code baseline using efficient fixtures, efficient landscaping practices and/or alternative water sources. • 35% reduction from baseline. **– 1 points** • 40% reduction from baseline. **– 2 points** • 45% reduction from baseline. **– 3 points** • 50% reduction from baseline. **– 4 points** • 55% reduction from baseline. **– 7 points**					**Responsible:** Mechanical/Interior Design, Landscape Architect
	On-Site Rainwater Management	1	4	Required	Required	
2.1	**Part 1:** Provide permeable surfaces for low impact rainwater management for a percentage of areas of the site. The following surfaces are eligible: grass with 12" topsoil, planting areas with 24" topsoil, rain gardens, extensive vegetated roofs, swale, and pervious paving. • Permeable surfaces on 30% of the site. **– 1 point** • Permeable surfaces on 50% of the site. **– 1 point** **Part 2:** Detain the 10-year, 24-hour storm volume and discharge at the 1-year, 40-hour pre-development rate on site using low impact development techniques (scoring at least 1 point in part 1) and detention facility. **– 2 points**					**Responsible:** Civil, Landscape Architect
	Domestic Hot Water Metering	1	4	Required		
3.1	In units with central domestic hot water consumption, provide building level or individual suite hot water submetering. • Provide submetering of hot water consumption at the building level. – **1 point** • Provide submetering of hot water consumption at the suite level. **– 3 points**					**Responsible:** Mechanical
	Total Optimization Points	**3**	**15**			

BIODIVERSITY

Green Building Action Plan Goals

UBC will develop highly functioning landscapes at the building and site scale to contribute to biodiversity and natural ecosystem processes.

UBC will engage campus teaching and research opportunities to enhance biodiversity management capacity.

B	Precondition	Submission BP	Submission OP	Comments
P1	**Ecological Planting**	Required		
	Select native or adaptive plant species that are appropriate for the ecoregion, suitable for the site conditions and climate (including changing conditions); and fulfill the design intent. Mature plant height, spread and form must be considered in plant selection as a means to reduce maintenance. Select plants that are suited to the sun and shade conditions of the site and are drought tolerant. Include plants that are pollinators and provide a food source for birds.			**Responsible:** Landscape Architect
P2	**Light Pollution Reduction**	Required		
	Do not exceed the current Illuminating Engineering Society (IES) illuminance requirements as stated in Lighting for Exterior Environments.			**Responsible:** Electrical, Landscape Architect
P3	**Bird Friendly Design - Basic**	Required		
	In compliance with the UBC Bird Friendly Design Guidelines for Buildings and CSA A460:19 Bird-friendly Building Design Standards, -identify the bird collision risks in building and landscape design and apply the identified strategies to create bird friendly environments. -Apply appropriate strategies to treat and/or avoid the construction of: glass corners without mullions, parallel glass (spaced 5m apart or less), transparent skywalks, glass guards or guardrails, and glass parapets.			**Responsible:** Architect

B	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Planting for Biodiversity and Ecosystem Health**	3	3	Required		
	Enhance biodiversity and ecosystem health by achieving the following: **Develop a Landscape Maintenance Plan — 1 point** Develop a landscape maintenance plan that instructs maintenance contractors on the sustainable care of plants over the lifetime of the building and landscape. **Maximize Native Planting — 1 point** Provide a plant list that demonstrates that 70% of the plantings (by number of plants) are native. **Pollinator Gardens — 1 point** Provide a plant list that demonstrates that 20% of planting choices (by number of plants) and landscape design support pollinators such as hummingbirds, native bees, butterflies, moths, and bats.					**Responsible:** Landscape Architect
2.1	**Site Green Space**	1	1	Required		
	Dedicate 30% of the total site area (including the building footprint) to green space. Eligible spaces include: grass, areas with plants, vegetated roofs, living walls, balcony greenery, areas dedicated to food production (excluding paving).					**Responsible:** Landscape Architect, Architect
	Bird Friendly Design - Enhanced	Not targeted	3	Required		

3.1	In compliance with the UBC Bird Friendly Design Guidelines for Buildings and CSA A460:19 Bird-friendly Building Design Standards, identify the bird collision risks in building and landscape design and apply appropriate strategies to create bird friendly environments. **Part 1 — 2 point** Apply strategies from the UBC Bird Friendly Design Guidelines for Buildings to treat a minimum of 55% of all glazed surfaces of the building up to the height specified. Surfaces posing the highest risk, including courtyards, glass guardrails, windbreaks, glass adjacent to water features or vegetation, should be prioritized. **Part 2 — 3 point** In accordance with CSA A460:19, apply strategies from the UBC Bird Friendly Design Guidelines for Buildings to treat 90% of all glazed surfaces and surrounding glass structures (e.g., glass guardrails and windbreaks) of the building up to the 4th floor or mature tree height, whichever is taller. Surfaces posing the highest risk, including courtyards, glass guardrails, windbreaks, glass adjacent to water features or vegetation, should be prioritized.					**Responsible:** Architect
	Food Growing Opportunity	**Not targeted**	1	Required		
4.1	Provide food gardening spaces of at least 2.4 m2 for 30% of residential units which do not have access to a private outdoor space of more than 9.3 m2. Food gardens can be provided in raised common area garden plots on grade and/or on rooftops in planters or communal gardens.					**Responsible:** Landscape Architect
	Total Optimization Points	**4**	**8**			

MATERIAL AND RESOURCES

Green Building Action Plan Goals

UBC will prioritize the use of building materials that have net positive environmental impacts.
UBC will support marketplace transformation by designing buildings with materials that are not harmful to human and ecological health.
UBC will support the development of the circular economy by promoting the adaptation, reuse and recycling of materials and products during a building's lifetime.

M&R	Precondition	Submission BP	Submission OP	Comments
	Zero Waste Ready	Required	Required	
P1	1. Design buildings to be zero waste ready by providing dedicated areas for the collection and storage of recyclable materials and organics from the entire building. Areas must be accessible to waste haulers and conveniently located for building occupants. • Recycling storage space shall be designed to promote recycling in accordance with the current version of the Metro Vancouver Technical Specifications of Recycling and Garbage Amenities in Multi-family and Commercial Developments. • Co-locate organics, recycling and garbage at collection points to provide equal convenience. • Provide clear visual cues and signage for recycling and organics. 2. Provide convenient and accessible recycling and organics collection locations to residents: where appropriate, this may include dedicated in-unit storage and/or multiple collection points within the building. 3. Provide a recycling and organics collection guide in the homeowners guide and in the storage area. **AND** 4. Provide for the adequate collection of the following by contracting with a waste management company for the service: • Mixed paper, cardboard, mixed containers and glass. • Food scraps. • Optional collection: soft plastics, styrofoam and other specialty items.			**Responsible:** Architect, Owner
	Embodied Carbon Reporting		Required	
P2	Perform a LCA (life cycle assessment) of the project's foundation, structure and enclosure and report the embodied carbon. Use Athena Impact Estimator or an approved LCA software and include all envelope and structural elements including the parking structure. Assume a 60-year lifetime for the building and include cradle-to-grave impacts using a bill of materials methodology and building permit or issued for construction drawings. Operational impacts should not be included.			**Responsible:** LCA Consultant
	Construction and Demolition Waste		Required	
P3	Prepare and implement a Waste Management Plan that diverts 85% (by weight) of construction and demolition waste from landfill.			**Responsible:** Contractor

M&R	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
	Environmentally Responsible Materials	2	4.0		Required	
1.1	Specify and use environmentally responsible materials for at least 90% of a building component*, by weight or volume. Materials must meet one of the following requirements: • Contain at least 25% reclaimed material • Contain at least 25% post-consumer or 50% pre-consumer recycled content • Wood products that are certified Forest Stewardship Council, (FSC) or CSA Z809 • Bio-based material • Concrete mixes optimized to an average of 20% reduction in embodied carbon • Manufacturer participates in an extended producer responsibility program • No finish material used (eg. concrete floor) ***Building components for 1 point:** Floor covering, insulation, sheathing, framing, drywall (interior), concrete cement or concrete aggregate, roofing, siding. **Building components for 0.5 point**: Pedestrian doors, cabinets, counters, interior trim, deck material, windows.					**Responsible:** Contractor
	Local Materials	1	2		Required	

1.2	Specify and use products that were extracted, processed, and manufactured locally within 200km from project site for the following building components: • Minimum 50% of aggregate for concrete by value. **— 1 point** • Minmum 50% of drywall or interior sheathing by value.**— 1 point**					**Responsible:** Contractor
1.3	**Mass Timber Superstructure**	**Not targeted**	1			
	Specify and install a building superstructure consisting of at least 50% mass timber manufactured in BC (by value of the total superstructure). — 1 point					
1.4	**Healthy Building Materials**	**1**	1		Required	
	Install ten different building products from at least three different manufacturers which meet the ingredient transparency criteria of a program specified below. The chemical inventory of the products must be disclosed to an accuracy of 0.1% (1000 ppm). • Declare Label (International Living Future Institute): Red List Free, Declared; or LBC Compliant if at least 99.9% of the ingredients are disclosed; **or** • Health Product Declaration (HPD); **or** • Manufacturers Inventory of all ingredients by Chemical Abstract Service Registry Number (CASRN).					**Responsible:** Contractor
	Total Optimization Points	**4**	**8.0**			

CLIMATE ADAPTATION

Green Building Action Plan Goals

UBC buildings and landscapes will have the resilience to respond to both anticipated and unpredictable changes in climate.
UBC will engage with researchers in a meaningful and ongoing way to inform building policy and guidelines around climate adaptability.

CA	Precondition	Submission BP	Submission OP	Comments
	2050 Climate Ready Thermal Comfort Modelling	Required	Required	
P1	Perform thermal comfort modelling for buildings using PCIC future climate files for the 2020's and 2050's (RCP 8.5 scenario) with attention to the warmest spaces in the building for the months of May to September inclusive. The building design should meet thermal comfort requirements for 2020s and have a design strategy to meet 2050 requirements. Passively cooled buildings must meet City of Vancouver Energy Modelling Guideline requirements for passively cooled buildings using 2020s weather files and have design strategies for meeting these requirements using 2050 weather files.			**Responsible:** Energy Modeler

CA	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
	2050 Climate Ready Energy Efficient Design	3	7	Required	Required	
1.1	Using 2050 RCP 8.5 weather files, achieve a reduction in Cooling Energy Demand Intensity (CEDI) over a base case 2050 ready design that meets REAP EE and CA preconditions, with passive design measures (e.g., fixed or operable shading, reduced SHGC windows or reduced window to wall ratio). Passive measures must be established at building occupancy. • 5% reduction. **– 3 points** • 10% reduction. **– 5 points** • 15% reduction. **– 7 points**					**Responsible:** Architect, Energy Modeler
	Enhanced Resiliency	2	3	Required		
1.2	Achieve appropriate design strategies from the Mobilizing Building Adaptation and Resilience (MBAR) discussion papers on "Air Quality", "Fire", "Heat waves" and "Power outages and emergencies". • 10 different design strategies with at least 1 from each paper. **— 1 point** • 15 different design strategies with at least 1 from each paper. **— 2 points** • 20 different design strategies with at least 2 from each paper. **— 3 points**					**Responsible:** Architect
	On Site Backup Power	Not targeted	3	Required		
1.3	Design for protection from power outages from the grid, through strategies including permanent back-up power, switching gear and/or power hook-ups, and infrastructure for temporary generators to provide power for critical utilities such as HVAC and the electrical component of heating systems, potable water supply and security. Back up power must be provided for a duration of four consecutive days, 24 hours a day.					**Responsible:** Electrical
	Total Optimization Points	**5**	**13**			

PLACE AND EXPERIENCE

Green Building Action Plan Goals

UBC buildings and landscapes will provide opportunities for collaboration, innovation and community development to reflect the social and environmental sustainability aspirations of the University.

P&E	Precondition	Submission BP	Submission OP	Comments
P1	**Project Community Amenity Spaces**	Required		
	Provide community amenity spaces for residents including: • Outdoor spaces for residents which allow for opportunities for both quiet and social gathering activities, minimum one area for each activity; **AND** • A multi-purpose indoor space designed to support community activities and meeting the following requirements: located on the ground floor with direct access to the outdoors; includes an accessible washroom;and has a minimum floor area of 37.16 m² (400 sq ft).			**Responsible:** Architect

P&E	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Project Exemplary Community Amenity Spaces**	5	5	Required		
	Install indoor and outdoor community amenities from the list below. Each listed amenity is awarded 1 or 2 points, for up to 5 points in total. If more than 2 points are targeted, a minimum of one indoor amenity and one outdoor amenity is required.					**Responsible:** Architect
	Indoor Amenities					
	Family friendly community spaces (additional to PE P1) within or adjacent to enhanced lobbies or multi-purpose rooms such as a community play area or youth friendly space. The total area should be minimum 91.44 m² (300 sq ft).		2	0 or 2		
	A shared utilitarian multi-purpose space for messy or noisy activities such as a workshop space, pet wash, community mudroom, or small kitchen area etc.		1			
	A secure community storage area on the ground floor for baby strollers with a minimum of one storage space per ten units. Strollers are used by young families on a daily basis and are often bulky to keep in the home.		1			
	Small-scale gathering spaces within circulation routes or the end of corridors on different floors to increase opportunities for relaxing, studying, and meetings or social activities. The total area should be minimum 91.44 m² (300 sq ft).		2			
	Designate a bookable guest suite within the building near the lobby.		1			
	A community space for secure package delivery (in response to online shopping and food delivery services).		1			
	A new innovative community indoor amenity (additional to PE P1) that supports a range of intergenerational social and recreational opportunities.		1			
	Pet friendly washable flooring finishes installed for indoor common spaces.		1			
	Outdoor amenities					
	One accessible outdoor wash station for bikes and pets with a concrete pad, water source and good drainage.		1			
	A variety of outdoor spaces for small quiet gatherings to increase recreational choices and activities such as a BBQ area, fireplace, and comfortable seating and picnic tables etc. There must be a minimum of two defined spaces.		1			
	Roof top social spaces outfitted with comfortable seating and planters. The space would be able to comfortably accommodate a minimum of 10 people.		2			
	A small child friendly play area with complementary seating for adults.		1			
	A new innovative community outdoor amenity that supports a range of intergenerational social and recreational opportunities.		1			
	Total Optimization Points	**5**	**5**			

HEALTH & WELLBEING

Green Building Action Plan Goals

UBC will enhance the mental, physical and social dimensions of wellbeing by making them integral to building and landscape design decisions.
UBC researchers, community stakeholders and building occupants will be engaged in a meaningful and ongoing way to inform building design decisions around health and wellbeing.
UBC will become a leader in enhancing wellbeing through the built environment within the context of higher education in Canada.

H&W	Precondition	Submission BP	Submission OP	Comments
P1	**Bicycle Parking & Storage Room(s)**	Required		
	Provide the bicycle storage and facilities below: • Provide Class 1 bicycle storage facilities at a rate of: 1.5 spaces per studio or one bedroom unit; 2.5 spaces per 2 bedroom unit; and 3 spaces per 3 or 4 bedroom units. (Requirements include 10% oversize spaces, and one electrical outlet per two spaces); **and** • An in building bicycle repair station; **and** • 0.5 Class 2 bicycle storage spaces per dwelling unit; **and** • A 2 x 3 m concrete pad outside the building, close to the building entrance, with a standard outlet or condui for electrified bike share. All bicycle parking and storage to be provided in accordance with the UBC Development Handbook.			**Responsible:** Architect
P2	**Low-Emitting Products**		Required	
	Specify and use: • Adhesives, sealants and sealant primers that have been tested and found compliant with the California Department of Public Health Standard Method V1.1–2010, using CA Section 01350, Appendix B, New Single Family Residence Scenario, for emissions testing guidance. • Paints and coatings rated at a minimum GPS-2 by the Master Painter's Institute on the interior of the building. • Carpet and carpet cushion that are certified by the Carpet and Rug Institute Green Label Plus, or use products that have been tested and demonstrate compliance with the California Department of Public Health (CDPH) Standard Method v1.2–2017 and comply with the VOC limits in Table 4-1 of the method.			**Responsible:** Architect, Contractor
P3	**Construction Indoor Air Quality Management**		Required	
	Prepare and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building. During construction, meet or exceed all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd edition, 2007, ANSI/SMACNA 008–2008, Chapte 3.			**Responsible:** Mechanical, Contractor

H&W	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**IAQ Assessment**	1	1		Required	
	After construction has ended and the building has been completely cleaned, prior to occupancy, complete one of the following: • Install new filtration media and flush out the building by supplying an outside air volume of 4,267,14 litres per square metre of gross floor area; **or** • Conduct a Baseline Indoor Air Quality Test.					**Responsible:** Owner
2.1	**Additional Bicycle Facilities**	2	2	Required		
	In addition to the requirements for bicycle parking in HW P1, provide one of the following: • Provide an additional 0.25 Class I bicycle storage per bedroom; **or** • Provide an at grade, Class I bicycle storage room for at least 50% of the Class I spaces with a bike specific entrance; **or** • Provide points for giving each unit an on-campus bike share membership for the duration of their stay in the building.					**Responsible:** Architect
3.1	**Low-Emitting Products**	2	2		Required	
	Specify and install products that meet the following requirements: • Carpets and carpet cushions: Carpet and Rug Institute Green Label Plus or has been tested according to California Department of Public Health (CDPH) Standard Method v1.2–2017 and can demonstrate compliance with the VOC limits in Table 4-1 of the method. **— 1 point** • Interior composite wood products, such as cabinetry doors and boxes, flooring, doors, trim, etc.: CARB ultra low emitting or have no added urea formaldehyde. **— 1 point**					**Responsible:** Architect, Contractor
	Connection to Nature	1	1	Required		

4.1	Demonstrate connections to nature through direct visual connections to plants, sunlight, and views of nature and/or, indirect connections to nature through the use of natural materials, patterns, colours, or images. Ensure connections to nature in: • 95% of units, with nature visible from the living room and at least one bedroom. • All occupied amenity spaces and lobbies; and 90% of building corridors.					**Responsible:** Architect, Interior Designer
	Daylight Access	**1**	1	Required		
5.1	Ensure adequate levels of daylight within each unit by achieving the following requirements: • Transparent envelope glazing area is a minimum of 7% of the unit floor area. • Visible light transmittance (VLT) of envelope glazing is greater than 40%. • 30% of the area is within 6 m (20 ft) of transparent envelope glazing.					**Responsible:** Architect, Daylight Analysis
	Active Living	**Not targeted**	1	Required		
6.1	Design a secondary staircase that is safe, visually appealing, and invites regular use through the following strategies: • Ensure the staircase services all floors of the project, excluding the parking garage, and can be accessed by all regular building occupants. • Locate the staircase so that it is visible from the building entrance. • Install transparent fire-rated glazing to each floor level of the staircase. The area of glazing must span at least 0.93 square meters (10 square feet) in order to increase visibility of the staircase and provide views to the interior, from inside the staircase. • Use appealing materials and finishes. • Install visible signage at elevators and the entrance to the staircase to encourage stair use.					**Responsible:** Architect
	Total Optimization Points	**7**	**8**			

QUALITY

Green Building Action Plan Goals

UBC buildings and landscapes will be durable, reliable and resilient.

Q	Precondition	Submission DP	Submission BP	Submission OP	Comments
P1	**Sustainability Statement**	Required			
	Submit a "Sustainability Statement" that describes how the development will be designed to achieve high environmental standards related to UBC's Green building Action Plan and the university's sustainability policies in the eight component areas.				**Responsible:** REAP Executive and Owner
P2	**Educate the Homeowner**			Required	
	Provide a homeowners' manual to educate homeowners on the features of the building as well as the proper use and maintenance of facilities and equipment. Include the following details in the homeowners' manual: • A completed checklist of REAP credits, including product manufacturers' manuals for all equipment, fixtures, and appliances with Energy Star details; **and** • Guidance on how to minimize energy, water, and resource use in everyday activities and choices throughout the home to promote sustainable behavior; **and** • Information on sorting and recycling in the building; **And** • Ensure the manual is incorporated into record drawings or some form that will be accessible beyond the first generation of owners/residents; **and** • Conduct a one-hour walkthrough with the occupants and building manager(s) to educate them on all sustainable equipment and features.				**Responsible:** REAP Executive and Owner
P3	**Educate the Sales & Leasing Staff**			Required	
	Develop marketing materials based on the environmental performance of the project and ensure the sales or leasing staff is knowledgeable about the green building features.				**Responsible:** Owner
P4	**Green Building Specialist**		Required		
	Engage a Green Building Specialist who is an expert in green buildings and sustainable construction practices to provide advice on effective green building strategies to the design team.				**Responsible:** REAP Executive
P5	**Design for Security and Crime Prevention**		Required		
	Demonstrate that the design has been reviewed by an expert in Crime Prevention Through Environmental Design (CPTED) and that recommendations have been followed.				**Responsible:** Architect

Q	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Integrated Design**	**4**	4			
	Beginning in pre-design and continuing throughout the design phases: • Identify and use opportunities to achieve synergies across disciplines and building systems; **and** • Hold a preliminary energy and water workshop during schematic design. Use the analyses described below to inform the design. ***See the reference guide for full wording on energy and water workshop requirements.**					**Responsible:** Project team including Owner
2.1	**Durable Building**	**Not targeted**	2			
	Develop and implement a Building Durability Plan in accordance with the principles in CSA S478:19 - Durability in Buildings. Include: Structure, building cladding assemblies, glazing assemblies and roofing assemblies. • Design service life is 60 years. • Where component and assembly design service lives are shorter than the design service life, design so they can be readily replaced. • Develop and manage a quality management program in accordance with CSA S478. • Categories of failure are 6,7, or in table 3 use a design service life equal to the design service life. • Categories of failure 4 or 5 in table 3 use a design service life quality to at least half of the design service life of the building. • Qualified building science professional to develop and deliver the Building Durability Plan.					**Responsible:** Architect, Mechanical, Electrical.

3.1	**Education and Awareness** Develop the following programs to educate occupants and visitors about the benefits of the green building and the sustainable features of the project: • A script for a guided tour of the building describing the sustainable features of the project; **and** • A case-study highlighting the sustainable features of the project to inform the UBC community and future buildings of the successes of the project.	**2**	2			**Responsible:** Owner
	Total Optimization Points	**6**	**8**			

INNOVATION & RESEARCH

GREEN BUILDING ACTION PLAN GOALS

UBC buildings and landscapes will be durable, reliable and resilient.

I&R	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Exemplary Performance** Demonstrate exceptional performance above the requirements set by an existing credit, to reach the next performance level.		2		Required	
1.2	**Innovation or Pilot** Achieve significant, measurable sustainable building performance using a strategy not addressed in REAP; **or** Pilot specific a significant, measurable strategy or strategies from UBC's Green Building Action Plan.		3	Required	Required	
2.1	**Research** Collaborate with UBC SEEDs or the CLL program in a research project. Project topic must be either: • Based on the Green Building Action Plan's residential section or current priority area for the university; **or** • A current topic relevant to the project which has been submitted for prior approval.	5	5	Required	Required	**Responsible:** Owner & Team
	Total Optimization Points	**5**	**10**			