

Project Description

UBC Vantage College | Orchard Commons

This submission in support of a Development Application summarizes the design process to date for UBC Vantage College | Orchard Commons at the University of British Columbia Point Grey Campus. The project includes student housing and support amenity space with 1048 student beds, academic and office space for UBC Vantage College (VC), office and administrative space for Student Housing and Hospitality Services (SHHS), dining hall and food / catering production kitchen, convenience store, large event and activity space, end of trip facilities and a daycare for 24 toddlers and infants.

UBC Vantage College | Orchard Commons is located on the northeast corner of West Mall and Agronomy Road, on the site identified as a “Mixed Use Hub” in the Vancouver Campus Plan.

The development will be the host environment for students from around the world who have left behind their families, the comforts of home, their language and their culture to begin a transformational experience at UBC. The building of Orchard Commons is an opportunity to create an environment that nurtures mind, spirit and well-being, fosters community and long-term relationships, and infuses Place and Promise objectives of empowering students.

UBC Vantage College | Orchard Commons will play a vital role in the campus community, as a neighborhood living room to encourage interaction between students, faculty and staff from UBC Vantage College and the greater campus. The design responds to direction provided in the Orchard Commons Design brief v.6.0 and collaboration with stakeholders through a series of workshops. The following key criteria were established:

- Explore opportunities to engage and create relationships between the Commons and Academic programs - together a ‘whole’.
- Create a distinctive character and ensure a strong presence.
- Enhance the identity and brand of Vantage College - Passion, Transformation, Promise.
- Residential program to be located in two towers, set back from street face.
- Hold street wall to create active edges.
- Preserve and create ‘right sized’ outdoor spaces to support a variety of activities.
- Pursue opportunities for interaction and engagement of campus at large.
- Maximize livability
- Enable and encourage prominent routes through the site.

Orchard Commons will target social, environmental and economic sustainability, with a minimum LEED Gold certification.

The project consists of two residential towers, each at 18 stories with mechanical and elevator projections above, a 4 storey academic building and a two storey dining and events / shared amenities building. The entire development is spatially connected below grade. Public areas are located on level 00 and level 01.

The project site boundary is defined on the South by a build to line established by the Pulp and Paper Centre (on Agronomy Road), on the West by a setback line established by Thunderbird Residences (on West Mall), loading access and utility corridor for Orchard Commons to the North and a utility corridor and future vehicular service road access to the East. The site is currently occupied by surface parking. Orchard Commons is 41,680 gsm and has a construction budget of \$90 million. The project is classified as Group A-2 (assembly) and Group C (residential) major occupancy.

Design Policy Compliance Statement

UBC Vantage College | Orchard Commons

Campus-Wide Design Guidelines from “*Vancouver Campus Plan – Part 3*”

As stated in the UBC Vancouver Campus Plan – Part 3, the objectives of the plan are to “rediscover and accentuate UBC’s unique sense of place and the natural west coast beauty on the Vancouver Campus, to improve the cohesiveness of buildings and landscapes, and to ensure the campus reflects the quality and stature of a globally significant University.” UBV Vantage College | Orchard Commons addresses and responds to the Vancouver Campus Plan guidelines.

Section 2.1: Sustainability

UBC Vantage College | Orchard Commons goal is to maximize opportunities for social, economic and environmental sustainability within the parameters of a fixed budget and schedule. Sustainability goals for the project have been developed by the project working committee based on UBC Policies, aspirations for the development and the UBC Vantage College Program and the unique opportunities presented by the site. The project is targeting LEED Gold certification with the Canada Green Building Council. As part of the process, a triple bottom line approach focused on Social, Economic and Environmental Sustainability has been identified for the project.

UBC Vantage College | Orchard Commons will employ multiple strategies to support the sustainability objectives of the project. These include strategies related to social and community integration, site design, water use, energy use, indoor environment, materials and building operations. All of these strategies are intended to reduce the impact of the building on the environment and resources from design and construction, through to occupancy and operations and create a livable, sustainable environment.

A. SITE DESIGN STRATEGIES

- Student housing in 17 and 18 storey towers meets economic requirements, support active and healthy lifestyles through the integration of multiple floor lounges and reduce the overall building footprint.
- Contribute to biodiversity – create an outdoor environment that supports a diversity of plant and animal species.
- Transportation options – the project encourages the use of sustainable transportation alternatives with proximity to public transit and incorporation of bicycle storage and end-of-trip facilities within the development.
- Use of native vegetation, including local drought-tolerant, or drought-resistant planting.
- A west facing outdoor commons to support a variety of recreational activities for residents and visitors.
- Retain existing Arbutus tree and mitigate existing soil conditions to support the health of existing and new planting.

B. WATER USE STRATEGIES

- Water use reduction - use water-efficient plumbing fixtures and appliances in residences and kitchens.
- Landscape irrigation - use cisterns for irrigation and reduce potable water for landscape by 50%.

C. ENERGY USE STRATEGIES

- Energy Star equipment in commercial kitchen to reduce energy loads from cooking.
- Provide solar shading at glazed areas to avoid excessive heat gain on south and west facades.
- Waste heat recovery from kitchen and general exhaust to supplement building heat.
- Maximize access to daylight to reduce demand for electric lighting.
- Low U-value – maximize thermal performance of building envelope by specifying high performance windows and eliminating thermal breaks.
- High Air tightness – ensure a tight air barrier throughout the envelope.
- Integrate night time cooling in offices to eliminate need for air conditioning in summer season.
- The building’s lighting systems will incorporate energy efficient luminaires and optimized control systems for user flexibility and energy management.

D. INDOOR ENVIRONMENT STRATEGIES

- Acoustics - pay careful attention to acoustics, physically separate noisy and quiet spaces.
- Low emitting materials - optimize air quality by avoiding high VoC or toxic materials.
- Daylight - maximize access to daylight in offices, classrooms, residences and common use space.

E. MATERIALS STRATEGIES

- Maximize selection of materials that are regionally sourced and manufactured and have a high recycled content.
- Select low emitting materials to minimize off-gassing and toxic properties and minimize ‘cladding’ of materials able to stand on their own.
- Use durable and resilient materials requiring minimum maintenance.
- Reduce material waste from off-cuts through use of repetitive modules.
- Specify materials that have small carbon footprints.
- Minimize construction waste by implementing a construction waste management plan.

F. OPERATIONS STRATEGIES

- Zero waste operations – integrate recycling within the design to encourage responsible occupant behaviour.
- Green maintenance - encourage adoption of “green maintenance” approaches.
- Commissioning - commission all building systems to maximize integration and efficiency.
- Measurement and verification - monitor the building for post-occupancy feedback to learn what works, and what needs work.
- Education of inhabitants about green practices such as recycling, natural ventilation, daylight and electrical lighting. This may be accomplished through visibility of the systems themselves, or display of energy or water usage in a building ‘dashboard’ type of format.

Section 2.2: Universal Accessibility

Providing dignified, welcoming and effective access for people of all abilities into and through the site is one of the main objectives of universal access at UBC. UBC Vantage College | Orchard Commons

addresses this requirement through a variety of methods. All building entrances will meet existing grades, with the one exception being the primary entrance located on Agronomy Road. Due to the slope of the street (5.36%), the primary entrance is raised higher than natural grade, with a level walkway starting at the higher grade and running parallel to the sidewalk and terminating at the front door. Steps are provided perpendicular to the sidewalk.

In addition, several universal access routes are provided through the site.

- A route that begins at the corner of Agronomy and West Mall, travels east along Agronomy and turns north at the Porte Cochere to travel north on Education Lane. Education lane is level grade.
- A level route that begins at the corner of Agronomy and West Mall, moves through the outdoor commons and terminates at an elevator that brings pedestrians to the upper level of MacMillan.

Section 2.3: Architecture

Positioning, Massing and Setback Build-to and setback lines established in the Vancouver Campus Plan inform the placement of the building massing in relation to adjacent campus buildings along Agronomy Road and West Mall, reinforcing a street wall along these corridors. Thunderbird and Totem residences to the South and Ritsumeikan House to the West inform the scale of the street wall at four stories on Agronomy Road and two stories along West Mall.

Approximately 75% of the Orchard Commons program is dedicated to student housing. In order to minimize the building footprint to maximize the amount of outdoor space available, the residential component is located in two 17 and 18 storey towers. The towers are located away from the street edge, on the north and south portions of the site to maximize solar exposure to the outdoor commons and courtyards. This siting also takes advantage of short and long range views to the mountains to the north, the Pacific Ocean to the West, and outdoor commons within the site. In order to provide the necessary flexibility for the programming of Vantage College, it was important to locate both the dining and events spaces on the same level and adjacent to each other. Leveraging food as a unifying element for residents of Orchard Commons and the UBC community, the structure that houses these programs is a north / south 2 storey linear building that connects the residential towers and Vantage College. Embedded within the site, the building acts programmatically and architecturally as a connector and focal point that creates the identity for Orchard Commons.

Signature Building Sites The site is not a signature building site.

View Corridors The building does not intrude into type 1 or type 2 view corridors. Upper level lounges are provided within the residential towers to take advantage of views in all directions.

Building Heights The residential towers at UBC Vantage College | Orchard Commons are 51.15m to the top of the residential roof from Education Lane level. An additional mechanical penthouse and elevator overrun bring the total height to 53.75m.

UBC Vantage College, the academic building along Agronomy Road, is 20.5m from the West Mall elevation, and 15.5 m from MacMillan elevation.

Architectural Expression The overall architectural expression for UBC Vantage College | Orchard Commons is to express the unique identity of Vantage College within UBC, and create a home away from home for a group of international non-english speaking first year students.

In order to achieve a welcoming, warm and legible environment, a hierarchy of social space – beginning with floor lounges, lobby areas, informal study spaces and the dining hall – is established and visually unified throughout the facility with the use of wood. These wood program elements are contained within transparent glass ‘boxes’, creating distinct volumes that contrast with the more opaque architectural expression of Vantage College and the residence rooms. To control heat gain and glare, the glass skins are screened on the exterior.

The language that is created by the vertical glass box lounges on the south and west sides of the towers is continued in the Commons Block, which contains social and communal program. The Commons Block is a horizontal expression of the vertical lounges within the outdoor commons.

The Orchard Commons materials build upon and transform the established campus vocabulary. The residential towers are clad in precast concrete sandwich panel “ribbons” that evoke elements in nature. Taking the standard square and flat panels that can be found elsewhere on campus, the fluid materiality of concrete is expressed in the three dimensional shape of the ribbons. Using digital computer technology, the individual panels are optimized to minimize the number of unique panels while still maintaining variety throughout. The overall result is an innovative, high performance expressive envelope that serves as a symbol for Vantage College.

Transparency through full height glazing at the ground plane will encourage visibility into buildings and reinforce the active edges along the streets and corridors. Colour will be used through targeted application in interior spaces – furniture, walls in the three storey lounges – to animate facades.

Ground Floor Elevation Due to a 5m grade change across the site, UBC Vantage College | Orchard Commons has two ground floor elevations; one facing West Mall and the other facing Education Lane. The West Mall ground floor (level 00) contains the dining and events facility, commercial kitchen and Vantage classrooms. The finished floor elevation of Level 00 matches the outdoor commons floor elevation to establish an indoor outdoor experience. The main lobby for SHHS and Vantage, the residential building lobbies and the shared commons uses are located at the Education Lane floor level (level 01).

Building Entry Location The primary entrance for UBC Vantage College | Orchard Commons is located along Agronomy Road at level 01. Announcing this entry is a Porte Cochere that invites the public and opens onto Education Lane. Additional tertiary entrances into Vantage College and the dining pavilion are provided from the outdoor commons at level 00. The main lobby is a two storey atrium that provides visibility into the upper levels containing classrooms and offices as well as informal study areas. The residential tower entrances are located along Education Lane. Welcoming lobby entrances will have wood elements to signify their function, with predominantly transparent facades. All entrances are universally accessible.

Stairs Corridors and stairways are much more than simple ways of connecting rooms in the building - they in themselves are important social spaces that contribute to the character and feel of the building. Learning and growth is not confined to the classroom - the entire building will invite and support a full experience at UBC and Vantage College. Treating circulation spaces in a considered way improves the likelihood that students and staff will embrace the building, and the opportunities it holds. A large social stair running north / south and parallel to the Commons Block connects the dining and events space with Vantage College and the main lobby that serves both. This stair provides opportunities for informal learning and socializing with ample landings large enough for furniture. The stair also provides overlook into the dining area and the outdoor commons.

Open stairways provide circulation between floors in Vantage College.

The three storey lounges within the residential towers also include social stairs for lounging and circulation, animating the street side of the residential buildings.

Rain Protection A continuous rain protected route is provided along Agronomy Road and the east side of the Commons Block. In addition, continuous rain protection will be provided along Agronomy Road through overhangs of the upper floors. Additional rain protection at the perimeter of the outdoor commons is provided by a roof overhang on the commons block.

Sustainability Best Practices UBC Vantage College | Orchard Commons will provide leadership and continue with the establishment of environmentally sustainable buildings on campus. The development, demonstration, and transfer of ideas and practices of passive design to accelerate the transition to a sustainable world is critical to the goals of the project.

UBC Vantage College | Orchard Commons considers passive design in its massing, orientation, glazing strategies, organization of program and resource efficiency. All of these considerations are intended to reduce the impact of the building on the environment and resources, from design and construction, through to occupancy and operations. The design team's goal is to minimize the project's use of resources and energy wherever feasible.

Locating student housing in residential towers not only reduces the amount of site area used for building, but also creates a more compact form with a reduced building envelope area.

Equally as important, the indoor environment will be carefully considered. Daylight dramatically improves the indoor studying and working environment; studies have indicated that productivity increases in daylit areas in comparison to productivity under artificial lighting. In addition, providing adequate levels of daylight significantly reduces building energy demands for lighting. All regularly occupied spaces, except for the commercial kitchen, are located adjacent to perimeter walls with glazing. The amount of glass throughout the complex is targeting 40% overall to maximize opaque walls that are thermally superior to glazing. Windows are located to avoid glare in classrooms and residences.

In order to optimize and control heat gain and glare, the primarily glazed social spaces will be treated with integral solar shading devices suitable to the orientation. Operable windows are provided in all occupied areas to provide fresh air to residents, faculty and staff.

Materials for the project will be specified regionally, with high recycled content. The potential implementation of a wood structure in the Commons Block helps to reduce the overall embodied energy of construction materials.

Section 2.4: Open Space

Building on the existing campus network, building edges within Orchard Commons align with the campus grid. The arrangement of buildings on the site creates a consolidated open space at the centre, around which all buildings are organized. The outdoor commons scale and order embody the qualities and character of an exterior room, sized to provide opportunities for a variety of recreational activities that support the Vantage program. In addition, the commons provides an opportunity for the 1700 students that reside in Totem Residences to traverse the site into the academic core. Providing this desire line across the site signifies an important effort to welcome the greater campus into the commons.

Planting on the site includes orchard trees along West Mall, and a row of fruit trees along Agronomy Road. This palette emphasizes the historical and present uses of the site as an apple orchard and garden. The Arbutus tree, located to the west of the Landscape Architecture Annex, effort will be made to retain the tree and incorporate it into a daycare outdoor play space, becoming a celebrated feature within the courtyard.

All pedestrian walkways will be ample width through the site, and free of obstructions such as trees, furnishings, planters and vertical elements. Universal access through the site is address in section 2.0.

A future building site on the Northwest side of the site is identified on the site plan.

Section 2.5: Surface Infrastructure

All surface paving will comply with the Vancouver Campus Plan.

A new loading bay is located on the north side of the site, in order to capitalize on the existing loading area for the CMPL and Frank Forward buildings. Trucks will use the existing service drive on the north side of the CMPL building to arrive at the Vantage College I Orchard Commons loading area. The project has two loading bays – one serving the waste and one serving shipping and receiving.

Fire truck access for the site is along Agronomy Road, and the primary annunciator panel will be located within the main lobby at Vantage College, the front door to the development.

Two accessible parking spaces will be provided in the north corner of the site. These will be at grade on level 01, adjacent to Education Lane.

A new transit stop will be located along West Mall, directly adjacent to the site. End of trip facilities for the campus population will be located within the commons block, accessible through the outdoor commons. Covered additional outdoor bicycle parking will be provided at building entrances.

1. Section 2.6: Site Furnishings

Site furnishings will be used to supplement the outdoor commons recreational uses. Seating will be placed among orchard trees on the west side of the site to allow users to enjoy western sun exposure. Weather protected outdoor seating will be provided for the dining hall, at the eastern edge of the commons.

2. Section 3.5: Hubs

Architecture

Activity Program UBC Vantage College I Orchard Commons contains a mix of academic and community programming to support the broader university community. In addition to student housing and support spaces (fitness room, music rooms, study rooms) and Vantage College classrooms and offices, the program includes dining and events facilities, end of trip facilities, a daycare, informal study spaces, exterior bicycle storage, a writing centre that serves as an informal study space after hours, a convenience store.

Massing The massing of UBC Vantage College I Orchard Commons consists of two residential towers at 17 and 18 stories respectively. The towers contain multi-storey interconnected lounges located at their ends to animate the street edge and engage the street from afar. The lounges are glazed on all sides to provide transparency and visibility of activities inside. A two storey linear bar building connects the towers at level 00 and houses the shared commons functions. The commons building is primarily glazed on the west side, taking its architectural cues from the tower lounges. A 4 storey academic building is located along Agronomy Road, reflective of the neighboring building massing.

Tower Location The towers are located away from the street edge, on the north and south portions of the site to maximize solar exposure to the outdoor commons and courtyards. This siting also takes advantage of short and long range views to the mountains to the north, the Pacific Ocean to the West, and outdoor commons within the site.

Height The residential towers at UBC Vantage College I Orchard Commons are 51.15m to the top of the residential roof from Education Lane level. An additional mechanical penthouse and elevator overrun bring the total height to 53.75m. UBC Vantage College, the academic building along Agronomy Road, is 20.5m from the West Mall elevation, and 15.5 m from MacMillan elevation.

Public Realm Animation:

Residential Entry Locations The residential entries for the two towers are located away from the main routes of West Mall and Agronomy Road. For the north tower, the primary residential entry is located on the south side at level 01, access from Education Lane. For the south

tower, the primary residential entry is located on the east side at level 01, access from Education Lane.

Character UBC Vantage College | Orchard Commons is located in the campus core character district.

Materials Palette The UBC Vantage College | Orchard Commons materials build upon an established campus vocabulary. The façade of Vantage College along Agronomy Road will be clad in masonry. The tower facades are clad in precast concrete sandwich panels. The panels emphasize the plastic nature of concrete with their expression, resulting in an innovative, rationalized and expressive envelope. The tower lounges are curtainwall with solid elements and solar shades to control heat and glare. To create a comfortable, unifying environment wood will be used as a symbol of social space. This material will be used throughout the site, in site furnishings, soffits and the dining / events facility and will extend to the perimeter of the site, drawing passerby into Orchard Commons. Transparency at the ground plane – a “water mark” - will encourage visibility into buildings and reinforce the active edges along the streets and corridors. Colour will be used through targeted application in interior spaces – furniture, walls in the three storey lounges – to animate facades.

Hubs Landscape

Landscape Design Refer to Landscape Drawings.

Minimum Size

The Vantage College | Orchard Commons public realm commons space is centrally located on the site, and with a total area of 2,186 m² or 0.218 hectares, meets the minimum size criteria for Hub Commons landscapes. The deck area is 201 m², orchard area is 613 m² the water feature is 184 m² and the central lawn is 598 m².

Hub Common Siting The outdoor commons for UBC Vantage College | Orchard Commons is located fully within the site.

Interior Programming Relationship The outdoor commons is adjacent to the dining and events building to the east, which provides opportunities for outdoor dining and socializing. The commons is also located next to the Vantage College academic building, providing opportunities for outdoor teaching on the ground floor.

Western Orientation The outdoor commons is oriented to face west. The tallest buildings on the site are to the north and east of the outdoor commons.

Outdoor Programming

The site is able to accommodate a wide variety of event programming supported by casual everyday uses associated with the dining hall, Vantage College classrooms, and student residential access and lobby spaces. The Orchard Deck provides casual everyday seating, is integrated with vertical circulation to MacMillan Walk, and can also be a stage for larger events and performances. The central lawn provides light recreational space and has direct connection to the dining hall for larger events and activities. The Out of Bounds area will

house light recreation, outdoor seating and study areas, bike parking and seating and is strongly connected to the Vantage College classrooms at the West Mall level. Edible plants are used in an ornamental manner throughout the site to integrate an agricultural and food production narrative to the Commons. Signature landscape features include the espaliered apple wall behind the stage and an ornamental stormwater feature that will collect water from the roof and lawn of the commons. Wide visibility is provided into the commons area from West Mall, while the indoor-outdoor relationship on the dining hall, Vantage College and north tower edges are all permeable and highly visible between.

Unique Character

Located entirely within the Campus Core area of UBC, Vantage College I Orchard Commons principally adheres to the design character of the campus core, and reinforces the formal and axial layout of the public realm. The site landscape however acknowledges the prior use of the site as an apple orchard, and integrates orchard plant species, regular gridded planting patterns akin to groves and orchards, and preserves signature heritage fruiting trees as part of the experience and the programming for the site.

Service Circulation Design

Service circulation is provided on the site to integrate into the larger pedestrian-priority circulation system. Fire lane widths are provided on MacMillan Walk per code requirements. Loading and service access is amalgamated in the West Mall access to the northwest to reduce impacts to the central common and daycare outdoor spaces. Paved surfaces in loading and service areas will be cast concrete wherever possible, and designed to give priority to the pedestrian. Vertical planting – vines, greenwalls, espaliered plantings, tall hedges, etc. – will be integrated into service and loading areas to soften the visual impact of retaining walls, fences and other utilities. Accessible parking is proposed at the MacMillan Walk access near the proposed convenience store location. A pickup and dropoff lane is provided for the daycare users along Agronomy.