1.0 GENERAL

1.1 Related Work and UBC Guidelines

.1 Division 03 and relevant TG sections therein
.2 Division 04 and relevant TG sections therein
.3 Division 05 and relevant TG sections therein
.4 Division 06 and relevant TG sections therein
.5 Division 07 and relevant TG sections therein
.6 Division 08 and relevant TG sections therein
.7 Section 09 00 00 Painting and Coating
.8 Divisions 20, 22, 23, 25, 26, 27 and 28
.9 UBC LEED Implementation Guide
.10 UBC Energy Modelling Guidelines
.11 Owner's Project Requirements
.12 UBC Bird-Friendly Design Guidelines
.13 UBC Vancouver Campus Plan Design Guidelines for cladding types
.14 UBC Resilience-Based Design Guide for Nonstructural Systems

1.2 Related External Documents

1. Latest edition of the British Columbia Building Code (BCBC).
2. RCABC Roofing Practices Manual.
3. Latest edition of the MPI Architectural Painting Specification Manual.

1.3 Description

1. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.

1.4 Coordination

.1 In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.
.2 These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
.3 The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.
.4 Input from a Building Envelope consultant is required in the design development process. The Building Envelope consultant is to review all building envelope details including envelope penetration details, and review comments are to be incorporated prior to tender and Building Permit issuances.
.5 Grade should slope away from the building. Consultant coordination needed between architectural, civil and landscape drawings to mitigate the differing information found on drawings from these disciplines. Provide a typical section through each building elevation to the extent that it meets existing grades.

2.0 DESIGN AND PERFORMANCE REQUIREMENTS

2.1 Design Requirements – Claddings

.1 Refer to Section 07 40 00 Cladding for acceptable exterior cladding types.
.2 Exterior wood cladding is not acceptable due to increased maintenance requirements, for example at the CIRS building. In the absence of a proper O&M manual, it has been very difficult to replicate the exact finish and fire-retardant treatment, even by the supplier.
.3 If the provision of exterior wood cladding is an absolute design requirement, locations are to be reviewed with the UBC Technical Review Team Architect. Such locations are also to be

protected with the use of canopies or sufficient building overhangs, in addition to the protective finish used.

.4 Make provision for maintenance access on the exterior. Provision for a genie lift or boom lift access on the exterior is to be provided. Coordinate lift and vehicular loading requirements on sidewalks with the civil engineer.

2.2 Design Requirements – Weather Barriers

.1 All heated occupied buildings on campus shall have a competent air barrier system, which requires integration into the plane of air tightness early in the design development process.

.2 Vapour barriers are required in all UBC buildings and they shall be located on the warm side of insulation.

.3 Refer to Section 07 25 00 Weather Barriers for detailed requirements.

2.3 Design Requirements – Exterior Openings

.1 Provide appropriate screening of mechanical openings, seal cracks and maintain overall integrity of building envelope surfaces to provide effective control against rodent/pest/bird entry into buildings.

.2 At the design phase, coordination is required with the UBC Bird-Friendly Design Guidelines.

.3 Birds can be prevented from roosting on buildings or entering them by a range of physical measures. These include nets, spikes, reflective deterrents, wires and any other effort to seal potential entry points.

2.4 Design Requirements – Exterior Metal Fabrications and Coatings

.1 Canopies, guardrails and handrails, safety anchors, signage and art work to be designed to resist damage from exterior exposure and made of corrosion resistant materials, adequately coated, or sheltered from wetting.

.2 All structural penetrations to support exterior metal fabrications to be designed to integrate with air and vapour barrier systems, cladding systems, and be protected from corrosion where exposed in the wall cavity.

.3 All steel exposed outdoors (aside from exposed structural steel members in a building and canopies) is to be hot dip galvanized. Paint, if applied should consist of a marine/industrial grade coating system (a typical system would consist of an epoxy barrier coat and aliphatic urethane topcoat.

.4 Coordinate with Section 09 90 00 for painting of exposed structural steel members in buildings and canopies

.5 All inserts set into masonry or concrete, used to affix exterior metal fabrication, to be stainless steel.

.6 Coordinate with Sections 05 50 00 Metal Fabrications and Section 08 80 00 Glazing.

2.5 Design Requirements – Exterior Glazing

.1 Refer to Section 08 80 00 Glazing, 3.1 for exterior glazing requirements for guardrails and canopies.

2.6 Design Requirements – Roofs

.1 Roof design for all new buildings should include parapets or guardrails for safe and efficient roof and rooftop equipment maintenance working conditions, particularly when UBC maintenance crews need to work close to the parapet edge. Working areas are to be secured with minimum 1,067 mm (3’-6”) high insulated or thermally broken parapets or guardrails. A variance will need to be granted if guardrails or guardrail-height parapets cannot be accommodated at roof level. Section 11 81 29 would apply if a variance is granted.

.2 Guardrails shall be side-mounted to the parapet. Parapets to be of sufficient height to accommodate side-mounting of guardrail posts.

.3 All roof equipment must be mounted on curbs at least 100mm above scupper level.

.4 A roof leak detection system is required for inverted roof locations; see Section 07 50 00 Membrane Roofing.

2.7 Design Requirements - Roof Access

.1 3'-6" high guard rails or high parapets should be provided at the roof perimeter to prevent falls from the roof, and which conform to the latest edition of the BC Building Code.

.2 Mechanical or electrical roof-top equipment that is vital to the function of the building or equipment that is vital to research should be located not less than 10'-0" from the roof edge.

.3 Where roofs are accessible by faculty and students, extending one passenger elevator to roof level to provide an accessible mode of travel for UBC visitors, faculty and students.

.4 Provision of a dedicated freight elevator may be required for servicing mechanical/electrical equipment especially when a mechanical or electrical penthouse is provided. Review freight elevator requirement with the UBCV Technical Review Team or UBCO Facilities Management.

2.8 Design Requirements – Canopies and Overhangs

.1 Refer to the UBC Campus Plan Design Guidelines for design of canopies or overhangs where needed for weather protection of the public.

.2 Refer to Section 08 00 10 Openings- General Requirements for technical requirements for the design of canopies or overhangs over exterior doors.

2.9 Performance Requirements – NOT USED

3.0 MATERIALS

1. Refer to individual sections in Division 7.

4.0 LESSONS LEARNED AND COMMON MISSES ON UBC PROJECTS

Items in this section are lessons learned, and may be code or industry best practices which have been missed on past projects. If not applicable to a project, a variance is not required.

.1 Guardrail posts, whether at roof level or on upper floors, are to be side-mounted to a high enough parapet or curb, and not top-mounted through the roof assembly. Structural design should take into account side-mounting of the guardrail posts. A variance for top-mounted installations (into roof assemblies) will not be granted.

.2 All green roof details, whether at roof level or at grade are to be coordinated with the landscape and civil design. Complete details showing the landscape build-up plus drainage are to be included within the architectural detail sheets or booklet. The site plan should coordinate drainage slopes and methods with the landscape and civil designs.

.3 Penetration details (wall and roof) are to be included as part of the architectural detail sheets or booklet. Refer to Section 20 00 05 Mechanical General Requirements which notes issues with mechanical penetrations on recently built UBC buildings. It is not acceptable to have such penetration details shown only on the mechanical or electrical drawings.

*****END OF SECTION*****