1.0 GENERAL

.1 Requirements Include

.1 Waterproofing of foundations.

.2 Materials not identified in these standards must be identified and approved by the Owner and by the Authority Having Jurisdiction.

.2 BCIT Sustainability Requirements

.1 Sustainability Goals - Mandatory Compliance: comply with allowable VOC levels for all adhesives, sealants, paints and other coatings as outlined in Division 01.

2.0 DESIGN REQUIREMENTS

.1 Performance Criteria

.1 Membranes under landscaping require access for maintenance and replacement. Membranes are not to be buried under cast-in-place concrete except as absolutely necessary at sidewalks and driveways. Pavers or other material that can be removed and re-used for hard landscaping is preferable.

.2 For soft landscaping (plants etc.) over membranes use materials that can be removed with light excavation equipment and be disposed of. More valuable plants can be placed in movable planters.

.3 Membranes should be fully bonded to the surface of the concrete structure to help isolate leak locations.

.4 Concrete structures under the membrane should be sloped to drain at minimum 2%. Account for deflection when specifying and designing slopes.

.5 Apply hot rubberized asphalt membranes only after sustained intervals of dry weather on concrete that has been cured minimum 28 days.

.6 Membranes to terminate at least 200 mm higher than the finished grade surfaces of any landscaping. Use termination bars or reglets to finish the top edge of the membrane and install counter flashing to cover and protect membrane above grade.

.7 Public access doors and exit door sill thresholds are to be flush to the exterior hardscape. Waterproofing membrane to be terminated on a vertical upturned surface.

.8 At door sill the waterproofing membrane is to be terminated with waterproof reinforced liquid flashing (PMMA).

.9 Subgrade membranes to be drained and protected with continuous drainage board with laminated geotextile for both horizontal and vertical applications.

.10 The installation is to be impermeable to chloride ions.

.11 Adhesion of all layers of the system is to exceed minimum 1MPa.

.12 Cold joints at below grade foundation concrete walls should be detailed with vertical reveals to control crack propagation. Below grade foundation walls to be designed with waterstopped crack control joints, located at a minimum of 15’-0” on centre. Spacing to be confirmed with project structural engineer.

.2 Quality Assurance and Quality Control

.1 Note that testing of permeability, bond strength, material thickness, and flood testing will be carried out by BCIT at their expense.

.2 Consultant to notify owner and provide materials submittal and drawings for any deviation from the RCABC standards.

.3 Specify such that Contractor shall test moisture content of concrete substrate to verify that substrate moisture content does not exceed manufactures specifications. Contractor to submit testing results to the Consultant prior to membrane application.

.4 Contractor to preform flood testing and Electronic Field Vector Mapping (EFVM). Contractor to submit testing results to the consultant prior to the installation of overburden.

.3 Warranties

.1 RCABC RoofStar with a Guarantee holdback for 2 years.

.4 Commissioning

.1 Contractor to repair all defects in membrane determined by the flood testing or EFVM.

3.0 MATERIALS

.1 Waterproofing Products

.1 Thermo-fused (torched) SBS membranes are preferred for both horizontal and vertical foundation walls for longevity and durability.

.2 Subgrade waterproofing for horizontal surfaces;

.1 Waterproofing membranes to be three ply thermofusible reinforced membrane under hardscape and softscape.

.2 All horizontal membranes to be protected with minimum 3mm protection board after installation.

.3 At landscaped areas, root barrier to be provided and consist of minimum 10 mils HPDE or 30 LPDE complete with taped seams or membrane manufacturers recommended product for use with specified vegetation (whichever is more stringent) – 80 mils welded HPDE for very invasive roots such as bamboo.

.4 All servicing penetrations through the waterproofing membrane within landscaped areas to extend into a roofing jack that terminates into a drained, accessible garden box.

.5 Pond liner: 80 mils fully welded HDPE.

.3 Sub-grade waterproofing system for vertical surfaces:

.1 Based on results of geotechnical report and occupancy the following membrane should be considered as a minimum:

.1 Drained, cast in place wall, and hydrostatic pressure: 2-ply thermo-fusible reinforced SBS membrane with drainage.

.2 Hydrostatic pressure with high risk occupancy: not allowed.

.3 Drain bodies to have clamping ring to receive membrane.

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