

## APPENDIX 4D

### PLANT SERVICES

#### 1. INTERPRETATION

In this Appendix, in addition to the definitions set out in Schedule 1 of this Agreement:

**“Authority Maintained Equipment”** means all Equipment other than Project Co Maintained Equipment;

**“Building Systems”** means the mechanical, electrical and other systems in or servicing the Facility described in Tables 3 and 4 of Attachment B to this Appendix 4D;

**“Demand Maintenance”** means ad hoc and responsive unscheduled Maintenance;

**“Elevator Availability”** means, in respect of each elevator in the Facility, the amount of time such elevator was available during a measured period expressed as a percentage and calculated as follows:

$$(\text{Total Time} - \text{Down Time}) \times 100 / \text{Total Time}$$

Where:

**Down Time** is the number of hours that such elevator was unavailable for normal use, including times during which Maintenance was performed; and

**Total Time** is the total number of Opening Hours during the measured period;

**“Maintained Elements”** means all elements of the Facility constructed or installed pursuant to this Agreement including:

- (a) the Building Systems;
- (b) telephone handsets; and
- (c) all other elements of the Facility described in Attachment A to this Appendix 4D to the extent such elements are not Project Co Maintained Equipment or Authority Maintained Equipment;

**“Maintenance”** means:

- (a) servicing, maintenance, repair, renewal or replacement of the Maintained Elements; and
- (b) servicing, maintenance and repair of Project Co Maintained Equipment;

**“Maintenance Access Times”** means the times set out in Table 1 of Attachment A to this Appendix 4D during which Project Co may perform Maintenance Services;

**“Maintenance Services”** means Demand Maintenance and Scheduled Maintenance;

**“Plant Services”** means all of the services and requirements described in this Appendix 4D, including Demand Maintenance and Scheduled Maintenance;

**“Project Co Maintained Equipment”** means Category A2B Equipment, Category A3 Equipment, Category B Equipment, Category D2a Equipment and Category D2b Equipment and all additions to or replacements of such equipment which the Authority may provide from time to time, each as described in Appendix 2H; and

**“Scheduled Maintenance”** means planned and preventative Maintenance.

## 2. SERVICES

### 2.1 General Requirements

In addition to the standards and specifications set out in Schedule 4 [Services Protocols and Specifications], Project Co will deliver the Plant Services:

- (a) 24 hours per day, 365(6) days per year;
- (b) in a manner which:
  - (1) is efficient, comprehensive and responsive to the needs of Facility Users;
  - (2) ensures a collaborative working relationship with the Authority, its employees and contractors;
  - (3) minimizes, to the extent reasonably possible, any interruption to the use and operation of the Facility by Facility Users;
  - (4) is integrated and co-ordinated with the delivery of all:
    - (A) other Services provided by Project Co; and
    - (B) and all services delivered by the Authority at the Facility;
  - (5) is safe for all Facility Users; and
  - (6) does not create any environmental hazards;
- (c) in a safe, compliant, functional, working and barrier-free healing environment applying safe working practices including:
  - (1) the usage of recognized risk assessment and management systems; and
  - (2) placing, maintaining and keeping records of all hazard notices and safety signage which are consistent with those used by the Authority;
- (d) in accordance with principles consistent with the initially applicable LEED™ Gold certification points for the Facility;

- (e) reasonably taking into account and without limiting the requirements set out in Section 3.2 of Schedule 4 [Services Protocols and Specifications]:
- (1) CAN/CSA-Z317.2-01 Heating, Ventilation, and Air Conditioning (HVAC) Systems in Health Care Facilities;
  - (2) CAN/CSA-Z317.13-03 Infection Control during Construction or Renovation of Health Care Facilities; and
  - (3) the British Columbia Landscape Standard published by the British Columbia Society of Landscape Architects and the British Columbia Landscape and Nursery Association including, but not limited to Pesticide Service License for the application of pesticides/herbicide.

### **3. PLANT SERVICES REQUIREMENTS**

#### **3.1 Annual Service Plan**

Project Co will develop and submit to the Authority in accordance with Sections 4.1 and 4.2 of Schedule 4 [Services Protocols and Specifications] and implement as part of the Annual Service Plan appropriate policies, procedures, practices, schedules and a self-monitoring inspection and reporting system in respect of the delivery of the Plant Services to the Authority.

#### **3.2 Maintenance Services**

Project Co will provide the Plant Services in accordance with this Appendix 4D so that:

- (a) each of the Maintained Elements and all Project Co Maintained Equipment:
  - (1) is properly and safely maintained in accordance with all Plans, including the Lifecycle Plan then in effect provided that Project Co will not be responsible for replacing or refreshing Project Co Maintained Equipment;
  - (2) remains functional, safe, operationally sound and of good appearance;
  - (3) performs in accordance with their respective design criteria as set out in Schedule 3 [Design & Construction Specifications]; and
  - (4) achieves the requirements set out in Tables 3 to 6 of Attachment B to this Appendix 4D,  
  
taking into account the age, use and reasonable wear and tear of the Facility;
- (b) the Building Systems, including heating, air conditioning, humidity and mechanical ventilation systems, function in accordance with the requirements set out in Table 7 of Attachment B to this Appendix 4D;
- (c) the isolation and infection control criteria set out in Section 4.8 of Schedule 3 [Design and Construction Specifications] are achieved and maintained;

- (d) all lighting systems achieve the lux levels specified in Section 7.15 of Schedule 3 [Design and Construction Specifications] without flickering;
- (e) the sound transmission, background noise levels and exterior environmental noise levels for each Functional Area do not exceed the levels set out in Schedule 3 [Design and Construction Specifications]; and
- (f) all other Maintained Elements operate as designed and intended, taking into account the age, use and reasonable wear and tear of the Facility.

### **3.3 First Response Maintenance**

Project Co will respond to Demand Requisitions in respect of all Equipment. If the Equipment which is the subject of the Demand Requisition is Authority Maintained Equipment, Project Co will determine whether the problem relates to the Authority Maintained Equipment itself or a Maintained Element supporting the Authority Maintained Equipment. If:

- (a) the problem relates to a Maintained Element or Project Co Maintained Equipment, Project Co will rectify the problem in accordance with this Appendix 4D; or
- (b) the problem does not relate to a Maintained Element or Project Co Maintained Equipment, Project Co will promptly give notice of the problem to the Authority together with a summary of the results of the investigation into the problem conducted by Project Co.

### **3.4 Project Co Maintained Equipment**

Project Co will:

- (a) undertake Maintenance of all Project Co Maintained Equipment which a prudent owner of similar equipment would undertake to keep such equipment functional and operational;
- (b) maintain and pay all costs associated with maintaining an inventory of readily available basic spare parts for all Project Co Maintained Equipment;
- (c) maintain an inventory of such specialty parts for Project Co Maintained Equipment as the Authority may require from time to time; and
- (d) cause the supplier of any speciality parts required by the Authority for the Project Co Maintained Equipment to send all invoices for such parts directly to, and in the name of, the Authority for payment by the Authority.

To the extent there is a defect in the design or fabrication of any Project Co Maintained Equipment, the Authority will promptly exercise, on behalf of Project Co, all of the Authority's rights and make all claims which the Authority is reasonably permitted to make pursuant to any warranty provided to the Authority by the manufacturer or supplier of such equipment.

### 3.5 Maintenance Times

Project Co will perform the Maintenance Services during the relevant Maintenance Access Times and will:

- (a) perform Scheduled Maintenance during the periods agreed in the Annual Service Plan then in effect and will give the Authority 10 days' notice before commencing any such Maintenance; and
- (b) undertake and complete Demand Maintenance within the relevant Response Time and Rectification Period set out in Section 4 of this Appendix 4D and in Schedule 8 [Payments].

### 3.6 Elevators

Project Co will:

- (a) operate and maintain all elevators, elevating devices and related equipment at the speeds and in accordance with elevator design specifications set out in Schedule 3 [Design and Construction Specifications];
- (b) dispatch its on-Site personnel promptly to respond to all elevator alarms or telephone calls from an elevator and initiate the required action to rectify faults and release occupants;
- (c) release trapped elevator occupants as soon as practicable;
- (d) undertake Scheduled Maintenance of elevators such that at no time will any Functional Area be without elevator service; and
- (e) include in each Performance Monitoring Report for the relevant period:
  - (1) the calculation of Elevator Availability; and
  - (2) a summary of any elevator failures and corrective actions.

### 3.7 Grounds and Gardens Maintenance

Project Co will:

- (a) provide Maintenance for all grounds, pathways, access roads and gardens (including rooftop and interior garden spaces) at the Facility including:
  - (1) full horticulture services;
  - (2) tree maintenance/surgery;
  - (3) lawn care, including mowing and edging;
  - (4) flower bed maintenance;

- (5) weeding;
- (6) planting, including shrubs, trees, flower beds; and
- (7) effective irrigation procedures;
- (b) ensure all external areas of the Facility are sound, safe, tidy and maintained in accordance with Tables 5 and 6 of Attachment B to this Appendix 4D;
- (c) protect from damage, all existing and new plants, site services, curbs, paving, structures, finishes and any other features, during the course of providing services;
- (d) advise the Authority of all herbicides, pesticides and fertilizers it intends to use.

### **3.8 Building Management System (BMS)**

Project Co will:

- (a) operate the BMS to allow for monitoring of the operation of the Facility and the Services from a single location within the Facility and remotely through internet connections accessible to the Authority;
- (b) monitor, control, indicate alarms and provide trending information for all BMS connected sensors and control point;
- (c) provide for the BMS to automatically initiate an alarm and immediately page or otherwise notify staff designated by the Authority of particulars related to any of the following:
  - (1) laboratory or medical equipment alarms;
  - (2) changes in the temperature of a blood fridge;
  - (3) changes in the temperature of any pharmacy fridge;
  - (4) any fault in the steam generator;
  - (5) any failure related to the medical gas distribution system;
  - (6) any event related to a fire or other emergency;
  - (7) any other events capable of electronic monitoring as may be designated by the Authority from time to time;
- (d) include with each Performance Monitoring Report and provide the Authority with continuous direct access (other during such reasonable periods as the BMS may be undergoing Scheduled Maintenance or emergency Maintenance) to the following information generated by the BMS during the relevant period:
  - (1) critical incident failures;

- (2) daily, weekly, periodic status reports;
- (3) exception reports by element status;
- (4) trend log data;
- (5) time of occurrence, Response and Rectification; and
- (6) such other information as the Authority may reasonably require.

### 3.9 Maintenance of Key Energy Consuming Building Systems

Project Co will:

- (a) maintain all key energy consuming Building Systems, including all boilers, so that each such system operates efficiently; and
- (b) conduct regular efficiency testing of all such systems in accordance with Good Industry Practice, and without limitation no less than once per month for the boilers, and will include the results of such testing in each Performance Monitoring Report.

### 3.10 Maintenance Equipment and Supplies

Project Co will provide, maintain, clean and replace as required all equipment, supplies, apparatus and consumable items required to deliver the Plant Services, including scaffolding, crange, tackle, machinery, tools or other equipment;

## 4. PERFORMANCE INDICATORS

	Indicator	Service Failure Level	Response Time	Rectification Period	Recording Frequency	Monitoring Method
	<b>Building Maintenance</b>					
4.1	Demand Maintenance carried out in accordance with this Appendix 4D. <sup>1</sup>	Emergency – High  Urgent – Medium  Routine - Low	Emergency – 5 minutes  Urgent – 20 minutes  Routine – 1 hour	Emergency – 1 hour  Urgent – 6 hours  Routine – 24 hours	Per Occurrence	Performance Monitoring Report

<sup>1</sup> If a Demand Requisition in respect of Authority Maintained Equipment is received by Project Co outside of Opening Hours, the Response Time and Rectification Period will not commence until the commencement of the next Opening Hours immediately following delivery of such Demand Requisition.

	<b>Indicator</b>	<b>Service Failure Level</b>	<b>Response Time</b>	<b>Rectification Period</b>	<b>Recording Frequency</b>	<b>Monitoring Method</b>
4.2 (a)	Maintained Elements and Project Co Maintained Equipment are maintained in accordance with this Appendix 4D at all times	Medium	N/A	N/A	Per Occurrence	Performance Monitoring Report
4.2 (b)	Scheduled Maintenance is carried out in accordance with this Appendix 4D	Medium	N/A	N/A	Per Occurrence	Performance Monitoring Report
<b>Building Management System</b>						
4.3	The BMS system initiates the appropriate alarms.	Medium	N/A	N/A	Per Occurrence	Performance Monitoring Report
<b>Elevators</b>						
4.4	If an elevator is out of service and occupants are trapped, an elevator mechanic attending on site to attend to the elevator	Medium after the initial Response Time and High every 30 minutes thereafter	30 minutes if occupants trapped, during Operating Hours, 1 hour otherwise	N/A	Per Occurrence	Performance Monitoring Report
4.5	Elevator Availability of not less than 99.0% for each elevator within the Facility during each Payment Period.	High	N/A	N/A	Monthly	Performance Monitoring Report



	<b>Indicator</b>	<b>Service Failure Level</b>	<b>Response Time</b>	<b>Rectification Period</b>	<b>Recording Frequency</b>	<b>Monitoring Method</b>
4.6	<p>All gas boilers to be maintained at a combustion efficiency rating level from base level (to be determined in accordance with Good Industry Practice from commissioning data):</p> <p>a) 98% or greater during years 1 to 5 of the Operating Period and years 1 to 5 following replacement or major refurbishment of the boilers</p> <p>(b) 96% or greater during years 6 to 10 of the Operating Period and years 6 to 10 following replacement or major refurbishment of the boilers</p> <p>(c) 93% or greater after year 10 of the Operating Period or after year 10 following replacement or major refurbishment of the boilers</p>	High	N/A	N/A	Monthly, but if the efficiency rating is below the applicable efficiency level, then measured weekly (with weekly High Service Failures) until the efficiency rating meets or exceeds the applicable efficiency level	Performance Monitoring Report
<b>Grounds and Gardens Maintenance</b>						
4.7	Full horticulture service is provided on routine basis in accordance with this Appendix 4D, including Table 5 of Attachment B	Medium for the first week of failure and High for each week thereafter until rectified	N/A	N/A/	Weekly	Performance Monitoring Report
4.8	Grounds and gardens are maintained in accordance with this Appendix 4D, including Table 6 of Attachment B	Medium for the first week of failure and High for each week thereafter until rectified	N/A	N/A/	Weekly	Performance Monitoring Report

	<b>Indicator</b>	<b>Service Failure Level</b>	<b>Response Time</b>	<b>Rectification Period</b>	<b>Recording Frequency</b>	<b>Monitoring Method</b>
	<b>Records</b>					
4.9	Records and information obtained and accessible to the Health Authority in accordance with Schedule 14	Medium	2 hours	4 hours	Per occurrence	Annual Report
4.10	All hazard notices and safety signs are maintained, recorded, located and displayed correctly, and fully serviceable.	Medium	NA	NA	Per Occurrence	Performance Monitoring Report
4.11	Project Co implementing and adhering to all other elements of the Annual Service Plan related to Plant Services and not otherwise addressed in this Section 4.	Low	N/A	N/A	Per Occurrence	Performance Monitoring Report

## ATTACHMENT A TO APPENDIX 4D

### 1. MAINTAINED ELEMENTS

- (a) roofs;
- (b) directional, departmental and safety signage;
- (c) chimneys and flues;
- (d) external and internal repairs;
- (e) external replacement programs;
- (f) fire escapes and staircases;
- (g) interior and exterior painting and re-decoration;
- (h) all air conditioning and ventilation systems;
- (i) the BMS and the CMMS;
- (j) all electrical plant and equipment, including hv and lv systems;
- (k) all mechanical plant and plant areas;
- (l) all refrigerators and freezers;
- (m) all water storage, distribution and treatment systems, including changing hepa filters;
- (n) battery systems;
- (o) building alarm systems;
- (p) building and energy management systems;
- (q) cardiac and emergency alarm systems and equipment;
- (r) chilling plant and chilled water storage and distribution systems;
- (s) compressors and vacuum plant systems;
- (t) elevators, escalators and dumbwaiters;
- (u) external lighting installation;
- (v) eyewash stations;
- (w) fire alarm and fire protection systems;
- (x) fire equipment, fire doors, automatic holdbacks and emergency lights;

- (y) fixed and portable electrical appliances;
- (z) fixed and portable first aid fire fighting system;
- (aa) fuel oil system;
- (bb) heating and hot water systems;
- (cc) high voltage and medium voltage distribution systems;
- (dd) indoor air quality;
- (ee) intercom systems;
- (ff) internal electrical power and lighting installations;
- (gg) isolation room air pressures/exchanges;
- (hh) laboratory gas systems and equipment;
- (ii) lightning conductor system;
- (jj) generator(s) and auto-change over systems and emergency power supply systems;
- (kk) medical gas system including scavengers and vacuum/suction;
- (ll) natural gas system;
- (mm) nurse call systems(first response maintenance);
- (nn) other essential building alarm systems;
- (oo) panic duress systems;
- (pp) pneumatic tube system;
- (qq) pressure vessels, main boiler plant, calorifiers and heat exchanger systems;
- (rr) prevention of legionella in all hot and cold water services;
- (ss) prevention of legionella in condensate and air conditioning drainage systems;
- (tt) public address;
- (uu) pure water systems;
- (vv) radioactive and acid waste systems;
- (ww) patient education/entertainment system;
- (xx) sanitary and storm water waste systems;

- (yy) sanitary vent systems;
- (zz) security and surveillance equipment and systems and street lighting;
- (aaa) steam, hot water and pressurized pip-work systems;
- (bbb) structured cabling;
- (ccc) information technology system including telecommunication systems;
- (ddd) thermal systems and distribution systems;
- (eee) uninterruptible power supplies;
- (fff) water disposal systems;
- (ggg) water treatment systems; and
- (hhh) wireless network system during warranty period.

## ATTACHMENT B

### TABLES TO APPENDIX 4D

**Table 1: Maintenance Access Times**

Service Category	Access Times
Scheduled Maintenance	As agreed with the Authority at the time included in the Annual Service Plan.
Demand Maintenance	As required to meet the relevant Service Response Time and Rectification Times specified in Table 2.

**Table 2: Failure or Request for Service Categories**

Service Category	Definition
Emergency	Any events felt to be life or limb threatening or serious enough to cause significant economic or environmental damage. Any Demand for a matter which is required to avoid a life or limb threatening event or an event serious enough to cause significant damage or disruption.
Urgent	Any faults that will cause operational problems if not attended to quickly, or which may develop into an emergency if not remedied. Any Demand Requisition which requires attendance quickly to avoid operational problems, or an Emergency if not remedied.
Routine	Any faults that are not immediately detrimental and not causing significant operational problems. Any Demand Requisition that is not immediately detrimental and not causing significant operational problems if not attended to.

**Table 3: Service Standards, Building**

Element	Standard
<b>Building Fabric External</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• External walls</li> <li>• Roof</li> <li>• Fire escapes</li> <li>• Walkways</li> <li>• Safety barriers</li> <li>• Balconies</li> <li>• Eaves</li> <li>• Rendering</li> <li>• Chimneys/flues</li> </ul>	<ul style="list-style-type: none"> <li>• Sound secure and weatherproof where appropriate.</li> <li>• Free from damp penetration or spalling.</li> <li>• Claddings, copings and parapets are structurally sound and secure.</li> <li>• Free from vermin and pests.</li> <li>• Chimney stacks/flues are structurally sound and secure and flue is free from blockages/excess soot.</li> <li>• Free from debris, moss growth and animal droppings.</li> </ul>

<b>Element</b>	<b>Standard</b>
<b>Building Fabric Internal</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Internal walls</li> <li>• Partitions</li> <li>• Ceilings</li> <li>• Elevators, escalators, dumbwaiters</li> <li>• Pneumatic tube</li> </ul>	<ul style="list-style-type: none"> <li>• Free from structural cracks and/or deflection.</li> <li>• Free from damp and vermin.</li> <li>• Free from undue damage and of reasonable appearance.</li> <li>• Compliant with the requirements set out in <b>[CIBSE]</b> guidelines.</li> <li>• Free from asbestos and other hazardous materials.</li> </ul>
<b>Fixtures and Fittings</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Doors (external, internal and fire)</li> <li>• Windows and sills</li> <li>• Hatches</li> <li>• Vents</li> <li>• Ironmongery</li> <li>• Shelving</li> <li>• Cupboards</li> <li>• Railings</li> <li>• Racking</li> <li>• Notice boards</li> <li>• Mirrors</li> <li>• Balustrades</li> <li>• Magnetic door holders</li> </ul>	<ul style="list-style-type: none"> <li>• Operate safely and as intended, without making undue noise and without including observable stains on hinges, locks, catches and handles, and without binding, rubbing or catching in any way.</li> <li>• Free from all but minor surface blemishes and wear and tear.</li> <li>• Luminescent strips, signs, notices, warning signs where appropriate are intact, legible and illuminated where appropriate.</li> <li>• Free from corrosion.</li> </ul>
<b>Floor and Floor Coverings</b>	<ul style="list-style-type: none"> <li>• The floor coverings are complete, according to their specification.</li> <li>• The floor coverings are fully fixed to the floor so as not to cause a health or safety hazard.</li> <li>• The floor/floor covering is free from tears, scoring, cracks or any other damage that is unsightly and/or could cause a health and safety hazard.</li> <li>• Floor coverings/surfaces are maintained in such a way as to provide a suitable uniform surface (taking into account the pre-existing sub-surface), with minimal resistance, for wheeled beds trolleys, wheel chairs and any other wheeled vehicle in use in the Facilities.</li> <li>• Allow adequate drainage where necessary.</li> <li>• Free from pests.</li> </ul>
<b>Decorative Finishes</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Paintwork</li> <li>• Fabric</li> <li>• Special finishes applied to walls, ceilings, woodwork, metalwork, pipework and other visible elements)</li> </ul>	<ul style="list-style-type: none"> <li>• Decorative finishes are complete according to their specification.</li> <li>• Free from all but minor surface blemishes or undue wear and tear.</li> <li>• Free from cracks, or any other surface degradation inconsistent with a building maintained in accordance with Good Industry Practice.</li> </ul>
<b>Furniture &amp; Equipment</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Chairs</li> <li>• Tables, desks</li> <li>• Equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Free from splits, cracks, and other defects (including squeaks) and free from all but minor surface blemishes or undue wear and tear.</li> <li>• Maintained in accordance with Occupational Health and Safety requirements of the WCB.</li> <li>• Maintained in accordance with manufacturer's requirements.</li> </ul>

**Table 4: Service Standards, Systems**

<b>Element</b>	<b>Standard</b>
<b>General</b>	<ul style="list-style-type: none"> <li>• In general, all Maintained Elements including the elements outlined</li> </ul>

Element	Standard
	below will at all times be functional, operational and satisfy the same performance requirements as required for Service Commencement.
<b>Emergency Power Supply</b>	<ul style="list-style-type: none"> <li>• Standby power supply will be operational, secure and tested regularly in compliance with standards CSA Z32.2 and CSA Z32.4 and free from dust.</li> <li>• Balance load between generators.</li> <li>• Test using live loads and demonstrate transfer scheme.</li> <li>• Emergency lighting units will comply with CSA Standards, be free from dust, operational and fully charged.</li> <li>• Batteries will be adequately ventilated, free from acid leakage; batteries will be topped up and fully charged.</li> </ul>
<b>MV Distribution System</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Distribution equipment and protective devices fuse switches</li> <li>• Isolators</li> <li>• Distribution boards</li> <li>• Fuses</li> <li>• MCB's, ACB, ELCB's and RCE's</li> <li>• Exposed distribution cables</li> </ul>	<ul style="list-style-type: none"> <li>• Ratings will be clearly marked.</li> <li>• Fuse elements or circuit breaker mechanisms in working order.</li> <li>• Contacts and connections clean and mechanically tight.</li> <li>• No overheating during normal operating loads.</li> <li>• Secure to authorized access only. Recording instruments operational where necessary.</li> <li>• Torque all bus connectors to manufacturer recommendations.</li> <li>• Provide lock out procedure.</li> <li>• Mega test all cables.</li> <li>• Balance all loads on each phase.</li> <li>• Coordinate all protective relaying to ensure lower-rated breakers trip first.</li> <li>• Regularly test all breakers and transformers.</li> <li>• Regularly clean all switchgear and transformers.</li> <li>• Do injection testing at least every two years.</li> <li>• Test all alarm functions.</li> <li>• Identification notices where necessary.</li> </ul>
<b>HV Distribution Systems</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Distribution equipment</li> <li>• Isolators</li> <li>• Distribution units</li> <li>• OCBs, ACBs and ELCBs</li> </ul>	<ul style="list-style-type: none"> <li>• Ratings will be clearly marked.</li> <li>• Fuse elements or circuit breaker mechanisms in working order.</li> <li>• Contacts and connections clean and mechanically tight.</li> <li>• No overheating during normal operating loads.</li> <li>• Secure to authorized access only.</li> <li>• Recording instruments operational where necessary.</li> <li>• Transformers are maintained as per manufacturer's recommendations at least every two years.</li> <li>• Protective coatings are intact.</li> <li>• No signs of excessive heating.</li> <li>• Provide lock out procedure.</li> <li>• Balance loads.</li> <li>• Test all protective relaying including injection testing at least every two years.</li> <li>• Provide coordination study after initial installation and after every significant change or at minimum every 10 years.</li> <li>• Indicate fault levels.</li> <li>• Check electronic operation of all breakers and that power source is battery operated.</li> <li>• Provide DC Hipot test after initial installation.</li> <li>• Torque all bolted connections.</li> <li>• Identify all current transformer and potential transformer ratios.</li> <li>• Provide ground fault relaying as needed.</li> <li>• Marker and covering notices where necessary.</li> </ul>



Element	Standard
<b>Hot &amp; Cold Water Systems</b>	<ul style="list-style-type: none"> <li>• Deliver water at the temperatures (43°C in patient areas and 60° C in all other areas) and flow rates as required to serve the facility needs without undue noise and vibration.</li> <li>• Taps, valves and other related fittings and fixtures function as intended.</li> <li>• Pipework and fittings will be fastened securely to their intended points of anchorage.</li> <li>• There will be no persistent drips or leaks of water from pipework, taps, valves and/or fittings.</li> </ul>
<b>Heating, Ventilation and Air Conditioning Systems</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Fume hoods</li> <li>• Humidifiers</li> <li>• Heaters</li> <li>• Ductwork</li> <li>• Mixing boxes and dampers</li> <li>• Coolers</li> <li>• Inlet/outlet grilles</li> <li>• Refrigeration plant</li> <li>• Cooling towers (and other local ventilation systems);</li> <li>• Pneumatic tube system</li> </ul>	<ul style="list-style-type: none"> <li>• All ventilation systems will function as intended without undue noise or vibration.</li> <li>• Air changes and ventilation levels as required to achieve CSA and ASHRAE Standards.</li> <li>• Ductwork, fittings and pipework will be securely fastened to their intended points of anchorage.</li> <li>• There will be no persistent or unreasonable leakages of water (or other heating/cooling medium) or air from ventilation systems.</li> <li>• Secure to authorized access only.</li> <li>• Free from corrosion, erosion and organic growth;</li> <li>• Pneumatic tube system operates to the manufactures specifications.</li> </ul>
<b>Sanitary and Other Drainage Systems</b> (including all sanitary ware and associated fittings)	<ul style="list-style-type: none"> <li>• Function as intended, without undue noise and vibration.</li> <li>• Provide a safe and comfortable environment.</li> <li>• All pipework and fittings fastened securely to their intended points of anchorage.</li> <li>• There will be no leakage of waste and/or foul water and/or rain water.</li> </ul>
<b>Fire Fighting Equipment</b>	<ul style="list-style-type: none"> <li>• Fire extinguishers and other fire fighting equipment will be maintained in accordance with relevant codes and standards (e.g., CSA Standards).</li> <li>• Sound, secure and fixed to their intended point of anchorage.</li> <li>• Fully operational within manufacturer's recommendations.</li> <li>• Hydrants, sprinklers &amp; hoses will be at correct operating pressure &amp; capacity.</li> <li>• Pipework will be free from corrosion, leaks and drips.</li> <li>• Be of suitable type and quantity for the hazards present within their vicinity.</li> </ul>
<b>Medical Gases</b> <ul style="list-style-type: none"> <li>○ All infrastructure and piping for medical gases constructed or supplied by Project Co pursuant to Schedule 3;</li> </ul>	<ul style="list-style-type: none"> <li>• Medical gas systems will be maintained in accordance with all relevant codes and standards.</li> </ul>
<b>Communications Systems</b> <ul style="list-style-type: none"> <li>○ All infrastructure cabling, including telecommunications and data cabling;</li> <li>○ IT/data other than backbone during warranty period</li> <li>○ Public address system;</li> <li>○ PABX (during warranty period);</li> </ul>	<ul style="list-style-type: none"> <li>• Communications system will be maintained in accordance with all relevant codes and standards.</li> <li>• All electrical communications and data transmission installations to comply with relevant codes and standards (e.g., CSA Standards).</li> <li>• Fully operational within manufacturer's recommendations.</li> </ul>

Element	Standard
<ul style="list-style-type: none"> <li>○ Nurse call system hardware (First Response Maintenance), including radio paging;</li> <li>○ Patient education/entertainment system; and</li> <li>○ All communication and information technology equipment installed in the Facility</li> <li>○ telephone handsets</li> </ul>	
<p><b>Electrical Systems</b> Including, but not limited to:</p> <ul style="list-style-type: none"> <li>● Lighting</li> <li>● Safety</li> <li>● Alarm systems</li> </ul>	<ul style="list-style-type: none"> <li>● Weatherproof where appropriate.</li> <li>● Function as intended without undue noise or vibration; wiring, fittings, fixtures, controls and safety devices will be properly housed and fastened securely to their intended point of anchorage<sup>2</sup> and labelled.</li> <li>● Lightning conductor should be complete, isolated and comply with CSA Standards.</li> <li>● MICC cable protective coatings intact.</li> <li>● Light emittance at the design Lux levels as specified in Schedule 3.</li> </ul>

**Table 5: Service Standards, Horticulture**

Element	Standard
<b>Trees, Shrubs &amp; Hedges</b>	<ul style="list-style-type: none"> <li>● Trimmed, pruned and/or cut to maintain healthy growth and so as to minimize: <ul style="list-style-type: none"> <li>– the risk of crime and/or vandalism</li> <li>– the opportunity for storm wind damage</li> <li>– risk of fire</li> <li>– the obstruction of roadways, pathways, car parks, street lighting, etc.</li> </ul> </li> <li>● Are secure and safe.</li> <li>● Substantially free from dead or dying branches.</li> <li>● Substantially free from litter.</li> <li>● Substantially free from disease and/or aphid infestation.</li> <li>● Replaced as and when necessary to maintain appearance.</li> <li>● Irrigated.</li> </ul>
<b>Grassed Areas</b>	<ul style="list-style-type: none"> <li>● Uniform appearance with no patches.</li> <li>● Edges trimmed.</li> <li>● Free from mole, rabbit or other vermin infestation.</li> <li>● Substantially free from fallen leaves, weeds and litter, excrement.</li> <li>● Maintained to a uniform length between 25 and 50 mm.</li> <li>● Irrigated.</li> </ul>
<b>Flower Beds</b>	<ul style="list-style-type: none"> <li>● Fully stocked with an appropriate mix of annual, perennial and display plants to provide aesthetically pleasing beds throughout the year, which are non-allergenic to patients and staff.</li> <li>● Substantially free from fallen leaves, weeds and litter.</li> <li>● Substantially free from disease and/or aphid infestation.</li> <li>● Irrigated.</li> <li>● Proper handling of debris from roof gardens and interior gardens.</li> </ul>

<sup>2</sup> Safety devices will be deemed to include all Un-Interruptible Power Supplies (UPS) and power surge devices specified to protect personnel and equipment.

**Table 6: Service Standards, Grounds & Gardens Maintenance**

<b>Element</b>	<b>Standard</b>
<b>Site Circulation Routes</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Pavings</li> <li>• Paths</li> <li>• Driveways</li> <li>• Roads</li> <li>• Car Parking Areas</li> <li>• Hardstandings</li> <li>• Facility entrances</li> <li>• External staircases</li> <li>• External fire escapes</li> </ul>	<ul style="list-style-type: none"> <li>• Sound safe and even surface with no potholes or sinkings.</li> <li>• Substantially free from standing water, ice, snow.</li> <li>• Substantially free from fallen leaves, moss algae or interstitial weeds.</li> <li>• Free from fallen trees.</li> <li>• Curbs and edgings are sound.</li> <li>• No loose curbs or paving stones.</li> <li>• Road markings and parking stripings are clear and complete.</li> <li>• Free from graffiti and/or vandalism.</li> <li>• Provides for good disabled access such as the visually impaired and wheelchair users.</li> <li>• Protection of all vehicles from chemical sprays during any applications.</li> </ul>
<b>External Furniture and Structures</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Street lights</li> <li>• Guard rails</li> <li>• Copings</li> <li>• Statues or ornamental objects</li> <li>• Bollards</li> <li>• Bus stops</li> <li>• Street lights</li> </ul>	<ul style="list-style-type: none"> <li>• Sound, secure, safe and free from damage.</li> <li>• Operating at their design performance where applicable.</li> <li>• Substantially free from moss algae and/or interstitial weeds.</li> <li>• Free from graffiti and/or vandalism.</li> <li>• Replacement of light elements.</li> </ul>
<b>Boundaries</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Fences/walls</li> <li>• Gates</li> </ul>	<ul style="list-style-type: none"> <li>• Intact safe, sound and secure.</li> <li>• Free from graffiti and damage.</li> <li>• Locks are operational.</li> </ul>
<b>External Play/Recreational Areas</b> Including, but not limited to: <ul style="list-style-type: none"> <li>• Courtyards</li> <li>• Patios</li> </ul>	<ul style="list-style-type: none"> <li>• Safe and secure.</li> <li>• Suitable for disabled and elderly access.</li> <li>• Accessible and easily observable by carers and staff.</li> <li>• Free from graffiti and/or vandalism.</li> </ul>
<b>External Sign Posting (incl. lighting)</b>	<ul style="list-style-type: none"> <li>• Compliant with the "Signage &amp; Wayfinding" requirements in Schedule 3 [Design &amp; Construction Specifications].</li> <li>• Secure and sound.</li> <li>• Not hinder visibility to car and pedestrians at junctions.</li> <li>• Be in appropriate locations.</li> <li>• Highly visible, both day and night.</li> <li>• Offer clear and concise information.</li> <li>• Free from graffiti and/or vandalism.</li> <li>• Replacement of light elements.</li> </ul>
<b>Gutters and Drains</b>	<ul style="list-style-type: none"> <li>• Swept.</li> <li>• Substantially free from litter, leaves, weeds and extraneous material.</li> </ul>
<b>Facility</b>	<ul style="list-style-type: none"> <li>• Substantially free from litter, including cigarette ends and chewing gum residue.</li> <li>• Garbage bins will be less than 75% capacity and free from malodour.</li> </ul>

**Table 7: Heating, Ventilation and Air Conditioning Criteria**

Room or Area	Temp. Range Deg C	Relative Humidity Range, %	Total Air AC/Hour	Min. Outdoor % or l/s Per Person	Filter Efficiency % ASHRAE	Background Noise NC (A)
<b>Class I Room or Area</b>						
Operating rooms	17-27	45-55	20	100	HE PA	40
Recovery rooms (PACU)	22-24	50-60	As per CSA Z317.2 Table 1	As per CSA Z317.2 Table 1	95 %	35
Associated areas (As per CSA Z317.2 Table 1)	24-27	30-60	As per CSA Z317.2 Table 1	As per CSA Z317.2 Table 1	95 %	35
<b>Class II Room or Area</b>						
Patient rooms	22-24	30-60	6	30	85 %	40
Medical imaging	22-24	30-60	9	30	85 %	40
Other treatment areas	22-24	30-60	2	30	85 %	40
Associated areas	22-26	30-60	6	30	85 %	40
SPD	20-23	30-60	As per CSA Z317.2 Table 1	As per CSA Z317.2 Table 1	85 %	40
<b>Class III Room or Area</b>						
Laboratories	22-26	30-60	12	25	85 %	40
Pharmacy	22-26	30-60	9	25	85 %	40
Offices	22-26	30-60	6	10 l/s	55 %	40
Physiotherapy	22-26	30-60	9	30	55 %	40
Associated areas	22-26	30-60	6	30	55 %	40
Meeting rooms	22-26	30-60	To suit load	10 l/s	55 %	40