

PROJECT DEVELOPMENT AGREEMENT

THIS AGREEMENT made April 27 2016 (the "Effective Date")

BETWEEN:

VANCOUVER COASTAL HEALTH AUTHORITY, a regional health board designated under the *Health Authorities Act* (British Columbia) having an address at 601 W. Broadway, 11th Floor, Vancouver, British Columbia V5Z 4C2

("VCH")

AND:

SILVERSTONE CARE CENTRE LIMITED PARTNERSHIP, a limited partnership organized under the *Partnership Act* (British Columbia), represented by its general partner, Silverstone Care Centre Ltd., a corporation incorporated under the *Business Corporations Act* (British Columbia) with an address at s.19(1), North Vancouver, British Columbia s.19(1)

(the "Project Developer")

WHEREAS:

- A. VCH is responsible for the design, delivery and administration of health care services within the Vancouver, Richmond and Coastal Communities of Care;
- B. On May 28, 2015, VCH issued the Request for Solutions (the "RFS") in phase 2 of the Request for Qualifications and Solutions, RFQS 2015-BISS-001 "New-Build and/or Renovated Residential Complex Care Beds for Coastal Community of Care (Sunshine Coast)". The solution proposal submitted on behalf of the Project Developer was selected and the Project Developer will perform all the Work for the Project, as further described in this Agreement, and provide the Services, as further described in the Services Agreement between VCH and the Project Developer;
- C. In connection with the RFS, the Project Developer also was selected to: (1) plan, develop and construct within the Facility the necessary rooms and space to operate an adult day program for older adults as well to operate such adult day programming; and (2) plan, develop and build an extension to the Facility for a hospice as well as to operate the hospice. The planning, development and construction of the rooms and space required to operate an adult day program is included in the Work for this Project and forms part of the Project Specifications set out in Schedule A. The operation of the adult day program will be covered by a separate services agreement between VCH and the Service Provider. The planning, development, construction and operation of the hospice are not included in the Work for this Project and will be covered by separate agreements between the Project Developer and VCH.
- D. The Project Developer has entered into a Purchase Agreement to acquire the Lands subject only to the (re)zoning of the Lands to permit the Facility to be constructed thereon and to be occupied and operated for the provision of the Services in accordance with the Services Agreement;

E. Following acquisition of the Lands, the Project Developer will construct the Facility on the Lands on the terms and conditions set forth in this Agreement; and

F. Upon Occupancy of the Facility and subject to Section 4.3 and other applicable terms of this Agreement, the Services Agreement will come into effect and the Project Developer will deliver the Services to VCH's clients at the Facility in accordance therewith.

NOW THEREFORE, in consideration of the execution of the Services Agreement by VCH and the Project Developer, as well as mutual covenants, promises and agreements contained in this Agreement and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS

In this Agreement:

"**Agreement**" means this Project Development Agreement, including the Schedules to this Agreement, as it or they may be amended or supplemented from time to time, and the expressions "hereof", "herein", or "hereto", "hereunder", "hereby", and similar expressions refer to this Agreement and not to any particular Section or other portion of this Agreement;

"**Applicable Laws**" means all present and future laws, statutes, ordinances, regulations, municipal by-laws, judgements and decrees applicable to any Person, property or event, all directives, rules, consents, approvals, authorizations, guidelines, orders and policies of any governmental authority having or purporting to have authority over that Person, property or event and all general principles of common law and equity;

"**Architect**" means a professional architect registered and in good standing under the *Architects Act* (British Columbia);

"**Business Day**" means a day other than a Saturday, Sunday or statutory holiday in British Columbia;

"**Community Care and Assisted Living Act**" means the *Community Care and Assisted Living Act* (British Columbia), and regulations prescribed thereunder including without limitation, the *Residential Care Regulation*, all as may be amended or re-enacted from time to time;

"**Completion**" means that date on which the Project Developer's Architect issues a report to VCH certifying that the construction of the Project has been completed and a Certificate of Completion has been issued under the *Builders Lien Act* (British Columbia);

"**Design Guidelines**" means the Vancouver Coastal Health Design Guidelines for Complex Residential Care Developments attached as Schedule E;

"**Drawings and Specifications**" means the drawings and specifications for the Project prepared by the Project Developer, including the initial drawings of the Project which are attached as a Proposal Extract and which will be replaced or amended from time to time in accordance with Section 3.5(b), the Project Milestones and the terms and conditions of this Agreement;

"**Effective Date**" has the meaning set out on page 1 of this Agreement;

"**Environmental Laws**" means any Applicable Laws relating to the environment, the environmental conditions on, under, or about the Lands, or any Hazardous Substance (including the use, manufacture, handling, transportation, production, disposal, discharge, storage, or emission of any Hazardous Substance or the terms of any permit issued in connection with the use of any Hazardous Substance);

"**Facility**" means one or more buildings, together with all improvements, structures, fixtures, furnishings, equipment, assets and landscaping related thereto and employed therein for the delivery of the Services, and which all together shall comprise a licensed "community care facility" as defined by the Community Care and Assisted Living Act, to be constructed on the Lands by the Project Developer in accordance with the terms of this Agreement;

"**Force Majeure**" has the meaning set out in Section 13;

"**Guarantor**" has the meaning set out in Section 11;

"**Hazardous Substance**" means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of them that may impair the natural environment, injure or damage property, plant or animal life or harm or impair the health of any individual, and "**Hazardous Substances**" means all of them;

"**Home and Community Care Policy Manual**" means the Home and Community Care Policy Manual (dated effective January 1, 2016 and which is available online at: <http://www2.gov.bc.ca/gov/topic.page?id=8F569BDA913540DCAB75145DBB6070CE>) as may be amended or re-enacted from time to time);

"**Letter of Acceptance**" has the meaning set forth in Section 4.2;

"**Lien**" means a mortgage, charge, pledge, lien (statutory or otherwise), security interest or other encumbrance or adverse claim of any nature or kind whatsoever;

"**Lands**" means the lands and premises with the civic addresses and legal descriptions listed on Schedule H;

"**Mandatory Revisions**" has the meaning set out in Section 3.5(f);

"**Ministry**" means the British Columbia Ministry of Health or such other ministry as may be assigned responsibility for residential care;

"**Ministry Policies**" means those written standards, policies, guidelines and directives which have been or will be established by the Ministry from time to time and which are applicable to the Services, the Facility, or the Project Developer, including the Home and Community Care Policy Manual;

"**Notice**" has the meaning set out in Section 14.14;

"**Occupancy**" means the physical admission by VCH of the first VCH client to the Facility in accordance with Ministry Policies following issuance of the Letter of Acceptance and all licenses and approvals required lawfully to operate the Facility and provide the Services;

"**Optional Revisions**" has the meaning set out in Section 3.5(g);

"Permitted Encumbrances" means the charges and encumbrances registered against title to the Lands and listed or described in Schedule C;

"Person" means any individual or any incorporated or unincorporated entity or association of any nature;

"Professional Engineer" means a professional engineer registered and in good standing under the *Engineers and Geoscientists Act* (British Columbia);

"Project" means the planning, design, construction and Completion of the Facility (including the furnishing and decoration thereof) on the Lands;

"Project Developer" has the meaning set out on the first page of this Agreement;

"Project Developer's Architect" means Derek Crawford Architect Inc. as the principal Architect and coordinating registered professional retained by the Project Developer with respect to the design and construction of the Facility;

"Project Developer's Personnel" means the employees, agents, representatives and invitees of the Project Developer and includes contractors and subcontractors for the Project and their respective shareholders, directors, officers, employees, agents and other representatives;

"Project Documents" means all of the documents and reports referred to in Section 3.5(a) through 3.5(e);

"Project Documents Accepted by VCH" has the meaning set out in Section 3.5;

"Project Management Plan" means the Project Management Plan prepared by the Project Developer included as a Proposal Extract in Schedule F, as may be replaced or amended from time to time in accordance with Section 3.5(a);

"Project Milestones" means the activities/objectives and dates set out in Schedule B, as may be replaced or amended from time to time in accordance with Section 3.5(a);

"Project Schedule" means the Project Schedule prepared by the Project Developer included as a Proposal Extract in Schedule F, as may be replaced or amended from time to time in accordance with Section 3.5(a);

"Project Specifications" means the project specifications set forth in Schedule A;

"Proposal" means the proposal to build the Facility on the Lands submitted on July 31, 2015 in response to the RFS and any and all written clarifications of such proposal provided on behalf of the Project Developer to and upon the request of VCH;

"Proposal Extracts" means the extracts from the Proposal (as amended and/or supplemented by the responses on behalf of the Project Developer to various VCH requests for clarification under the terms of the RFS and the negotiations on behalf of the Project Developer), all of which extracts, responses and requests for clarifications are attached as Schedule F;

"RFS" has the meaning set out in Recital B;

"**Service Provider**" is the Project Developer, Silverstone Care Centre Limited Partnership, represented by its general partner, Silverstone Care Centre Ltd.;

"**Services**" has the meaning or meanings given to it in the Services Agreement;

"**Services Agreement**" means the services agreement entered into by VCH and the Service Provider dated of even date herewith pursuant to which the Service Provider will provide the Services to VCH's clients following Occupancy;

"**Site**" means the place where the Facility is to be located on the Lands and aligns with the area indicated on the Site Plan;

"**Site Plan**" means the plan of the Site that is prepared by or for the Project Developer and submitted to VCH in accordance with this Agreement;

"**VCH Indemnitees**" means the directors, officers, employees, agents, authorized contracted service personnel, representatives, invitees, successor and assigns of VCH; and

"**Work**" means and includes all activities in connection with the (re)zoning and (re)development of the Lands, and the planning, design, approval, development, construction, financing and all other work to be performed and steps to be taken to design, construct and complete the Project (including the furnishing and decoration thereof).

2. INTERPRETATION

2.1 "Including"

The word "including" when following any general term or statement will not limit the general term or statement to the specific matter immediately following the word "including" or to similar matters, and the general term or statement will be construed as referring to all matters that reasonably could fall within the broadest possible scope of the general term or statement.

2.2 Headings and Division

The division of this Agreement into Sections and the insertion of headings are for convenience of reference only, and are not intended to affect the construction or interpretation of this Agreement.

2.3 VCH's Discretion

A reference to an action to be taken by VCH or a decision or determination to be made by VCH, or the right of VCH to take or not take a particular action or to make or not make a particular decision or determination means VCH will be entitled to take such an action or to make such a decision or determination, in its sole discretion.

2.4 Statutes

Each reference to a statute is deemed to be a reference to that statute and to the regulations made under that statute as amended or re-enacted from time to time, unless the context otherwise requires.

3. DEVELOPMENT OF FACILITY

3.1 Development of Facility

The Project Developer will, commencing as of the Effective Date, undertake the Work and complete at its sole cost and expense the Project in a good and workmanlike manner and strictly in accordance with:

- (a) the Project Specifications set forth in Schedule A;
- (b) the Proposal Extracts (provided that the Project Developer acknowledges that the Proposal Extracts are in addition to and not in substitution for any terms, conditions, requirements, criteria and specifications set out in this Agreement);
- (c) the Project Documents Accepted by VCH in accordance with the terms of this Agreement; and
- (d) the terms and conditions set forth in this Agreement.

The Project Developer will perform and provide all professional design services, construction administration and construction work and all labour, insurance, services, products, materials, tools, water, heat, light, power, transportation, equipment, machinery and other facilities and services and everything else necessary for the performance of the Work and to achieve Project Completion.

3.2 Control and Supervision of the Work

The Project Developer agrees to the following:

- (a) The Project Developer will effectively direct and supervise the Work using its best skill and attention. The Project Developer will be solely liable and responsible for:
 - (1) all design and construction means, methods, techniques, sequences and procedures with respect to the Work; and
 - (2) coordinating all parts of the Work, including coordinating the work of any subcontractors,in accordance with generally accepted construction management and supervisory practices in British Columbia.
- (b) The Project Developer will have the sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and the design and execution of construction methods required in their use. The Project Developer will engage and pay for Professional Engineers and Architects to perform these functions where required by Applicable Laws, and in all cases where such temporary facilities and their method of construction are of such a nature that the education, training and qualifications of the applicable Architect or Professional Engineer are required to produce safe and satisfactory results.

- (c) The Project Developer will execute the Work in a continuous and diligent manner, and perform all its obligations in conformance with this Agreement, including the Project Management Plan, the Project Milestones and the Project Schedule.
- (d) Unless otherwise stated in this Agreement, the Project Developer will perform the Work at the times, in the order of procedure and in the manner and method that the Project Developer considers appropriate, provided such Work is in conformance with this Agreement, including the Project Management Plan, the Project Milestones and the Project Schedule.
- (e) The Project Developer will employ a competent site superintendent or equivalent, and necessary assistants, at the Site at all times during the progress of the Work.
- (f) The Project Developer will employ or cause any Person, including any head contractor, subcontractors, suppliers, or consultants, it retains to perform any of its obligations set out hereunder, to employ a sufficient number of sufficiently skilled workers to perform the Work in compliance with this Agreement.
- (g) The Project Developer will at all times maintain good order and discipline among its employees engaged in the Work.
- (h) Before commencing the Work, the Project Developer will deliver to VCH certificates of all insurance policies required under Section 7.
- (i) The Project Developer will be responsible for the care, maintenance and security of the Project at all times, including during an event of shutdown.
- (j) The Project Developer will not, in respect of the Work and the Facility, do anything or omit to do anything that would cause VCH to be in non-compliance of the Home and Community Care Policy Manual.
- (k) The Project Developer will perform its obligations hereunder diligently, in good faith and with a degree of care, skill and diligence normally provided by a qualified and experienced developer working on and completing a project similar to the Project in the Greater Vancouver area at the time the Project Developer performs its obligations hereunder.
- (l) To the extent that the Project Developer engages, whether directly or indirectly, other Persons, including any head contractor, subcontractors, suppliers, or consultants, to perform its obligations hereunder, the Project Developer will at all times remain and be held fully responsible to VCH for any acts or omissions of such Persons, including any head contractor, subcontractors, suppliers, or consultants, and for the Project Developer's obligations hereunder. No subcontract, whether consented to or not, relieves the Project Developer from any of its obligations under this Agreement.

3.3 Regulatory Approvals and Compliance with Applicable Laws

All aspects of the design and construction of the Facility shall be carried out in accordance with, and the Facility once completed, shall comply with all Applicable Laws, the Project Documents, the Design Guidelines, the Project Specifications, the Proposal Extracts, and this Agreement. Without limiting the generality of the foregoing, the Project Developer shall be responsible for ensuring that the construction of the Facility is carried out in compliance with all Applicable Laws relating to health and safety. The Project Developer shall ensure that the general contractor and any subcontractors act in accordance with all Applicable Laws.

For greater certainty, the Project Developer will, in respect of each pre-construction or construction activity related to the Project, not commence that activity unless and until it has obtained all licenses, consents, permits, approvals and authorizations (including acceptance by VCH of the Project Documents) required under this Agreement or under any Applicable Laws. Without limiting the generality of the foregoing, the Project Developer will not commence any construction under this Agreement without submitting to VCH a copy of each development permit and building permit applicable to the Facility.

3.4 Representatives

The designated representatives for each of the Project Developer and VCH set forth in Section 14.13 will be representatives for the purposes of all design and construction-related communication between the Project Developer and VCH, except to the extent that either party may notify the other in writing of a replacement or alternate representative in accordance with the terms of Section 14.13.

3.5 Review and Acceptance of Project Documents

In accordance with the Project Schedule, the Project Developer will prepare and submit to VCH for acceptance (which acceptance will not be unreasonably withheld or delayed) the following documents and reports:

- (a) **Project Schedule and Project Management Plan:** The Project Schedule included as a Proposal Extract in Schedule F includes commencement and completion dates for all material elements of the Project, including the design; the stages of regulatory approvals; construction; and Facility commissioning, completion and occupancy, with all dates in accordance with the Project Milestones. The Project Management Plan included as a Proposal Extract in Schedule F sets out a high level work plan which describes the manner in which the Project Developer will manage the Project, with all dates in accordance with the Project Milestones. The parties acknowledge and agree that the Project Milestones, the Project Schedule and the Project Management Plan may require adjustment as the Project progresses as a result of, among other things, approvals required for zoning, development permits and building permits for the Project which are beyond the reasonable control and anticipation of the Project Developer. In such an event, the Project Developer will request an adjustment in the Project Milestones, Project Schedule and/or the Project Management Plan, as applicable, by submitting a written notice to VCH, and the Project Developer agrees to deliver all information reasonably requested by VCH regarding the relevant approval involved and the reason for the requested adjustment. VCH agrees not to unreasonably withhold its acceptance of any

such requested adjustment. If VCH accepts in writing any revision to the Project Milestones, Project Schedule and/or the Project Management Plan sought by the Project Developer in accordance with this Agreement, then, as applicable, the Project Milestones, Project Schedule and/or the Project Management Plan will be so revised, and thereafter all references to “**Project Milestones**”, “**Project Schedule**” and “**Project Management Plan**” will mean the Project Milestones, Project Schedule and Project Management Plan as so revised;

- (b) **Drawings and Specifications:** The drawings and specifications include all the drawings and specifications related to the Project including schematic design and detailed working drawings, construction and other specifications and site plans in respect of the design and construction of the building(s), improvements and landscaping for the Facility. The initial drawings for the Project are included as a Proposal Extract of the Drawings and Specifications in Schedule F. The parties acknowledge and agree that the current Drawings and Specifications will require revisions such as the inclusion of specifications as the Project progresses and other revisions as a result of approvals required for zoning, development permits and building permits for the Project and which are beyond the reasonable control and anticipation of the Project Developer as of the Effective Date. In such an event, the Project Developer will request an adjustment to the Drawings and Specifications by submitting a written notice to VCH, and the Project Developer agrees to deliver all information reasonably requested by VCH regarding the relevant approval involved and the reason for the requested adjustment. VCH agrees not to unreasonably withhold its acceptance to any such requested adjustment. For certainty, the Project Developer will submit to VCH for review the following: schematic drawings and specifications, design development drawings and specifications, 50% working drawings and specifications, 95% working drawings and final working drawings and specifications in accordance with the Project Milestones. If VCH accepts in writing any revision to the Drawings and Specifications sought by the Project Developer in accordance with this Agreement, then the Drawings and Specifications will be so revised, and thereafter all references to “Drawings and Specifications” will mean the Drawings and Specifications as so revised. The Project Developer agrees that the Drawings and Specifications will be submitted for approval by any regulatory approval requiring such documents in order to issue development, building and occupancy permits after such documents have been accepted by VCH.
- (c) **Fixtures, Furnishings and Equipment:** A detailed list of the fixtures, furnishings and equipment to be installed in or about the Facility by the Project Developer, the initial version of which will be provided to VCH within the time frame set out in the Project Milestones in Schedule B;
- (d) **Financing Documents:** Evidence as may reasonably be required by VCH with respect to the Project Developer's construction financing and/or interim or permanent financing for the Project, including at a minimum a letter of confirmation / support of financing from the Project Developer's lender containing the terms of the financing for the Project, the initial version of which is included as a Proposal Extract at Schedule F and all to VCH's reasonable satisfaction; and

- (e) **Insurance:** Evidence of insurance, as required by Section 7.5 of this Agreement.

The Project Developer will prepare and deliver to VCH the Project Documents in accordance with the terms of this Agreement. Following receipt, VCH will deliver to the Project Developer any comments it has in respect of the Project Documents, which may include, without limiting the foregoing, the following comments:

- (f) comments indicating that the Project Documents, in the opinion of VCH, acting reasonably, fail to comply with this Agreement or the Community Care and Assisted Living Act and must be revised by the Project Developer to ensure such compliance (the “**Mandatory Revisions**”); and
- (g) comments suggesting optional revisions to the Project Documents that, in the opinion of VCH, acting reasonably, may better suit the residents of the Facility or otherwise benefit the Facility and/or VCH (the “**Optional Revisions**”).

Within 20 Business Days of receipt of any of VCH’s comments, the Project Developer will:

- (h) advise VCH if the Project Developer does not accept any of the Optional Revisions and its reasons for such non-acceptance; and
- (i) diligently revise the Project Documents to incorporate the Mandatory Revisions and any Optional Revisions accepted by the Project Developer and thereafter re-submit such Project Documents for final acceptance by VCH, which acceptance will not be unreasonably withheld or delayed.

Upon receipt of the final acceptance by VCH of a Project Document, the Project Developer will issue and deliver to VCH a true, original and complete copy of such final Project Document which together with the other final Project Documents accepted by VCH, for the purposes of this Agreement, constitute the “**Project Documents Accepted by VCH**”.

The Project Developer will also deliver to VCH upon request from time to time by VCH a current construction budget for the Project, provided however that it is understood and agreed that such budget is for VCH’s information only, and not for VCH’s approval, as the Project Developer is solely responsible for all costs and expenses incurred in connection with the Project, including the costs for the Work.

If the Project Developer wishes to revise any of the Project Documents described in Sections 3.5(a), 3.5(b) or 3.5(c) once such documents have been accepted by VCH, the Project Developer will deliver to VCH the proposed revision in writing, which may include electronic correspondence by e-mail. VCH will consider the Project Developer’s requested revision and if accepted by VCH, such acceptance not to be unreasonably withheld, the applicable Project Document will be revised accordingly by the Project Developer and all references in this Agreement to such Project Document will mean such Project Document as so revised.

If any of the actions, objectives or milestones contemplated in this Section 3.5 are not completed or achieved by the dates respectively established therefor, and the Project Developer does not complete or achieve the applicable action, objective or milestones within 10 Business Days of written notice from VCH, then, failing further agreement between VCH and the Project Developer, VCH may elect to

terminate this Agreement and the Services Agreement upon delivery of written notice to the Project Developer without prejudice to any other rights and remedies of VCH under this Agreement, the Services Agreement or at law or in equity.

3.6 Progress Reports and Completion of Project

The Project Developer will maintain throughout the term of this Agreement up-to-date records in respect of the progress of the Project, and will submit to VCH progress reports in a form acceptable to VCH, every six weeks, or as more frequently required by VCH, until Occupancy. VCH and the Project Developer agree to work cooperatively to communicate the progress of the Project and any potential issues related thereto and to schedule and attend meetings or conference calls to discuss the progress of the Project every six weeks, or as more frequently required by VCH, until Occupancy.

The Project Developer will carry out and complete the Project in accordance with:

- (a) the Project Milestones (including without limitation Completion and Occupancy);
- (b) the Project Management Plan; and
- (c) the Project Schedule.

3.7 Delay

The Project Developer will promptly notify VCH in writing if the submission of any Project Documents, the Work, or the Project is behind the Project Schedule or upon becoming aware of any actual or threatened occurrence or condition which would reasonably be expected to cause a delay in meeting the deadlines set forth in the Project Schedule. In the event of a delay, the Project Developer may propose an extension of the deadlines set out in the Project Schedule for the date for Completion or Occupancy in accordance with Section 3.5(a).

Without limiting the rights and remedies of VCH, in the event of a delay, the Project Developer will use all reasonable commercial efforts to perform its obligations under this Agreement and to overcome or minimize the effects of such delay (including rearranging and rescheduling the Work so as to minimize the ultimate delay in completion of the Project), utilizing to such end all resources reasonably required in the circumstances, including obtaining supplies or services from other sources if the same are reasonably available.

3.8 Inspection during Construction

VCH and its invitees will be entitled from time to time and upon notice to the Project Developer, to enter upon the Lands and inspect the Lands, the Facility and the progress of any construction related thereto and the progress of the Work. All such inspections will be during regular business hours (other than in the case of an emergency, in which event such inspection may be at any time and without prior notice to the Project Developer) and in accordance with all safety and other regulations of governmental authorities. VCH and its invitees will not unduly interfere with or cause delay to such construction during the course of any such inspection.

The Project Developer shall request inspections of the Facility from time to time by regulatory authorities which are required to obtain documents necessary to permit lawful Occupancy of the Facility for the purpose of the Services, and shall promptly provide VCH with copies of all such documents.

4. FACILITY ACCEPTANCE

4.1 Pre-Occupancy Inspection

The Project Developer will notify VCH in writing at least 60 days prior to the date on which the Project Developer reasonably expects Completion to be attained. Upon receipt of such notification, VCH and the Project Developer will arrange one or more pre-Occupancy inspections of the Facility by VCH and its invitees. The Project Developer's representative will accompany one or more representatives from VCH in each pre-Occupancy inspection, and record any defects and deficiencies in the Facility noted by VCH or its invitees.

Based on its pre-Occupancy inspection, VCH may impose conditions to VCH's acceptance of the Facility for Occupancy that are in addition to those conditions set out in Section 4.2. Such conditions may require the Project Developer to correct all defects and deficiencies noted by VCH or its invitees during the pre-Occupancy inspection, and repair, improve or modify any aspect of the Facility which does not materially comply with the terms of this Agreement, the Project Documents Accepted by VCH pursuant to Section 3.5, or any Applicable Laws.

Following the pre-Occupancy inspection, the Project Developer will:

- (a) correct all defects or deficiencies noted by VCH or its invitees during the pre-Occupancy inspection; and
- (b) repair, improve or modify any aspect of the Facility which does not materially comply with the terms of this Agreement, the Project Documents Accepted by VCH pursuant to Section 3.5, or any Applicable Laws.

The Project Developer will correct all such defects or deficiencies and complete all such repairs, improvements and modifications as quickly as reasonably possible and so as to comply with the Project Schedule or any shorter time period specified by VCH, acting reasonably. VCH may set off from any amount owing by VCH to the Project Developer under any other agreement entered into between the parties (including the Services Agreement and/or any other services agreements), such amounts as it considers reasonably necessary from time to time to ensure that the Project Developer will correct all such defects or deficiencies and complete all such repairs, improvements and modifications.

4.2 Occupancy Acceptance

Following receipt by VCH of:

- (a) the report issued by the Project Developer's Architect confirming that Completion of the Facility has occurred;
- (b) the final and unconditional occupancy permit for the Facility issued by the applicable local government; and

- (c) receipt of certified written confirmation by a senior officer of the Project Developer that all licenses and other approvals required in connection with the construction of the Facility, its occupancy, and the provision of the Services at the Facility have been obtained, including all licenses and approvals required under the *Community Care and Assisted Living Act* (British Columbia) and, if applicable, the *Hospital Act* (British Columbia);

and provided that the Project Developer has corrected all defects or deficiencies noted in the pre-Occupancy inspection as described in Sections 4.1(a), and completed all repairs, improvements and modifications as described in Section 4.1(b), to the satisfaction of VCH, then VCH will issue written notification that it accepts the Facility for Occupancy (the “**Letter of Acceptance**”).

The parties acknowledge and agree that, if the Facility is comprised of more than one building, or is being built in phases, then to the extent that Completion for each building or phase is ready for Occupancy at different stages, VCH may issue a Letter of Acceptance in respect of each building or phase, and the parties may enter into one or more Services Agreements in respect of each building or phase comprising the Facility.

4.3 Services Agreement

From and after the date that Occupancy has occurred, the Service Provider will provide the Services in accordance with the Services Agreement and VCH will fund the Services in accordance with the Services Agreement.

VCH will not be obligated to provide any funding to the Services Provider until the following conditions have been met:

- (a) VCH has issued a Letter of Acceptance to the Project Developer pursuant to Section 4.2;
- (b) the Project Developer has obtained all documents and licenses necessary to allow for lawful occupancy and operation of the Facility; and
- (c) Occupancy has occurred.

5. REPRESENTATIONS, WARRANTIES AND COVENANTS

5.1 Representations, Warranties and Covenants of the Project Developer

The Project Developer acknowledges that VCH has entered into this Agreement and the Services Agreement in reliance on the representations and warranties set out in this Section 5.1. The Project Developer hereby represents and warrants to, and covenants with (in addition to other covenants and agreements of this Project Developer in this Agreement), VCH as follows:

- (a) **Experience**

The Project Developer represents and warrants that it has sufficient experience and expertise to perform its obligations herein strictly in accordance with the terms of this Agreement, including designing and constructing the Facility to the standard, and within the time schedule and budgets, contemplated herein, and further represents that any

Person, including any head contractor, sub-contractors, suppliers, or consultants that the Project Developer retains to perform any of its obligations set out herein will be similarly qualified.

(b) **Status**

The Project Developer is duly incorporated under the laws of British Columbia and is in good standing with respect to the filing of annual returns. The Project Developer has the necessary corporate power and authority to own its property and assets (including the Lands) and to conduct its affairs in the Province of British Columbia. No act or proceeding has been taken by or against the Project Developer in connection with the dissolution, liquidation, winding-up, bankruptcy or reorganization of the Project Developer.

(c) **Due Authorization**

The Project Developer has the full power and authority to enter into this Agreement and all other agreements and instruments to be executed by it as contemplated herein (including, the Services Agreement) and to carry out its obligations under this Agreement and such other agreements and instruments (including, the Services Agreement), and the Project Developer has taken all necessary action to authorize the execution, delivery and performance of its obligations under this Agreement and such other agreements and instruments (including, the Services Agreement).

(d) **Enforceability**

The Project Developer holds all permits, licences, consents, intellectual property rights, registrations and authorizations required to carry on its operations and its business and to perform its obligations under this Agreement (other than those approvals for which it has covenanted herein to obtain in accordance with the terms of this Agreement). This Agreement constitutes a legal, valid and binding obligation of the Project Developer enforceable against the Project Developer in accordance with its terms.

(e) **No Legal Bar**

The execution, delivery and performance by the Project Developer of this Agreement and such other agreements and instruments referred to in Section 5.1(c):

- (1) do not and will not conflict with, result in a breach or violation of or constitute a default under any Applicable Laws or any agreement, instrument or other document to which the Project Developer is a party or by which the Project Developer or any of its respective property or assets are bound; and
- (2) do not and will not conflict with, result in a breach or violation of, or constitute a default under, their respective constating documents or by-laws.

(f) **Lands**

The zoning of the Lands now permits, or will prior to the commencement of the construction of the Facility permit, the Facility to be constructed thereon and to be occupied and operated for the provision of the Services in accordance with the Services Agreement. Further, the Facility will be constructed wholly within the boundaries of the Lands and will not infringe on any easement or right of way area affecting the Lands; there are no improvements on any adjoining lands, whether public or private, that encroach on the Lands.

(g) **Environmental Matters**

On and as of the later of the date of this Agreement and the date on which the Project Developer acquires its interest in the Lands, to the best of the knowledge of the Project Developer, based upon reasonable inquiry:

- (1) no Hazardous Substance is now or was formerly (including the period prior to the Project Developer's acquisition of the Lands) used, stored, generated, manufactured, installed, disposed of or otherwise present at or about the Lands or any property adjacent to the Lands, other than in accordance with Environmental Laws;
- (2) all permits, licenses, approvals and filings required with respect to the Lands by Environmental Laws have been obtained;
- (3) the use, operation and condition of the Lands does not and will not violate any Environmental Laws;
- (4) the Project Developer has not violated any Environmental Laws in the conduct of operations or business (including operations and business not relating to the Lands or the Project); and
- (5) no civil, criminal or administrative action, suit, claim, hearing, investigation or proceeding has been brought, nor have any settlements been reached by with any party or any Liens imposed, concerning any Hazardous Substances or Environmental Laws in connection with the Lands or any other real property owned or leased by the Project Developer, or otherwise on or against the Project Developer.

(h) **Use of Loan Proceeds**

The Project Developer will not use any portion of the proceeds of any loan or financing made in connection with the Project, including any loan or financing secured by any mortgage over the Lands or security interest over any goods located on the Lands, for any purpose other than the Project, and for greater certainty but without limiting the generality of the foregoing, such loan or financing proceeds will not be used in connection with the purchase or acquisition of any interest in any lands or premises or

any development, construction, renovation or other activity upon any lands or premises, other than the Lands.

(i) **Interest in Lands**

The Project Developer has entered into purchase and sale agreements for the purchase of the Lands (the “**Purchase Agreement**”), which agreements is subject only to (re)zoning of the Lands to permit the Facility to be constructed thereon and to be occupied and operated for the provision of the Services in accordance with the Services Agreement. For the avoidance of doubt, the Project Developer represents, warrants to and covenants with VCH that:

- (i) the Purchase Agreement will complete on the completion date contemplated therein, as may be extended from time to time, and that either (A) the Project Developer will be the legal and beneficial owner of the Lands or (B) the Project Developer will be the beneficial owner of the Lands and a wholly owned subsidiary of the Project Developer will be the legal owner of the Lands, and the Project Developer will provide VCH with evidence thereof within 10 Business Days following the adoption by Council of the District Municipality of Sechelt of a bylaw to change the zoning designation of the Lands to permit the Facility to be constructed thereon and to be occupied and operated for the provision of the Services in accordance with the Services Agreement;
- (ii) prior to becoming the legal and beneficial owner of the lands or the beneficial owner of the Lands and the sole shareholder of the legal owner of the Lands, the Project Developer will not and will ensure that the legal owner does not sell, assign, lease, mortgage, charge, encumber, convey or otherwise dispose of its interest in the Purchase Agreement or any part thereof without prior written consent of VCH, such consent to be exercised in VCH’s sole discretion;
- (iii) in its capacity as the legal and beneficial owner of the Lands or in its capacity as the beneficial owner of the Lands and the sole shareholder of the legal owner of the Lands, the Project Developer will not, and it will ensure that the legal owner will not, sell, assign, lease, mortgage, charge, encumber, convey or otherwise dispose of the Lands or any part thereof without prior written consent of VCH, such consent to be exercised in VCH’s sole discretion, except that no such consent is required for the Permitted Encumbrances; and
- (iv) VCH will not be liable to perform or observe any covenant, proviso or agreement imposed by the Purchase Agreement on the Project Developer or any of its subsidiaries or affiliates.

(j) **Full Disclosure**

All written statements made or furnished by or on behalf of the Project Developer to VCH in the Proposal during the RFS process (including during the interview of the Project Developer conducted by VCH and in any information provided by the Project Developer to VCH in response to questions or a request for clarification or further

information by VCH) or otherwise in connection with the transactions contemplated by this Agreement or the Services Agreement, were, as of the time such statements were made, true in all material respects and remain true in all material respects on the date of execution of this Agreement and the Services Agreement by the Project Developer, and such statements individually or taken as a whole do not contain any untrue statement of a material fact or omit a material fact necessary to make such statements not misleading. All expressions of expectation, intention, belief and opinion contained therein were honestly made on reasonable grounds after due and careful inquiry by the Project Developer (and any other person who furnished such material). There is no fact which the Project Developer has not disclosed to VCH in writing which materially adversely affects, or so far as the Project Developer can now reasonably foresee, will affect its business, operations, property, prospects, liabilities or condition (financial or otherwise), or its ability to perform its obligations under this Agreement or to operate the Facility in accordance with the RFS, the Proposal, and the Services Agreement.

(k) **No Change**

Following the date of this Agreement and throughout the term of this Agreement, the Project Developer will not remove or substitute any of the following key individuals from their roles and responsibilities relating to the Project, unless any such person is terminated as a contractor or employee for just cause, voluntarily leaves the employ of the Project Developer, in which case the Project Developer will use reasonable efforts to replace such person with a comparable employee or contractor:

- (1) Project Developer's Architect: Derek Crawford Architect Inc.;
- (2) Operating Manager / Site Administrator: Trellis Seniors Services Ltd.;
- (3) Project Development Manager: Trellis Seniors Services Ltd.;
- (4) General Contractor / Construction Manager: Kasper Development Corporation.

Within 10 Business Days following the adoption by Council of the District Municipality of Sechelt of a bylaw to change the zoning designation of the Lands to permit the Facility to be constructed thereon, the Project Developer will appoint the Mechanical Consultant and will not remove or substitute it from its roles and responsibilities relating to the Project, unless the Mechanical Consultant is terminated as a contractor or employee for just cause or voluntarily leaves the employ of the Project Developer, in which case the Project Developer will use reasonable efforts to replace such person with a comparable employee or contractor.

(l) **Material Documents**

Unless the Project Developer obtains the prior written consent of VCH, the Project Developer shall not amend any of the agreements, documents or instruments forming the Project Documents, and shall not amend, supplement or replace the contracts with the

key individuals set out in Section 5.1(k) in a manner that may adversely affect the Project.

(m) **No Change in Site**

The Project Developer will not develop the Facility at any location other than the Site. Neither the Project Developer nor any of its subsidiaries or affiliates will sell, assign, mortgage, charge, encumber, convey or otherwise dispose of the Lands without the prior written consent of VCH, except that no such consent is required for the Permitted Encumbrances.

(n) **Construction**

The Project Developer shall complete the construction of the Facility in accordance with the terms of this Agreement, including the Project Management Plan, the Project Milestones and the Project Schedule.

6. ENVIRONMENTAL INDEMNITY AND RELEASE BY PROJECT DEVELOPER

Notwithstanding any rule or law to the contrary, the Project Developer covenants and agrees with VCH that any Hazardous Substances or materials or goods containing Hazardous Substances brought onto, used at or released from the Lands by the Project Developer or any Person for whom it is in law responsible will be and remain the sole and exclusive property and responsibility of the Project Developer and will not become the property or responsibility of VCH.

Without limiting the generality of Section 10.2, the Project Developer hereby agrees to indemnify, defend and save harmless VCH and the VCH Indemnitees, from and against any and all actions, causes of actions, liabilities, demands, obligations, claims, claims for remediation costs, cost recovery claims, losses, damages, orders, fines, penalties, costs and expenses (including the full amount of all consulting costs and legal costs on a solicitor and own client basis, and the cost of removal, treatment, storage and disposal of any Hazardous Substances and remediation of the Lands and any adjacent property), of every kind and nature whatsoever that may be asserted, made or brought against or incurred, suffered or sustained by any of VCH and the VCH Indemnitees, arising from or in any way related to or in connection with:

- (a) any legal or administrative action, proceeding, investigation, demand, claim or notice of any third party against any of VCH and the VCH Indemnitees;
- (b) the presence of any Hazardous Substances on, in, migrating to or from or discharged from the Lands into the environment; and/or
- (c) the presence of any such Hazardous Substances on properties adjacent to the Lands,

related to or as a result of the ownership, use and/or occupation of the Lands by the Project Developer or any Person for whom it is in law responsible or any act or omission of the Project Developer or any Person for whom it is in law responsible. This indemnity will survive the expiry or earlier termination of this Agreement and the Services Agreement.

The Project Developer agrees that it will not directly or indirectly commence, assert or pursue or threaten to commence, assert or pursue any type of claim, suit, order (including an order issued by a governmental authority), action or proceeding against any of VCH and its directors, officers, employees, agents, successors and assigns that relates in any way to the environmental condition of the Lands, including, without limitation, the existence of any Hazardous Substances on, in, migrating to or from or discharged from the Lands or any contamination of adjacent properties.

The parties acknowledge and agree that the provisions of this Agreement, including, without limitation, this Section 6, constitutes an agreement between them that is a private agreement respecting liability for any Hazardous Substances on, in, migrating to or from or discharged from the Lands and any contamination of adjacent properties resulting from such contamination and the remediation thereof as contemplated in the British Columbia *Environmental Management Act*, as amended or replaced from time to time.

7. INSURANCE

7.1 General

The Project Developer will obtain and maintain insurance in accordance with this Section 7 from and against all claims that might arise from anything done or omitted to be done by the Project Developer, the Project Developer's Personnel or any other Person for whom the Project Developer is responsible at law, pursuant to this Agreement, including with respect to all claims that might arise from anything done or omitted to be done under this Agreement in which bodily injury (including personal injury), death or property damage, including loss of use thereof, is or may be caused.

7.2 Specific Insurance

The Project Developer will, at its own expense, maintain in full force and effect during the term of this Agreement and for a period of two years following Completion, with financially sound and reputable insurance companies licensed to do business in British Columbia:

- (a) Wrap-up liability insurance providing coverage with a limit of not less than \$5,000,000 for each occurrence against claims of bodily injury (including personal injury), death or property damage, including loss of use thereof, that may arise directly or indirectly from the acts or omissions of the Project Developer, the Project Developer's Personnel, or any other Person for whom the Project Developer is responsible at law;
- (b) All-risk property insurance on a full replacement cost basis, including flood, earthquake and sewer back up coverage, covering all of the Facility and other improvements on the Lands, and any contents thereof;
- (c) Professional (Errors and Omissions) Liability Insurance protecting the Project Developer, and if applicable their insurable subcontractors and their respective servants, agents or employees, against any loss or damage arising out of the professional services rendered by any of them under or in relation to this Agreement. Such insurance shall be for an adequate amount acceptable to VCH and shall in any event be not less than:
 - (1) Construction valued at \$0.00 to \$2.5 million: \$250,000;

- (2) Construction valued over \$2.5 million to \$7.5 million: \$500,000;
- (3) Construction valued over \$7.5 million to \$15.0 million: \$1,000,000; or
- (4) Construction valued over \$15.0 million: as negotiated, not less than \$1,000,000.
- (d) Structural, Mechanical, Electrical and Civil subcontractors insurance coverage in an amount based on the value of their scope of work under or in relation to this Agreement. All other specialty subcontractors are required to carry a minimum of \$250,000.00 errors and omissions insurance despite the value of their scope of work; and
- (e) Such other policies of insurance as VCH or its insurer may reasonably require from time to time.

7.3 Required Clauses

The insurance policies referred to in Section 7.2 will be in form and substance acceptable to VCH and such policies will include the following terms:

- (a) A clause that names VCH, and its directors, officers, employees, independent contractors, subcontractors, agents, and assigns as additional insureds in respect of the insurance policies placed under Section 7.2(a) and Section 7.2(e) as applicable;
- (b) Premises and Operations Liability;
- (c) Owner's and Contractor's Protective Liability;
- (d) Products and Completed Operations Liability;
- (e) Blanket Contractual Liability;
- (f) Cross Liability Clause;
- (g) Employer's Liability;
- (h) Personal Injury Liability;
- (i) "Occurrence" basis coverage for Bodily Injury and Property Damage;
- (j) "Broad Form" Property Damage coverage, including "Broad Form" Completed Operations for a term of 24 months;
- (k) "Broad Form" Loss of use of Property coverage;
- (l) Boiler and Machinery Insurance on a broad form basis covering all insurable objects located in the Facility with coverage for any one occurrence or claim of not less than the full replacement value of the Facility and any contents thereof;

- (m) Coverage for shoring, blasting, excavating, surface, coverage for shoring, blasting, excavating, underpinning, demolition, pile driving, caisson work, grading, tunnelling, and all other construction-related work; and
- (n) Non-owned Automobile Liability Insurance, including coverage for hired vehicles.

7.4 Workers Compensation

The Project Developer will comply with all workers compensation laws and ensure that all Persons retained, employed or hired by the Project Developer also comply with all workers compensation laws.

7.5 Proof of Insurance

The Project Developer will submit to VCH Certificate(s) of Insurance in the form attached as Schedule D, completed and signed by its insurance provider, confirming that the Project Developer has obtained all the insurance coverages and clauses required by this Section 7 when appropriate and no later than such time as the Project Developer commences any Work on the Lands.

7.6 Other Insurance Requirements

- (a) All of the Project Developer's insurance will be endorsed to provide VCH with 30 days prior written notice of cancellation or material change.
- (b) To the extent that any Applicable Laws, the nature of the Project Developer's operations or business or any other factor requires the Project Developer to maintain any particular type of insurance (in addition to the insurance expressly required by this Agreement) with respect to the Lands, the Facility, or any contents thereof, the Project Developer will comply with all such requirements.
- (c) The Project Developer hereby waives all rights of recourse against VCH with regard to damage to the Project Developer's property.

8. CONFIDENTIALITY

8.1 General

- (a) **Duty of Confidentiality.** During the term of this Agreement and after the termination or expiry of this Agreement, the Project Developer will:
 - (1) treat as confidential any data, information (whether oral, written, in computer readable format or otherwise) or any other item in any form (including any data, information or other items derived from any data) relating to VCH, the RFS process, this Agreement or the Services Agreement which the Project Developer or the Project Developer's Personnel may have acquired or learned in the course of, or incidental to, the performance of this Agreement, the RFS process, or otherwise, which was labelled or otherwise identified by or on behalf of VCH as confidential (the "**Confidential Information**");

- (2) use Confidential Information only with the prior written consent of VCH or as required for the performance of this Agreement; and
 - (3) not directly or indirectly disclose to any Person any Confidential Information without the prior written consent of VCH.
- (b) **Exceptions.** Confidential Information does not include information that:
- (1) is known to the public at the time such information is made available to the Project Developer other than through a breach of this Agreement;
 - (2) becomes known to the public after the time such information is made available to the Project Developer other than through a breach of this Agreement; or
 - (3) is required to be disclosed by the Project Developer by Applicable Law, but prior to such disclosure, and the extent feasible, VCH shall be consulted as to the proposed form and nature of the disclosure and the Project Developer shall cooperate with and assist VCH if VCH wishes to take reasonable action to challenge the requirement to disclose.
- (c) **Disclosure to advisors.** Notwithstanding Section 8.1(a), the Project Developer may provide information relating to this Agreement and the Project Documents to its lenders, consultants, subcontractors and professionals who are directly involved in the Project on an as need to know basis provided that such persons are under a contractual obligation or professional duty to hold such information confidential.

8.2 Freedom of Information Legislation

VCH agrees to treat as confidential all information provided to VCH by the Project Developer pursuant to this Agreement and which is marked confidential, except where Applicable Law requires VCH to do otherwise.

8.3 Project Developer's Personnel

- (a) **Confidentiality.** The Project Developer shall not disclose Confidential Information to any of the Project Developer's Personnel not having a need to know such information in connection with the performance of this Agreement. The Project Developer shall advise the Project Developer's Personnel of the requirements of Sections 8.1 and 8.2 and shall take appropriate action to ensure compliance by the Project Developer's Personnel with the terms of Sections 8.1 and 8.2 as if such sections applied directly to them.
- (b) **Liability.** In addition to any other liabilities the Project Developer may have under this Agreement, the Project Developer shall be liable for all damages (including incidental, indirect and consequential damages), costs, expenses, losses, claims or actions arising from any non-compliance by the Project Developer's Personnel with Sections 8.1, 8.2 and 8.3(a).

8.4 Return of Information

Following termination or expiry of this Agreement, and at the request of VCH, the Project Developer shall (and shall cause each of the Project Developer's Personnel to) deliver forthwith to VCH all copies of any tangible items (other than this Agreement), if any, which are or which contain Confidential Information and, with VCH's prior written consent, to delete or destroy any intangible items which are or which contain Confidential Information. No copy or duplicate of any such items shall be retained by the Project Developer without the prior written consent of VCH. The Project Developer shall not destroy any such items without the prior written consent of VCH.

9. CONFLICT OF INTEREST

9.1 General

The Project Developer shall not, and shall cause the Project Developer's Personnel not to, engage in any activity that creates a conflict of interest (actually or potentially in the determination of VCH) in connection with the transaction contemplated by this Agreement. The Project Developer acknowledges and agrees that it shall be a conflict of interest for it or any of the Project Developer's Personnel to use Confidential Information in a manner contrary to Section 8.

9.2 Disclosure

The Project Developer shall disclose to VCH without delay any actual or potential situation that may be reasonably be interpreted as being either a conflict of interest or a potential conflict of interest on the part of the Project Developer or any of the Project Developer's Personnel.

9.3 Use of Information

Except as contemplated by the funding provisions of this Agreement, the Project Developer shall not, and shall cause the Project Developer's Personnel not to, directly or indirectly use for personal or any other type of gain any information obtained in connection with the transactions contemplated by this Agreement.

9.4 Project Developer's Personnel

The Project Developer shall make all reasonable efforts to ensure that the Project Developer's Personnel do not violate this Section 9. Such efforts shall include, but shall not be limited to, bringing the prohibitions under this Section 9 to the attention of all Project Developer's Personnel.

10. LIABILITY AND INDEMNIFICATION

10.1 Limitation of Liability

VCH and its directors, officers, employees, volunteers, agents and other representatives and successors and assigns will not be liable to the Project Developer, the Project Developer's Personnel or any other Person for whom the Project Developer is responsible at law, for any losses, expenses, costs, claims, damages (including incidental, indirect and consequential damages) or liabilities arising in connection with or as a result of:

- (a) anything done or omitted to be done by the Project Developer, the Project Developer's Personnel or any other Person for whom the Project Developer is responsible at law in carrying out the Work, the Project or otherwise in the performance of this Agreement;
- (b) the acquisition of the Lands, the construction of the Facility or any contract with any Person retained in connection with any aspect of the Work or the Project, notwithstanding any consent to or acceptance of any of the foregoing by VCH;
- (c) termination of this Agreement pursuant to Section 12.2 or Section 13;
- (d) any acceptance, approvals or consents granted by VCH or any refusal or delay by VCH in granting such acceptances, approvals or consents; or
- (e) any Lien relating to the Lands, the Facility, the Project, the Work or this Agreement.

10.2 Indemnification by Project Developer

The Project Developer will indemnify and hold VCH and the VCH Indemnitees harmless of, from and against all actions, causes of actions, liabilities, demands, obligations, claims, cost recovery claims, losses, damages, orders, fines, penalties, costs and expenses (including the full amount of all consulting costs and legal costs on a solicitor and own client basis) of every kind and nature whatsoever that may be asserted, made or brought against or incurred, suffered or sustained by any of VCH and the VCH Indemnitees for and in respect of injury to or the death of any person whomsoever, and for or in respect of damage to or loss or destruction of any property (including, without limitation, VCH's property, the property of any VCH Indemnitees or any resident or tenant of VCH) arising directly or indirectly from any acts or omissions by the Project Developer, any Project Developer's Personnel, or any Person for whom the Project Developer is responsible at law, in relation to or arising out of this Agreement, including without limitation the performance of this Agreement or breaches in the performance of this Agreement. This indemnity will survive the completion or earlier termination of this Agreement.

11. GUARANTEE

The Project Developer will procure that on the date hereof Trellis Seniors Services Ltd. (the "**Guarantor**") enter into a guarantee of the Project Developer's obligations under this Agreement in favour of VCH in the form set out in Schedule G and will procure that such guarantee will be maintained in full force and effect from the date of this Agreement until the date that is five (5) years from the date following the date that Occupancy is achieved. If for any reason the guarantee does not remain in full force and effect the Project Developer will procure an alternative or additional guarantee substantially in the form set out in Schedule G from an organization with an equivalent net worth as that of the Guarantor as of the date of this Agreement.

The Project Developer also will procure that the Guarantor will on request provide VCH with such information that VCH may reasonably require for the purposes of calculating the Guarantor's tangible net worth.

12. TERM AND TERMINATION

12.1 Term

The term of this Agreement will commence on the Effective Date and, subject to earlier termination pursuant to this Section 12 or Section 13, continue until the later of:

- (a) the date that VCH has issued a Letter of Acceptance to the Project Developer, (or in the case of a Facility comprised of more than one building or phased construction then the date that VCH has issued a Letter of Acceptance in respect of the last building comprising the Facility); and
- (b) the date of Occupancy, (or in the case of a Facility comprised of more than one building or phased construction, then the date of Occupancy for the last building comprising the Facility).

12.2 Termination by VCH

VCH, without liability, cost or penalty, may, in VCH's sole discretion and without prejudice to any other rights or remedies of VCH under this Agreement or at law or in equity, terminate this Agreement immediately upon giving written notice to the Project Developer if any of the following events or conditions have occurred or exist:

- (a) subject to Section 12.3, VCH is of the opinion that there has been a material breach by the Project Developer of any term, warranty, representation, condition, covenant or other provision of this Agreement, which includes any failure to meet any deadlines set out in this Agreement;
- (b) Completion or Occupancy is not achieved on or before the applicable dates set out in the Project Schedule for any reason other than delay caused by an event of Force Majeure;
- (c) the Project Developer fails to complete or achieve any of the actions, objectives or Project Milestones contemplated in Section 3.5 in accordance with its provisions;
- (d) an event of Force Majeure prevents or delays performance by the Project Developer of a material obligation under this Agreement, including achievement of Completion or Occupancy, for more than 270 days from the date of such event;
- (e) VCH does not consent to a proposal delivered by the Project Developer to VCH pursuant to Section 3.7 to extend the date for Completion or Occupancy and the Project Developer thereafter notifies VCH in writing that it will not be able to achieve Completion or Occupancy on or before the date set forth in the Project Schedule;
- (f) an order is made, a resolution is passed or a petition is filed, for the Project Developer's liquidation or winding up; the Project Developer commits an act of bankruptcy, makes an assignment for the benefit of its creditors or otherwise acknowledges its insolvency; a bankruptcy petition is filed or presented against the Project Developer or a proposal under the Bankruptcy and Insolvency Act (Canada) is made by the Project Developer; a

compromise or arrangement is proposed in respect of the Project Developer under the Companies' Creditors Arrangement Act (Canada) or any legislation of similar purport; a receiver or receiver-manager of any of the Project Developer's property is appointed or the Project Developer files for the appointment of any such official; or the Project Developer ceases, in VCH's reasonable opinion based on generally accepted accounting principles, to carry on business as a going concern;

- (g) the indebtedness of the Project Developer under any financing arrangements for the Project has been declared due and payable by the creditor(s) thereunder prior to the date or dates on which such indebtedness would otherwise have been due thereunder and the Project Developer has not been able to reach an agreement with its creditor(s) on the revised schedule within 30 days, such schedule having been accepted by the VCH acting reasonably;
- (h) the financing arrangements made by the Project Developer for the Project are cancelled or no longer available to the Project Developer and have not been replaced within 30 days by comparable financing arrangements, accepted by VCH, acting reasonably; and
- (i) the Project Developer is in breach of a material obligation under any other agreement with VCH (including the Services Agreement or any other services agreement(s)) or any licence issued under Applicable Laws in respect of the provision of community health services or the operation of any building in which such community health services are provided, and the Project Developer fails upon 30 days written notice by VCH to remedy such breach to the reasonable satisfaction of VCH.

12.3 Cure Period

In respect of any breach described under Section 12.2(a):

- (a) VCH will notify the Project Developer in writing of the nature of the default and will specify in such notice the effective date that this Agreement will terminate; and
- (b) this Agreement and the Services Agreement will terminate on the effective date referred to in Section 12.3(a) above unless the Project Developer remedies such default to the satisfaction of VCH before such effective date (or if such default cannot reasonably be remedied before such effective date, then the Project Developer delivers to VCH, and commences implementation of, a plan satisfactory to VCH for rectification of the default before such effective date and thereafter remedies such default within the time that will be set out in its rectification plan).

12.4 Consequences of Termination on the Services Agreement

If this Agreement is terminated by VCH pursuant to this Section 12, then subject to Section 14.5 and subject to VCH maintaining its right to claim damages against the Project Developer, all rights and obligations of the Project Developer and VCH under this Agreement and the Services Agreement will cease and any obligation of VCH to provide funding or any other payments under the Services Agreement

will concurrently terminate. For greater certainty, the foregoing right of termination will not affect any services agreements between VCH and the Project Developer for any other facility or facilities.

12.5 Damages for Late Occupancy

The Project Developer acknowledges that VCH may suffer damages if Occupancy has not been achieved by the date set in the Project Milestones, and if the date so set has not been extended as provided herein, or if the date set for Occupancy has been extended as provided herein and the date so extended has not been met, and without limiting the generality of the foregoing, such damages may include VCH's costs of obtaining an alternate service provider for the Services at premium or increased rates (collectively, the "**Late Occupancy Damages**"). Without limiting the generality of Section 10.2, the Project Developer agrees that it will indemnify VCH for all Late Occupancy Damages reasonably incurred by VCH. VCH will use all reasonable efforts to mitigate such amount to be paid by the Project Developer to VCH, provided that such obligation will not require VCH to:

- (a) take any action which is contrary to the public interest, as determined by VCH in its discretion; and
- (b) undertake any mitigation measure that might be available out of its status as a public body, but which measure would not normally be available to a private commercial party.

13. FORCE MAJEURE

If, as a result of an event of Force Majeure the Project Developer fails to perform or comply with any of its obligations under this Agreement, such failure will not constitute a default or breach of this Agreement provided that the Project Developer complies strictly with the terms of this Section 13. Dates and times by which the Project Developer is required to perform under this Agreement will be postponed automatically to the extent and for the period of time that the Project Developer is prevented from meeting them by causes beyond its control which are not avoidable by the exercise of reasonable foresight by the Project Developer. Such causes (each such cause, an event of "**Force Majeure**") will include but not be limited to acts of God, acts of war, riots, epidemics, fire, strikes, labour disruptions or lockouts and delays or difficulties in obtaining zoning, development permits or building permits (other than such as are caused by the actions or omissions of the Project Developer or any Project Developer's Personnel or any other Person for whom the Project Developer is responsible at law) which permits the Lands to be used for a residential care facility of the type that the Facility is proposed to be, but will not include a failure to obtain sufficient funds to perform its obligations under this Agreement. The Project Developer will notify VCH of any event of Force Majeure promptly upon the Project Developer becoming aware of the same. The Project Developer will use all reasonable efforts to perform its obligations under this Agreement and to overcome or minimize the effects of such event of Force Majeure including rearranging and rescheduling the Work or the Project so as to minimize the ultimate delay in Completion of the Project in a timely manner, utilizing to such end all resources reasonably required in the circumstances, including obtaining comparable supplies or services from other sources if the same are reasonably available. Notwithstanding the foregoing, if performance of a material obligation of the Project Developer is prevented or delayed for more than 270 days by reason of an event of Force Majeure, then VCH may treat the delay as a material breach and terminate this Agreement in accordance with Section 12.2.

14. GENERAL PROVISIONS

14.1 Entire Agreement

The Services Agreement, this Agreement and the Schedules attached hereto constitute the entire Agreement between the parties hereto pertaining to the subject matter of this Agreement and supersede all prior agreements and understandings, collateral, oral, or otherwise (including without limitation any documents prepared in respect of any procurement process leading up to the execution of this Agreement).

There are no conditions, warranties, representations or other agreements between the parties in connection with the subject matter of this Agreement (whether oral or written, expressed or implied, statutory or otherwise), except as specifically set forth or incorporated by reference in this Agreement or the Services Agreement.

No modification of this Agreement will be binding upon the parties to this Agreement unless in writing and executed by the authorized representatives of the Project Developer and VCH.

14.2 Inconsistencies between Contract Documents

- (a) In the event that there are any inconsistencies, conflicts or ambiguities between the terms of this Agreement and the Proposal or any other document incorporated herein, the terms of this Agreement shall prevail. For greater certainty and without limiting the generality of the foregoing, in the event that there are any inconsistencies, conflicts or ambiguities between the terms of the Proposal and the terms of the Project Specifications, the terms of the Project Specifications shall prevail; provided, however, that any terms contained in the Proposal which are not contained or contemplated in, or are in addition to the terms contained in, the Project Specifications shall be binding on the Project Developer and shall not be construed as an inconsistency, conflict or ambiguity between the Project Specifications and the Proposal.
- (b) In the event that there any inconsistencies, conflicts or ambiguities between the terms of any Schedule to this Agreement and the terms of this Agreement (other than the Schedules), the terms of the Schedule shall prevail over the terms of this Agreement.
- (c) Notwithstanding Sections 14.2(a) and 14.2(b), any terms contained in the Project Specifications which are not contained or contemplated in, or are in addition to the terms contained in this Agreement (other than the Project Specifications), the Proposal or any other document incorporated by reference herein, shall be binding on the Project Developer and shall not be construed as an inconsistency, conflict or ambiguity between the Project Specifications and such document.

14.3 Further Assurances

The Project Developer agrees to promptly perform, make, execute, deliver, or cause to be performed, made, executed, or delivered, all such further acts and documents as VCH may reasonably require for the purpose of giving effect to this Agreement.

14.4 Independent Contractor

The Project Developer is a separate legal entity and an independent contractor from VCH and the Project Developer's Personnel will not be deemed to be the employees, agents, partners of, or in a joint venture with VCH. None of the parties will be deemed to be the employee, agent, partner of, or in a joint venture with, any of the other parties.

14.5 Survival of Certain Terms

Termination for any reason of this Agreement shall not prejudice, limit or affect any unpaid payment obligation, claim or matter outstanding prior to termination or obligations consequent upon termination as provided for herein. Without limiting the foregoing, for clarity, Sections 5, 6, 8, 9, 10, 12.4, 12.5, 14.5, 14.12, 14.15 and any other terms and conditions of this Agreement which, by their terms or nature, are intended to survive any termination of this Agreement, shall survive any termination of this Agreement.

14.6 Enurement

This Agreement will enure to the benefit of and be binding upon the parties and their respective successors and assigns.

14.7 Severability

If any provision of this Agreement is invalid, illegal or unenforceable, such provision will be severed from the balance of this Agreement and the remaining provisions of this Agreement will continue in full force and effect.

14.8 Waiver

No waiver of any breach of this Agreement will operate as a waiver of any subsequent breach or of the breach of any other provision of this Agreement. No provision of this Agreement will be deemed to be waived, and no breach excused, unless such waiver or the consent excusing the breach is in writing and signed by the party that is purported to have given such a waiver or consent. No delay or omission on the part of any party to this Agreement to avail itself of any right it may have under this Agreement will operate as a waiver of any such right. No waiver or failure to enforce any of the provisions of this Agreement will in any way affect the validity of this Agreement or any part hereof.

14.9 Rights and Remedies Cumulative

The rights and remedies of the parties to this Agreement are cumulative and are in addition to and not in substitution for any rights and remedies provided at law or in equity.

14.10 Assignment

VCH may assign this Agreement (or any part hereof) to any successor of VCH as part of a regional or provincial reorganization or consolidation of health services.

Except with the prior written consent of VCH, which may be withheld or made conditional in VCH's sole discretion, the Project Developer will not assign, transfer, or pledge, directly or indirectly, in whole or in part, any of its rights or obligations under this Agreement.

Notwithstanding the foregoing, VCH may, upon the request of the Project Developer and at the sole discretion of VCH, enter into the form of Acknowledgement and Consent Agreement approved by the Ministry of Health with any institutional lender to the Project Developer who is providing CMHC insured financing for the Project. Any consent given by VCH will be conditional upon the assignee, transferee or pledgee, as the case may be, executing an agreement, in form and substance satisfactory to VCH, whereby such assignee, transferee or pledgee, as the case may be, assumes all obligations and liabilities of the Project Developer hereunder, and under the Services Agreement and any other agreements between VCH and the Project Developer which are in effect at the time of such assignment, transfer or pledge, as the case may be. Such consent may also be granted subject to such other terms and conditions as VCH may require.

14.11 Time of the Essence

Time will be of the essence of this Agreement in all respects.

14.12 Publicity

The Project Developer will notify VCH in advance of any proposed publicity or publications by or on behalf of the Project Developer relating to this Agreement or the Facility (including press releases, press conferences, brochures, pamphlets, books or other marketing materials intended to promote or advertise the Project or the Facility) and will make such changes thereto reasonably requested by VCH.

14.13 Designated Representatives

For purposes of this Agreement, the designated representatives are as follows:

- (a) The designated representative of VCH is:

Deborah Lorimer, Clinical Operations Director - Residential Care Rejuvenations Project
c/o Ashley Braich
Lions Gate Hospital, Corporate Office
231 East 15th Street
North Vancouver, British Columbia V7L 2L7
Telephone: 604-988-3131 ext. 4485
Email: Deborah.Lorimer@vch.ca
Fax: 604-984-5788

(b) The designated representative of the Project Developer is:

Mary McDougall, President
Silverstone Care Centre Ltd., general partner,
Silverstone Care Centre Limited Partnership
s.19(1) [REDACTED]
North Vancouver, British Columbia s.19(1) [REDACTED]
Tel: 778-928-1182
Email: mary.mcdougall@trellisgroup.ca

Any party may designate different representatives, addresses, telephone or facsimile numbers, or electronic addresses, by notifying the other party in accordance with this Section 14.13.

14.14 Notice

Any notice, request, demand, consent, acceptance, approval or authorization (each, a “**Notice**”) required, permitted or contemplated under this Agreement will be in writing, whether or not such notice is expressly stated herein to be provided or made in writing (unless a provision of this Agreement expressly provides otherwise). Each Notice will be delivered by courier, personal delivery or sent by facsimile or ordinary mail addressed to the designated representative of the party to whom it is intended as specified in Section 14.13.

A notice sent by facsimile or delivered by courier on a Business Day is deemed to be received by the addressee on the day that it is sent. If the Notice is so sent or delivered after the end of the Business Day, then it is deemed to be received by the addressee on the following Business Day. If the Notice is so sent or delivered on a day other than a Business, Day, then it is deemed to be received by the addressee on the following Business Day. A Notice sent by ordinary mail is deemed to be received by the addressee to which it is delivered on the fourth Business Day following the date when it is so mailed; provided however that no such Notice will be mailed during any actual or apprehended disruption of postal services.

14.15 Governing Law

This Agreement will be governed by, subject to, and interpreted in accordance with the laws of the Province of British Columbia and the laws of Canada applicable therein, and, the parties agree to submit to the jurisdiction of the courts of the Province of British Columbia.

14.16 Joint and Several Liability

In the event that the Project Developer is comprised of more than one party, each of such parties will execute and deliver this Agreement and will be jointly and, severally liable in all respects under and in connection and in accordance with the terms of this Agreement.

14.17 Binding Effect

VCH will have no binding obligations under this Agreement until the Agreement is signed by VCH's authorized signatory(ies).

14.18 Seal

VCH and the Project Developer specifically confirm that this Agreement is executed under seal in order to evidence the intention of both parties that the terms and conditions herein are legally enforceable and binding.


14.19 Counterparts

This Agreement may be signed in any number of counterparts, each of which is an original, and all of which taken together constitute one single document. The execution of this Agreement by any of the parties may be evidenced by way of an electronic transmission of a copy of such party's signature and the copy of such signature will be deemed to constitute the original signature of such party with the same force and effect as if the party had delivered an original of its signature.

[Signature page follows]

IN WITNESS WHEREOF the parties hereto have executed this Agreement under seal.

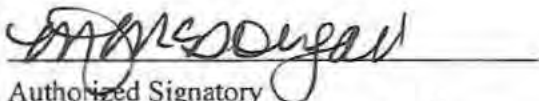
VANCOUVER COASTAL HEALTH AUTHORITY

Per: 
Authorized Signatory
Name: *Mary Ackenhusen*
Title: *President and Chief Executive Officer*



SILVERSTONE CARE CENTRE LIMITED PARTNERSHIP

By an authorized signatory of its general partner,
Silverstone Care Centre Ltd.

Per: 
Authorized Signatory
Name: *Mary McCoungall*
Title: *President*

[Signature page Sechelt PDA]

SCHEDULES:

- Schedule A Project Specifications
- Schedule B Project Milestones
- Schedule C Permitted Encumbrances
- Schedule D Certificate of Insurance
- Schedule E Design Guidelines
- Schedule F Proposal Extracts
- Schedule G Form of Guarantee
- Schedule H Lands

SCHEDULE A

PROJECT SPECIFICATIONS

Pursuant to the terms of this Agreement, the Project Developer will build the Facility on the Lands according to the following Project Specifications:

1. The Project Developer will construct the Facility consisting of a three-story wood-frame building with 128 complex care beds and all space required to support the beds to ensure the Facility meets or exceeds:
 - a. the VCH Design Guidelines and any permitted variance to the VCH Design Guidelines as communicated by VCH in writing on May 27, 2015;
 - b. all Applicable Laws; and
 - c. the requirements to operate a licensed community care facility under the Community Care and Assisted Living Act.
2. The Facility will include an appropriate number of hand washing stations in common areas to facilitate hand hygiene as agreed in consultation with VCH and which hand washing stations meet or exceed the hand washing sink specifications communicated by VCH in writing on February 3, 2016.
3. The Facility will include the necessary rooms and space to operate an adult day program for older adults.
4. The one (1) bariatric room in the Facility will comply with the specification for bariatric rooms in residential care facilities communicated by VCH in writing on March 16, 2016.
5. The Facility will comply with the Proposal, including the Proposal Extracts attached at Schedule F, together with any and all written revisions to such Proposal and Proposal Extracts as may be agreed to in writing by the Project Developer and VCH.
6. In addition to the foregoing, the Project Developer will construct the Facility in a manner which permits Occupancy to occur on or before August 31, 2018, or such other date for Occupancy as may be agreed by VCH and the Project Developer in accordance with Section 3.5(a).

SCHEDULE B

PROJECT MILESTONES

ACTIVITY/OBJECTIVE	ANTICIPATED COMPLETION DATE
1. Delivery of Project Documents to VCH for Acceptance:	
a) Project Schedule and Gantt Chart;	April 20, 2016
b) Project Management Plan;	April 20, 2016
c) Schematic Drawings & Specifications; and	April 20, 2016
d) Financing Documents (updated Letter of Support).	April 20, 2016
2. Delivery of Updated Project Documents to VCH for Acceptance – 1st and 2nd reading of zoning bylaw	
a) Design development Drawings & Specifications;	May 1 to July 1, 2016
b) Submit Zoning and DP Applications;	July 1, 2016
c) Submit 30% Working Drawings to Licencing for Review	August 15, 2016
d) Submit 50% working Drawings & Specifications;	September 1, 2016
e) Receive 1st and 2nd Reading of Zoning Bylaw; and	October 1, 2016
f) Project Schedule and Project Management Plan (if revised).	October 1, 2016
3. Delivery of Updated Project Documents to VCH for Acceptance – 3rd reading of zoning bylaw:	
a) Receive 3 rd Reading of Zoning Bylaw;	December 15, 2016
b) 75% Working Drawings and Specifications (submit for Building Permit);	December 15, 2016
c) Project Schedule and Project Management Plan (if revised).	December 15, 2016
4. Delivery of Updated Project Documents to VCH for Acceptance – 4th reading of zoning bylaw:	
a) Receive 4th Reading of Zoning Bylaw	January 15, 2017
b) Final working Drawings & Specifications	January 15, 2017
5. Rezoning of Lands	January 30, 2017
6. Issuance of Development Permit	February 15, 2017
7. Finalization of Project Documents:	
a) Project Schedule and Project Management Plan;	March 1, 2017
b) Drawings & Specifications;	March 1, 2017
c) List of Furniture, Fixtures & Equipment	March 1, 2017
d) Financing Documents; and	June 1, 2017
e) Insurance Confirmation.	June 1, 2017
8. Issuance of Building Permit	May 1, 2017
9. Commencement of Construction	June 1, 2017
10. Completion	July 31, 2018

11. Written certification of Builders' Warranties	July 31, 2018
12. Occupancy Permit	August 31, 2018
13. Licensing and Approvals	August 31, 2018
14. Letter of Acceptance	August 31, 2018
15. Occupancy	August 31, 2018

SCHEDULE C

PERMITTED ENCUMBRANCES

LEGAL NOTATIONS:

1. The charges listed on the Title Certificate attached to the Agreement of Purchase and Sale;

CHARGES, LIENS AND INTERESTS:

2. Subject to exceptions and reservations contained in the original Crown grant or contained in any other grant or disposition from the Crown; and
3. Subject to any financial encumbrances to be granted by the Project Developer in connection with any financing required to complete the Project or for on-going operations provided that the Project Developer provides VCH with prior written notice of such financing, including the terms thereof.

SCHEDULE D

FORM OF INSURANCE CERTIFICATE

CERTIFICATE OF INSURANCE

Freedom of Information and Protection of Privacy Act
 The Personal information requested on this form is collected under the authority of and used for the purposes of contract review

Part 1 *To be completed by the Health Care Agency*

This certificate is requested by and issued to (<i>Name of office</i>)	AGREEMENT IDENTIFICATION NO
HEALTH CARE AGENCY CONTACT PERSON	PHONE NO ()
Name and Title	FAX NO ()
MAILING ADDRESS	POSTAL CODE
CONTRACTOR NAME	
CONTRACTOR ADDRESS	POSTAL CODE

Part 2

INSURED	NAME		
	ADDRESS		POSTAL CODE
OPERATIONS INSURED	PROVIDE DETAILS		
TYPE OF INSURANCE List each separately	COMPANY NAME, POLICY NO & BRIEF DESCRIPTION	EXPIRY DATE (YYYY/M/DD)	LIMIT OF LIABILITY / AMOUNT

This certificate certifies that policies of insurance described herein are in full force and effective as of the date of this certificate and comply with the insurance requirements of the agreement identified above, except as follows:

Agent or Brokers Comments:

AGENT OR BROKER	ADDRESS	PHONE NO ()
SIGNED BY THE AGENT OR BROKER ON BEHALF OF THE ABOVE INSURER(S)		

SCHEDULE E
DESIGN GUIDELINES



VCH Design
Guidelines.pdf



Vancouver Coastal Health DESIGN GUIDELINES Complex Residential Care Developments

PROJECT SPONSORS:

Brent Alley, MAIBC, Regional Director, Regional Facilities Planning & Project Development, VCH
Nancy Rigg, Executive Director, Community/Primary Health Care Networks, VCH

PROJECT LEAD:

Patricia Darling, MAIBC, Senior Project Leader, Regional Facilities Planning & Project Development, VCH

DATE:

June 6, 2007

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PREFACE

In accordance with regional population health requirements and Community Care directional planning, Vancouver Coastal Health (VCH) has developed the following Design Guidelines for Complex Residential Care Developments (Guidelines). This document synthesizes information from the *1992 Multilevel Care Design Guidelines* and the subsequent *1994 Multilevel Guideline Review*, both produced by the Ministry of Health. The guidelines also incorporate current thinking regarding shifting resident acuities and demographics trends within the region. The Design Guidelines form part of the VCH overall direction and commitment to continuously improve Residential Care services for seniors with complex care requirements and young adults living with disabilities.

The purpose of the Guidelines is to provide a common reference tool for designing Residential Care environments and for assessing proposals and plans for new/renovated Residential Care facilities (referred to throughout the document as “Complex Residential Care”).

The intended audience of the Guidelines includes, but is not limited to: architects, mechanical engineers, electrical engineers, code consultants, residential care operators, project managers, developers, funding agencies and other parties involved in the development of Complex Residential Care facilities.

The scope of the guidelines is to identify and describe essential environmental design elements for Complex Residential Care facilities. The Guidelines are not intended to address every design element leading to the successful completion of a building design, but rather to stipulate minimum requirements for new Complex Residential Care buildings and renovation projects within VCH. Additional research will be required by the design and care provider teams to provide appropriate environments and care outcomes for residents.

The Guidelines have been developed primarily for seniors’ Complex Residential Care developments. The philosophy and physical requirements will be similar for young adults with disabilities but will need to incorporate design features described, as well as other features to accommodate the varying environmental, physical, social, recreation needs of a younger population.

At the time of writing, an integrated physical program or design approach for Campus of Care projects has not yet been developed under this version of the Guidelines. Any approach that includes Complex Residential Care services as a component, will comply with these Guidelines.

Acknowledgements

The Guidelines have been reviewed and amended with current input on best practices provided by the VCH Design Standards Working Group and other experts in the field of care for seniors.

Many individuals and organizations have contributed their experience, expertise, ideas and passion for the care of our elderly and young adults with disabilities populations throughout the revision process. VCH wishes to acknowledge the following contributors:

- Facilities Development and Construction, Vancouver Coastal Health
- Community Care Network Integration Council, Vancouver Coastal Health
- Complex Residential Care Working Group, Vancouver Coastal Health
- Design Standards Working Group, Vancouver Coastal Health and Providence Healthcare – clinical, operations, licensing, architectural representation
- Community Care Facilities Licensing, Vancouver Coastal Health
- Capital Regional District, Victoria
- Fraser Health Authority
- Vancouver Island Health Authority
- Interior Health Authority
- Northern Health Capital Planning
- Architectural Institute of British Columbia, Health Care Facilities Committee
- Home and Community Care, Ministry of Health
- Capital Services, Ministry of Health

Consultants

- Busby & Associates Consulting – Program/Strategy Consulting
- Resource Planning Group Inc. (RPG) – Functional Program Consulting
- Cannon Design – Architectural Consulting and Diagrams
- Stantec Consulting – Plumbing and Electrical Sections
- Quadra Pacific Consultants – Heating and Ventilation Sections
- Gage-Babcock & Associates Ltd. – Code Consulting
- BTY Group – Quantity Surveyors

1.0 INTRODUCTION

1.1 Intent and Overview

The Guidelines are based on the principle that design features of Complex Residential Care facilities directly impact operational flows and ultimately resident care outcomes and quality of life for the residents.

The Guidelines represent the minimum building requirements for Complex Residential Care environments. The Guidelines are intended to be simple, brief, and flexible enough to allow for a variety of “best practice” building solutions that have a positive impact on service delivery and care outcomes.

Users of the Guidelines must review the body architectural and care-related research on special designs for specific resident populations, such as number of resident rooms in a house, impeded egress, contained use, and location of ceiling lifts for example.

The document provides a list of the primary codes (building and other), legislation and regulations as references for designers and proponents of Complex Residential Care facilities. The list is not exhaustive and requires research and review of other jurisdictional (federal, provincial, municipal), best practice and legal precedents prior to proposing a design solution. The National Building Code, the British Columbia Building Code and other legal or jurisdictional requirements take precedence and may supplant Guideline requirements.

Recommended minimum area requirements are provided in the document where possible. It is important to note that the Design Guidelines area requirements are often greater than those found in the *Community Care and Assisted Living Act (CCALA)* and subsequent *Adult Care Regulations*.

1.2 Vision, Values and Philosophy of Care

The vision for future VCH Complex Residential Care is one of caring environments that nurture holistic well-being of clients, support relationships and community, and encourage the growth and development of both residents and staff.

The set of values, which would be the philosophy of care includes:

- Respect for the individual
- Autonomy for decision making
- Quality of life
- Choice in a caring environment

- Partnership with families and caregivers

1.3 Definition of Complex Residential Care Facilities

Complex Residential Care facilities provide 24-hour professional nursing care and supervision in a protective, supportive environment for clients with significant health issues who have complex care needs and require a secure housing/care environment to live safely and with dignity.

Residential care services include:

- An assisted meal service;
- Medication supervision;
- Personal assistance with daily activities such as bathing, dressing or grooming; and
- A planned program of social and recreational activities.

1.4 Service/Care Profile

Residents have complex care needs, which may include heavy physical care or/ or complex health care (medical and/or behavioural), and are not able to live outside a residential care setting within available home and community support services.

The complex care populations are anticipated to have the following characteristics:

- Clinically complex; often with multiple chronic conditions, and/or
- Cognitively impaired and unable to direct their own care, and
- The frail elderly (aged 80 to 100+ years)
- Young adults with varying disabilities who will need to be located in age appropriate environments, and are unable to direct their own care

They could also have a combination of characteristics for the resident to require 24-hour supervision and continuous professional care that could include the following:

- Difficulty in expressing needs or unable to express needs
- Unable to adapt to visual or hearing losses
- Require a varying amount of assistance with dressing, washing, grooming and bathing
- Be depressed or agitated
- Have impaired comprehension and have a short retention span
- Demonstrate varying degrees of difficulty in orientation to time, place and persons
- May have one or more severe behavioural problems which make the person unacceptable in the usual residential resources

Care requirements are not categorically discreet. Effort should be made to assess and possibly aggregate resident care and service delivery requirements in the proposed design.

In addition to these characteristics, it is expected future populations will generally be better informed about their health status and disease processes; more knowledgeable about the health care system; and more culturally and ethnically diverse.

1.5 Program Objectives

Research indicates that placing elderly or disabled persons in an institution where they become passive recipients of care, often results in rapid mental and physical deterioration which may jeopardize quality of life.

Environments that facilitate mobility and offer a variety of opportunities to engage in self-directed activities of daily living, as well as socializing and recreating, provide the necessary stimulation and pleasure that may slow, arrest, or even reverse deterioration.

The Guidelines provide appropriate physical space to increase the likelihood the built environments have the flexibility to support the individual's remaining abilities, compensate for lost abilities, and optimize participation in daily life.

Each care facility is considered a unique project with its own community and site. Careful attention to prevailing weather conditions, street access, desirable or undesirable views, topography, and other site conditions are essential for optimal quality of life and care outcomes.

1.6 Occupancy

Under the British Columbia Building Code, the occupancy is deemed to be "B2 Occupancy". Where egress control measures are in place, provisions for B1 Occupancy will have to be met in addition.

Please refer to the BC Building Code requirements for further information.

2.0 DESIGN – GUIDING PRINCIPLES

2.1 Guiding Principles

Guiding principles have been established to assist designers to design buildings that reduce resident isolation, helplessness, and boredom; and which supports a philosophy wherein the physical environment facilitates optimal care and social outcomes.

The design of Complex Residential Care facilities shall incorporate, but not be limited to the following guiding principles:

- Design a homelike environment for residents; respecting that it will likely be the resident's home for the remainder of their lives
- Employ a resident "house" concept consisting of smaller groupings of resident rooms co-located with living, dining, and kitchen areas
- Employ a "neighbourhood" concept, which involves co-location of support services between or amongst houses
- Encourage resident interaction and privacy by providing adequate space for larger social and leisure activities as well as quiet rooms and private spaces
- Encourage autonomy and independence by incorporating design features that facilitate activities of daily living
- Provide amenities for the cooking of meals using fresh ingredients on site
- Facilitate accessibility in and around the building by designing meaningful destinations, short corridors, and safe indoor and outdoor space for healthy wandering and exploration
- Enhance accessibility for residents, caregivers and visitors by providing clear spatial organization and "way-finding" cues
- Preserve privacy, dignity, safety and security by understanding the relationship between private spaces for residents and common spaces
- Provide adequate space for supplies and equipment to promote worker safety and ease of care delivery

- Locate facilities in areas close to community services and transportation routes, and otherwise welcomes/encourages integration with the outside community
- Use energy efficient design principles that respect the principles of sustainability, including harmonizing environmental, social and economic factors. LEED standards are encouraged, however certification is not a requirement.

2.2 Application of Guidelines

The Guidelines apply to all new or substantially renovated facilities. VCH supports house sizes of 12 to 16 beds, with a preference for fewer beds and a smaller numbers of houses per neighbourhood.

The design team is encouraged to obtain as much information to understand the evolving physical and mental requirements of the intended resident population(s) and to adapt the Guidelines for the group.

The Guidelines do not include a staffing or operational model. Staffing models will need to be developed on a project-by-project basis, and integrated with the configuration of the facility to meet VCH care requirements. Staffing flows will also consider and reflect individual site characteristics and influence design layout.

2.3 The House Concept

The house concept supports a homelike environment within the Complex Residential Care setting for single-storey or multi-storey buildings.

The intent of the house concept is to create relatively autonomous living, dining (and possibly kitchen) spaces that function independently for smaller groups of residents. These areas replicate the atmosphere of a large family home and also provide the opportunity to co-locate small numbers of residents with similar care needs together to optimize care delivery.

In addition to reducing the institutional feel and appearance of a facility, the house concept also reduces resident confusion and anxiety that stems from noise and other stimuli resulting from congregating many people in one area.

2.4 The Neighbourhood Concept

A neighbourhood is formed when two or more houses are combined for staffing and spatial efficiencies to share functions such as activity areas, personal laundry, care stations, and clean and soiled utility rooms.

2.5 Campus of Care Model

VCH supports a campus of care model that offers a range of housing and care options in one location to support aging in place and minimize number of transitions for seniors. The model consists of assisted living and complex care with other health services.

Space allowances for the resident House and Neighbourhood support spaces are designated as the minimum space requirement to form the standard living units.

Facility support areas would be adjusted to reduce duplication of service areas that are closely located on one site. Support services such as the central kitchen, laundry, service facilities, and potentially multi-purpose rooms could be shared to bring economical savings to the facilities.

2.6 Accessibility

The environment should facilitate resident mobility and accessibility. Since many residents have physical, visual, perceptual or cognitive impairments, design features shall facilitate easy access to common and personal areas. Each design shall incorporate wheelchair and mobility aid access, contiguous floor levels, and allow for adequate turning spaces in all interior living areas and external wandering paths and grounds.

2.7 Clarity of Spatial Organization and Way-finding

The design shall reinforce awareness of location and direction by providing frequent sight lines to the outside and distant views for orientation with surroundings.

Reception points shall be obvious with destinations clearly visible from place to place. Circulation patterns should be simple and direct and avoid complex circulation patterns.

Corridor lengths shall be as short as possible and the proximity of resident rooms close to amenities to encourage independent travel.

2.8 Resident Privacy

Visual and acoustic privacy for residents is important and shall be designed into all personal care spaces. There must be no direct view of the resident's bathroom or the bathing facilities from the corridor. It is important to be aware of the journey the resident will make for personal services (such as bathing or physiotherapy) and ensure private areas and public areas are discreetly separated.

2.9 Safety and Security

Staff work areas shall be integrated with resident amenity areas to facilitate observation and interaction as part of routine activities with specific regard to access points to the house and outside.

Specialized areas for certain populations within the facility may need to be securable. It is important discussions occur with health authority staff prior to embarking on designing these spaces.

Perimeter security is required to prevent vulnerable residents from leaving the facility, but simultaneously allow access by family and other visitors. Restricted access is also required to prevent intruders from entering and posing a risk to residents, staff, and visitors.

2.10 Community Interaction

Provide inviting spaces both indoors and outdoors to encourage the community at large to visit and participate in activities at the facility.

2.11 Independence and Choice

Provide access from resident rooms to amenity spaces, a variety of seating spaces, natural daylight sources and features that encourage normal activities of life.

2.12 Different Population Groups

It is important to design for flexibility in resident groupings and changes in resident acuity. A variety of groupings dedicated to residents with similar care and/or socialization needs such as dementia, complex medical conditions and chronic behaviours may be considered depending on the needs of the community and care model. Close consultation with health authority staff is required prior to embarking on a "care-specific" design solution.

2.13 Positive Meaningful Stimuli (Sensory and Cognition)

Each house should provide positive meaningful stimuli to residents, examples include: outdoor views, views of activities and functions, and fresh food aromas that stimulate the appetite.

Where possible, designs should avoid negative stimuli such as distracting noises, glare, and too many unfamiliar faces. Ensure that service and delivery staff functions and flows are not designed to create unnecessary circulation and disruption throughout the house.

Designers need to recognize the importance of navigation throughout the house/neighbourhood, and the requirement for resident travel to be free from obstacles in the form of people or objects.

2.14 Walking/Destinations

Wandering, pacing, and gait impairment are common among people with a cognitive impairment. The physical design of the building and grounds shall minimize impediments to ambulation, while promoting independence and optimal functioning.

Walking difficulties and depth perception can result in an increased likelihood of falls, and efforts shall be made to design environments that prevent or avoid the potential for falls.

Wandering and pacing can occur at night as well as during the day. Consideration should be given to design solutions that avoid disturbing other residents during quieter times.

3.0 SITE DESIGN CONSIDERATIONS

3.1 General Site Selection Criteria

A care facility should be located in an area that meets the needs of the community. The physical attributes of the site and its proximity to community services are important elements in the evaluation and selection of an appropriate site. It is preferable to situate a facility with residential, community and other health related services and resources.

The preferred arrangement is a single-storey building solution with ample outdoor space for residents at grade. This may result in a larger site requirement, which in urban areas may not always be available or cost effective.

Multi-storey facilities also require usable outdoor space for healthy wandering and resident quality of life. The size of the site will vary with the building solution chosen and the availability of land.

Campus of care configurations, which can co-locate residential care with assisted and/or supported living units and/or other services, will be considered. Discussions and approval of health authority staff is required if this option is being considered.

The design team should give every consideration to respect the local site and climatic conditions when designing the building and incorporate green design principles wherever possible.

3.2 Site Location Factors

3.2.1 *Positive location factors:*

- Close to residential areas within the community
- Close to public transportation to facilitate transportation for staff and encourage visits by family, friends and volunteers
- Provide “active observable interest”, i.e. such as schools and parks that enhance the vistas
- Provide easy access to medical services such as doctors, dentists, and therapists
- Close to shopping, senior centres and other appropriate resources
- Safe for pedestrian travel

3.2.2 *Negative location factors:*

- Locating the facility on a site that makes accessing community activities and public transportation difficult shall be avoided.

3.3 Site Topography

Provide a level grade immediately around the building to permit residents to directly access outdoor spaces, and promote mobility for those with mobility aids (wheelchairs and walkers), and limit the risk of falling. Curbs and curb stops are considered a hazard in an evacuation situation.

Design the outdoor deck, terrace and courtyard spaces to provide acceptable outdoor access solutions for multi-storey buildings.

3.4 Parking

Safe access from parking to the building entry shall be provided, with flat surfaces free from running water, ice build-up in winter, and have well-marked cross walks. Avoid ramps at the visitor entrance if possible. BC Building Access Guidelines should be followed if a ramp is unavoidable due to site conditions.

Parking space requirements shall adhere to local/municipal zoning requirements. Requirements may vary if the facility is co-located with other community care resources such as Assisted Living within a Campus of Care arrangement.

Parking should be situated close to the main entrance to provide visible access and to control entry through unauthorized routes. Parking stalls may also be placed adjacent to each house.

Several drop-off stalls should be provided at or near the main entrance. Two or more designated parking stalls for handicapped parking and doctors should be considered. Staff and visitor parking should be separate from these spaces.

Trees and plants should be incorporated into parking areas to provide shade cooling.

Where possible, parking areas should be capable of expanding to accommodate future changes to the building, increases in occupancy or extensions.

3.5 Emergency Preparedness Kiosk

Some jurisdictions may require the provision of an outside accessible shed or locker for the storage of supplies during an emergency.

4.0 THE RESIDENTS' "HOUSE"

4.1 Overview

The resident "house" design responds to the special needs of the complex care resident population and sub-groupings and shall have the attributes as described in this section.

The general objective of the house concept is to provide residents with a supportive care environment; in a familiar homelike setting; which encourages independence, interaction, and familiarity of surroundings; avoids larger crowded spaces; and reduces obstructions and other mobility impediments.

Houses should be built with the fewest resident bedrooms possible and feasible within staffing parameters (12 and 16 residents).

The major components of the house design include:

- Private resident bedrooms with ensuite bathroom and shower
- Common spaces for resident activities of daily living and dining
- Support spaces within and adjacent to the house
- A multi-purpose space outside the house for larger gatherings

The house contains the primary spaces for activities of daily living including large and small lounges, an activity area, a dining area, and a resident kitchen/servery.

A small laundry room in each resident house should be available for resident personal laundry.

Communal bathing facilities will be provided for residents. Where ensuite showers are provided in resident bedrooms, fewer bathing facilities will be required.

Direct access will be provided to suitable outdoor areas, gardens, terraces and/or solariums.

Walking areas will be provided that lead to meaningful destinations and avoid narrow and/or dead-end spaces where confusion can result in resident frustration and anxiety.

A non-institutional approach to delivery of equipment and supplies to resident house will be provided. Service areas will be located between houses so that service routes and staff access routes do not need to pass through one house to reach another service area or house.

4.2 Common Spaces for Residents

4.2.1 *Introduction*

Group activities have several therapeutic functions. Participation in the activities of daily living like eating, talking, exercise, watching TV, and crafts in common areas allows residents to meet some of their social needs through interaction with other residents and staff. Activities help stimulate residents and maintain mental and physical dexterity, which frequently improves their physical and emotional well-being.

Each house will contain the following areas: lounges, dining area, kitchen/server area, a quiet room, and direct access to suitable outdoor areas. To provide flexibility and efficiencies in staffing, some of these areas can be located adjacent to, or combined with the same areas in an adjoining house or neighbourhood.

Activity areas shall be located for ease of accessibility, as some residents will require assistance and/or mechanical aids to reach these areas.

4.2.2 *Service Flow Function*

During functional programming and design, the design team will need to develop solutions around the provision of services to and from the resident houses such as food, laundry, medications and care.

Work flow for the preparation and delivery of food to the houses; removal of dishes/food items to the main kitchen; clean/soiled linen transportation to and from the houses; separation of soiled linen from the house kitchen and dining area; operation of elevators during peak times; and care provision within the houses are critical elements of facility operations. Consider providing separate circulation for materials and service goods where possible.

Where possible, input from staff and families shall be requested and factored into the proposed building solution.

4.2.3 *Walking and Wandering Spaces, Routes and Loops*

Each house should have walking and wandering routes and activity spaces that are interesting and stimulating. Houses shall provide multiple routes for residents to travel in safe and familiar surroundings both indoors and outdoors.

Wandering routes shall be meaningful and integrated to create an internal walking route from "normal" circulation that links destination

areas of the house (e.g., dining, activities and lounge). This approach provides points of interest along the route and a sense of meaningful journey and arrival. It also encourages rest stops rather than the purposeless endless walking.

The preferred approach is a route or a loop, in which the resident does not come to a dead end. This avoids or prevents resident confusion and frustration. Where a loop is not possible, a generous turn around space should be designed. Corridors that end at destinations such as a lounge or activity areas are imaginative ways of facilitating resident access and travel. Flow should be purposeful and designed as a route to be traveled.

Outdoors, the wandering route can be integrated with landscaping and seating areas. Boundaries, defined by plants or building configuration must be unobtrusive and be effective as fences. Fences hidden by plants should also be considered. Special painting effects such as camouflage or murals can be used to guide residents away from exits and dead-end hallways.

4.2.4 House Entry - "Front Door"

This section applies to freestanding cottages and other single-storey structures.

To reinforce the concept of the "house as home" for residents and their visitors, it is important each house has its own distinct entry. This entry replicates the entry to one's own home and is readily identifiable for most residents. The house entry should be a warm, inviting space and contain space for the storage of coats and outdoor clothing for visitors. The house entry acts as a place of arrival where the residents can greet visitors and families who visit. It is the visible gateway from the rest of the facility to the house and as such should have a form and character that readily distinguishes it from other houses on the same level of the building.

4.2.5 "Front Porch" Concept

This section can apply to both single and multi-storey dwellings, but is more applicable to multi-storey.

Consideration should be given to using part of the common areas of the house to create a "front porch" space for the house. From the "front porch" residents can observe other activity spaces throughout the neighbourhood or facility.

These areas can be for gathering to watch people coming and going, and facilitate socialization. With grade access to enclosed outdoor spaces, this function may typically occur next to the external entry to the house.

4.2.6 Lounge – Residents’ “Living Room”

The lounge is the main activity space for social interaction, daytime activities and programs within the house. This space can be adjacent to the dining space to create one large open living/dining area or separated into a distinct room to provide “away space”, which is quieter and offers more privacy for residents and their visitors.

The lounge (living room) space should provide seating both on couches and at tables and provision should be made for the manoeuvrability of wheelchairs within the space. The lounge may also be an access point to the house garden (outdoor space). Providing a small lounge by a cluster of resident bedrooms may encourage smaller social gatherings within the house.

The lounge location should be central and designed to incorporate with the dining area if the combined space is to be used for larger social functions.

The space allocated for lounges and the activity area may be divided into multiple rooms, if required, to suit specific resident programs or activities. Part of the area will be used for entertainment and part for quiet activities. The space allocation for lounges will not be sufficient to translate into more than one lounge, so care must be taken to design effectively as possible.

Provision should be made for smaller seating areas away from the main lounge area.

Residents resting in a lounge should be able to view inside and outside activities.

The types of programs offered in the lounge may include physical exercise, music therapy, and different forms of entertainment, hobbies and activities.

Fireplaces, gas or electric, offer warmth and enjoyment and are a preferred addition. Appropriate precautions are required to prevent injuries as glass fronted fireplaces can present a scalding hazard.

An entertainment centre with a TV should be available and located in a lounge area that does not interfere with quieter activities.

Total floor areas per house to be provided as follows:

<i>Proximity:</i>	Adjacent to resident bedrooms
<i>Lounge area:</i>	1.5 m ² per resident (minimum to meet CCALA Regulations)

4.2.7 **Activity Rooms**

The activity room or space can be fully or partially located within the house or its space allocation can be combined with other houses to create a larger space.

The activity spaces can be either added to the living/dining area to create a larger multi-functional space or separate alternate spaces may be created to add interest and variety possibly taking advantage of differing vistas for the house. Rooms may therefore be referred to as lounge/activity or dining/activity.

Activity areas should have tables and chairs that are appropriate for residents to use for when doing crafts and other activities.

Convenient storage in the house for all program-related equipment/items is essential. Seasonal storage items can be kept in lockable cupboards or the main storage room.

<i>Proximity:</i>	Adjacent to living/dining areas or combined with other houses
<i>Activity area:</i>	1.0 m ² per resident (minimum to meet CCALA Regulations)

4.2.8 **Dining**

The dining space is the main eating area for the residents. The dining space should be large enough to accommodate all residents of the house, allow for wheelchair manoeuvrability, and be situated adjacent to the kitchen/servery. The space should function like a dining room would function "at home".

Access to the house garden from the dining area is preferable. The dining area should maximize the availability of natural light and act as an intermediary space between the house entry and the resident bedrooms.

In order to manage the practical challenges of large geriatric chairs, wheelchairs and walkers, flexible and innovative ways of creating smaller dining groups in each house should be considered. The need for eating assistance may require space for staff to sit next to residents during mealtimes.

The dining space may be used as an activity or social space outside of mealtimes, but is not to function as the sole activity space for the house.

Allow for sufficient supplies storage for combined activity and dining area(s).

Washrooms will be located in proximity to the dining/living area for the use of visitors and residents. Washrooms shall be well ventilated and should not be visible from the dining area.

Provide a space allocation of three square meters per resident in the dining room to accommodate seating, wheelchairs or walkers, portable oxygen units and other devices that require additional space.

<i>Proximity:</i>	Kitchen, activity, and outdoor garden
<i>Area:</i>	3.0 m ² per Resident (Note: CCALC Regulations minimum 2.0 m ² per resident, however resident chairs will require more space to manoeuvre than the minimum requirement)

4.3 House Kitchen and Servery

4.3.1 Resident Kitchen

The resident kitchen and servery adjoins the dining area and is next to the lounge (living room) of the house.

The kitchen area will be a central gathering space for residents and will play a primary role in activities of daily living. The kitchen concept is designed to accommodate and manoeuvre wheelchairs throughout the space. Provision should be made for preparation of minor meals and serving of meals prepared in the main kitchen and transferred house.

The kitchen should be well lit and maximize the opportunity for resident participation while at the same time provide good visibility for supervision and control of the kitchen area.

The kitchen should have appropriate appliances to complete some meals as determined by the care model. Care must be taken to select appropriate grade appliances for use by care staff and residents.

Commercial grade appliances are not generally required in the house however, the dishwasher is required to be a commercial grade and temperature-boosted.

Oven controls should be designed for wheelchair access, with a cook top with securable front mounted controls. There should be a microwave oven and/or wall oven, range hood, and a refrigerator with a large capacity for refreshments and a freezer compartment.

Safety is of paramount importance. A lockout switch to control the operation of the cook top and oven range should be provided in a location accessible to staff only.

Kitchen facilities will need to comply with all requirements regarding safe food handling practices. The kitchen will contain a double bowl sink, and a separate hand wash sink and accessories.

Allowance should be made for some handicapped accessible counter space to allow those in wheelchairs to participate in the preparation of meals. Locate the microwave at counter height for residents in wheelchairs.

Millwork should have rounded corners to prevent injuries. Countertops will be designed with open areas under range, sink, and work area for wheelchair access. All surfaces should have scratch resistant finishes including lower cupboards and drawers.

Storage cabinets will be designed to make optimal use of space. Locking devices may need to be installed on cupboards in houses where residents are cognitively impaired.

If kitchen and dining areas are combined with activity space, allowances must be made for storage of materials and supplies.

Proximity: Dining room, living room, washroom

4.3.2 Kitchen Servery

The kitchen servery is intended as a support space for the house kitchen and should be a pleasant non-institutional environment. The servery is not required to be a separate room but is a holding area for food delivered from the main service kitchen and is also used for storage of kitchen related equipment, and sundries.

Food is delivered from the main service kitchen into the kitchen servery for final preparation and serving to the residents. Allowance should be made within the servery to accommodate a portable bulk food cart and other foodservice/serving equipment.

The area for hot carts will be easily accessible and function for staff and resident safety. Electrical outlets will be easy reach of the location determined most suitable for the cart.

The garbage container and recycling container should be separated from food storage.

Proximity: Resident kitchen, dining room

4.4 House Care/Work Station

The house care/work station should be both unobtrusive and provide staff with the ability to visually supervise all common areas of the house, including: dining/activity lounge areas, corridors to bedrooms and outside patio and garden areas.

The intent is to have all care activities located within the house. The house care/work station will have computer access to care records (e.g., resident records, charts, care plans). Documents could be stored in a lockable cupboard next to the kitchen. Monitoring and wireless capability should be designed into this critical functional area. Medications may be stored in this space or in a nearby location.

4.5 Quiet Meeting Room

The quiet meeting room is where residents can meet with family and care staff. It can also function as an extra place in the house to relax in a quiet environment away from the resident's bedroom.

4.6 Corridors as Living Space

Corridors that are being used as walking routes and loops during daytime hours, should have a ventilation air changes equal to that of an activity area, refer to Table 3 in Section 10 – HVAC, for ventilation requirements.

The design of corridors should promote a homelike environment and reduce the institutional feel often associated with long and/or wide corridors. Provide places for residents to stop and sit down in corridors to allow residents to rest and prevent falls. These could be designed as alcoves with seating and benches.

Corridors in houses and the main facility are required to be a minimum of 2400 mm wide.

Corridor lengths should be used to promote a home-like environment to encourage resident circulation and allow for efficient staffing flows.

Design and articulation of corridors should provide adequate space for clean and soiled item storage. Spatial requirements should also allow for storage of cleaning equipment and carts, where a specific room is not designated for this use.

4.7 Handrails

There are options for providing handrails. Typical facility corridors create frequent interruptions in handrails for door openings that results in discontinuity of support and with residents usually relying on walking assist devices.

Consideration should be given to providing handrails in the corridors and how residents will use the handrails. If providing, handrails should be located on both sides of corridors and mounted on solid blocking between the handrail and the wall, at a recommended height of 840 mm. If not providing handrails, consider including reinforcement within the corridor wall assembly in the event that handrails are needed in future.

4.8 Washrooms in the House

A washroom, designated for residents use, should be located centrally within the house close to the resident activity and dining areas, but not visible from these areas. The washroom layout should provide access for caregiver assistance.

A public washroom designated for visitor use should be located in the public waiting area.

4.9 Personal Laundry

A laundry room for residents' personal laundry should be provided within each house, or shared between houses within the neighbourhood. The laundry room will have a residential style washer and dryer, laundry sink, hand washing sink and accessories, and an area for folding clothes. This is an activity of daily living that could involve resident participation and should be located close to the main activity areas for the house.

Providing personal laundry in each house greatly reduces the risk of losing personal laundry items, reduces the associated time spent in tracking down lost items.

4.10 Exit Control from House

Control of exit doors is essential. These may be electrically locked doors provided they are tied into the fire alarm system for automatic release opening. Building Code requirements should be confirmed.

The design of the house itself should maximize staff's ability to observe most areas of the house, particularly to entry/exit points, including the outdoors.

Overall security and separation of the house is an important factor in creating peace of mind for residents, staff and family members. Each house should have the capability for exit control (when required), from the house to the rest of the facility, and to outdoor areas. Residents should not be able to access service areas.

Exit control requires approval under the Building Code. Security measures such as door buzzers, video monitoring cameras, and others should be selected to provide optimal security in the least intrusive manner, i.e. without alarms.

For the safety and enjoyment of the residents, a flexible exit control system should allow access from the house to a secure outdoor area. The outside area must be observable, be securely contained at the perimeter, and include some sheltered walking and sitting space.

The capability for exit control is needed if every house is to have the flexibility to care for residents with "severe behaviour challenges".

4.11 Outdoor Areas

Outdoor areas should be directly accessible from each house. Residents shall have the opportunity to exercise, relax, garden, and interact with others in the outside area. The outdoor areas shall offer a safe environment with adequate shade and sheltered seating, and must be directly accessible from the interior activity area.

Resident houses should be given priority to ground floor locations over administrative space.

The outdoor areas should be usable year round. Shelter from rain, prevailing wind and sun must be provided in at least part of the outdoor area. In multi-storied facilities, the outdoor areas can take the form of a courtyard, deck, terrace or solarium.

4.11.1 Walking Paths

The outdoor area should include a clear continuous walking path. The path will be designed to connect different areas of the garden for residents to have a sense of meaningful journey with destinations, seating, and defined landmarks strategically placed to assist in orientation.

Defining the path edgeways with contrasting materials or colours can assist resident travel along the pathway.

The outdoor walking path should be a continuation of the indoor walking route or loop with clear views of outdoor areas from the indoor common areas.

The walking path should have a hard surface, suitable for use by residents with gait impairments and others using walkers, wheelchairs and other mobility aides. The surface should be low-glare, non-slip and avoid defects that will interfere with movement. The path should be a smooth surface without vertical interruption, such as steps.

Consideration should be given to materials other than concrete that can provide a softer landing surface in the event of resident falls. Locate pathways away from resident bedroom windows to preserve privacy.

The location of the outdoor walking path should provide staff in common areas within the house with a reasonable vantage point to observe residents. The location of the outdoor area should not obstruct interesting views from the interior.

Sloped walkways must not exceed a gradient of 1 in 20 referenced in the BC Building Access Handbook. Long sloped walkways should be divided into shorter sloped sections with flat areas 1500 mm long to allow for rest points and to minimize the potential for run-away wheelchairs that can occur over long slopes. The sides of sloped walkways should be well marked and protected to prevent residents from falling off the edges.

4.11.2 Safety and Security

Outdoor areas should be designed for safety and to prevent elopement and illegal entry. To secure the outdoor area, suitable non-climbable barriers to a height of at between 1800mm and 2400mm should deter those at risk of elopement.

Generally, fencing should not obstruct views to outdoor areas and activities.

Outside areas may need to have the capacity to separate or integrate functional groupings of residents when necessary due to site restrictions.

4.11.3 Plants and Greenery

Plant material should be selected to provide colour and fragrance for most of the year. Raised planters or other methods of bringing the planting close to residents in wheelchairs are preferred, as is innovating ways to increase resident participation in gardening activities. All plants are required to be non-toxic.

4.11.4 Smoking

Indoor smoking rooms are not permitted. Outdoor smoking areas must be sufficiently distant from resident windows and building ventilation intakes to ensure that second-hand smoke does not filter into the facility or resident bedrooms. Additional ventilation support for the exterior smoking areas may be required.

4.11.5 Outdoor Area Spatial Requirements

Space requirements for controlled garden environments will differ widely depending on building configuration, site restrictions, and anticipated activities of residents. A minimum of 1.5 m²/resident of hard surfaced patio area are to be provided with seating for 25% of the residents the outdoor space serves.

<i>Proximity:</i>	Houses and other areas
<i>Area:</i>	1.5 m ² per Resident (minimum to meet CCALA Regulations, a that reasonable portion must be covered)

4.12 Resident Bedrooms

4.12.1 Single Occupancy Bedroom

Bedrooms should be designed for 95 % “single-occupancy”. CCALA Adult Care Regulations stipulate the number of “double occupancy” bedrooms allowable (up to 5 % of the bedrooms).

4.12.2 Double Occupancy Bedroom

A double occupancy bedroom must provide a clothes closet or armoire for each person. Location of the double occupancy bedroom on an outside corner with the washroom in the centre can provide more privacy. The same clearances and space provisions as single occupancy bedrooms apply.

4.12.3 Interconnecting Bedrooms Option

Consideration will be given to double occupancy bedrooms made by interconnecting two single bedrooms. Lockable interconnecting doors between two single bedrooms will allow the flexibility for a couple or two roommates to share the two rooms as a suite. In some cases roommates will want to place both beds in one room and use the other as a sitting room.

The connecting door should be split solid core pocket doors with a clear width of 1200mm and provide good visibility into the adjoining room to facilitate communication between occupants.

4.12.4 Bed Location

The desired bed location should be determined early in design. Consider the proposed bed location with respect to the following: placement of the nurse call system, resident lift system, reading lights, switches, medical gases, and other room controls. Locate the bed-head bumper rails to protect the wall against damage from bed movement.

Beds should be positioned to ensure resident privacy, with no visibility from the corridor. Simultaneously, visual access should be provided from the bed to the ensuite bathroom (toilet), as it may reduce incidence of incontinence for some residents.

4.12.5 Ensuite Bathroom Location

The preferred ensuite bathroom location provides privacy for the resident when the door to the resident bedroom is opened and is visible from the bed. Locating the ensuite along the wall between the resident bedroom and the corridor also maximizes natural light in the resident bedroom.

4.12.6 Clearances

Without moving adjacent beds or furniture (except chairs) it should be possible to move a bed in or out of a resident bedroom. A minimum 1200 mm wide passage for such movement should be considered for all bedrooms.

At least 1500 mm clear space is required for care; to assist people into wheelchairs; and for person lifting devices and stretchers. Furnishings or equipment should not obstruct the space.

Consideration should be given to bariatric residents who may require larger clearances.

4.12.7 Resident Lifting Devices/Ceiling Lifts

Resident lifting devices, or ceiling lift tracks, are to be installed in the resident bedrooms as required under WCB Regulations and OH & S recommendations. Ceiling lift motors can be purchased and provided on an as-needed basis.

The type of ceiling lift, such as an X-Y gantry system or a recessed single-track system should be considered in the layout and dimensions of the resident bedroom. (Note that VCH requires an X-Y gantry system.)

It is important to be aware that the ceiling track may continue from the bedroom to the bathroom, with a possible change of ceiling heights between the bathroom and the bedroom. *All bathrooms shall have a door.*

Consider the location of sprinkler heads and lighting fixtures. The location of wall-mounted cupboards may impede the reasonable movement of residents in lifts, and should be considered in the design.

Some ceiling lift configurations may also affect floor to ceiling height of the building and/or other structural requirements.

4.12.8 Doors

Door openings into bedrooms from corridors shall have a clear minimum width of 1220 mm to allow for the movement of beds. Door openings could be designed with two opening leaves (900 mm and 300 mm) a minimum opening width of 865 mm is required for normal usage. Regulations require that the bedroom have a door that can be locked from the inside at the request of the resident.

The resident ensuite bathroom door shall have a clear opening not less than 1220 mm. Consideration should be given for bariatric equipment which requires a larger door swing and clearances.

Sliding doors on the ensuite bathroom can be a design solution as there is no swing to interfere with bedroom space. The bathroom door can be a split pocket door with a minimum width of 1000 mm with 900mm clear. Door openings need to be reinforced to prevent damage.

Regulations require a bathroom door and a lock that can be opened from the outside in case of an emergency.

4.12.9 Views

Resident windows should have sills at a suitable height to facilitate views from the bed, and a view of the outside environment (not just the sky) in a sitting position from a chair.

The views from interconnected rooms shall be the same as views from two single bedrooms. Resident need for visual access to the outdoors takes precedence and priority over architectural aesthetics.

4.12.10 Windows

An operable window will be provided. The opening location and size needs to be safe for cognitively impaired residents and operable by the physically frail residents. Window openings must be strong enough to withstand abuse and prevent egress.

Windowsills should be low enough to permit a view of the outdoors, and downward from a low bed or wheelchair position.

Window shading and coverings should be considered an integral part of the building heating, ventilation, and air conditioning system design.

Window coverings should be installed with quick-release fastenings to minimize hazards. Draw cords are prohibited.

4.12.11 Resident Bedrooms Spatial Requirements

<i>Proximity:</i>	Group resident bedrooms in "houses"
<i>Area:</i>	Approximately 23m ² per bedroom including the ensuite bathroom and shower. Area will change if shower not included.

4.13 Furniture

4.13.1 Bed Sizes and Equipment

The space allowance for resident beds is minimally 2200mm x 1000mm. Bed frames should be constructed to allow for clamping on self-help devices such as a trapeze and side rails. Consider space for a floor to ceiling mounted side pole.

Bariatric beds will be larger and may require a larger door-frame. Check equipment sizes and door sizes to match space needs for bariatric residents.

Many beds have electrically operated controls and require a sufficient number of electrical outlets at or near the head of the bed. At least one outlet will need to be on the emergency backup power system to operate the bed. Other equipment needs such as an oxygen concentrator should be considered in the provision of electrical outlets.

4.13.2 Resident Clothes Closet/Armoire

Each bedroom requires an individual built-in clothes closet or armoire. Consider designing the wardrobe with two sections, a small-unlocked

section for same-day use clothing and a larger lockable section for general clothing.

Positioning of the closet or armoire is essential to maximizing circulation space within the bedroom. The armoire is required to be secured to the wall to prevent being pulled over.

Provide a minimum floor space of 0.5 square meters.

4.13.3 Resident Furniture and Personalization

It is essential to design features that provide an opportunity for residents to personalize their bedroom.

Provide space for a freestanding bureau for each resident's personal belongings. Provide an area for an armchair, night table, telephone, TV, and computer.

Storage space for a washbasin and bedpan should be incorporated the resident bathroom and not in the bedroom.

4.13.4 Resident Bedroom Identification

Minimally, a resident nameplate and picture should be located outside of each resident bedroom.

"Memory boxes" with a lockable glass millwork case and shelves, and other approaches can be also used to display objects and photos that provide memory cues for residents.

4.13.5 Communications

Each bedroom will be wired and readied for a nurse call system, telephone, cable television, and Internet access (where different from telephone and cable wiring).

4.13.6 Medical Gases

Providing medical gases is not a requirement of the Design Guidelines. Oxygen and suction can be satisfactorily administered from portable equipment including concentrators and tanks. When not in use by residents the equipment should be stored in rooms approved for the purpose.

Providing medical gases may be convenient in some Complex Residential Care facilities if the site is adjacent to a Medical Care Facility,

such as a Hospital. During the design process, health authority staff will be consulted regarding this facility feature.

4.14 Resident Ensuite Bathroom

4.14.1 Bathroom Layout

The ensuite bathroom must be designed for wheelchair accessibility, resident lift manoeuvring, and staff assistance with toileting and showering. The layout should provide a safe, warm environment designed to prevent and protect against slips and falls.

An ensuite bathroom will have a mid-high height toilet accessible from three sides to enable staff access and lifting, 600mm to 800mm optimal clearance on each side. A wheelchair turning radius of 1800 mm will be provided in each bathroom.

The location and visibility of the toilet from the resident's bed are important for the cueing. Locate the bathroom door directly in front of the toilet. Consider providing a contrasting background to increase visibility of the toilet.

The bathroom will provide a vanity, washbasin, and hand-held shower conveniently configured for use by both independent residents and those that require staff assistance.

All ensuite bathrooms shall be fitted with grab bars, securely mounted, on both sides of the toilet and shower to support residents with various physical abilities.

Clothing hooks shall be securely mounted on walls for items such as bathrobes and towels. Hooks will be mounted low enough on the wall to ensure residents in wheelchairs and those with restricted arm movement can easily retrieve items. Clothing hooks can present a hazard and to residents and should not have jagged or sharp edges.

An emergency pull cord connected to the nurse call system will be located in every bathroom to enable a resident to summon help. The cord shall be positioned for easy access and reach from the toilet and shower where provided.

4.14.2 Toilet

The familiar tank-back toilet is recommended over a flush-valve toilet. Where tank-back toilets are used, the tank lid must be tightly secured.

A floor-mounted toilet is preferred over a wall-mounted toilet on a cost basis, and as resident familiarity and subsequently cueing may be factors. Wall mounted toilets provide for easier cleaning, and may be considered.

Where flush valve fixtures are used, provide a backrest mounted in front of the flush valve to support the resident. This should not interfere with the proper functioning of a hinged toilet seat.

Toilets should be mid-high, 400mm height is recommended to meet accessibility requirements for shorter residents. Seats should be elongated, and all toilets should have a cover. Toilets for resident use shall conform to accessibility requirements for handicapped persons.

Toilet risers are acceptable when required. Any seat used to adjust toilet height must be fixed tightly enough to ensure safety ease of cleaning.

Low-flow toilets are recommended wherever possible.

4.14.3 Vanity and Washbasin

A vanity and washbasin shall be provided for the personal use of each resident and for hand washing/infection control for healthcare staff. Each basin should be equipped with "temperature limiting" handicapped faucets and accessories. Adult Care Regulations require hot water temperature supplied to bathtubs, showers and hand basins not exceed 49° Celsius.

The washbasin shall be installed in a vanity that is wheelchair accessible. The recommended washbasin mounted height is 840mm with 770mm clearance for wheelchair access under the front rail. Each washbasin will be equipped with 100mm blade handles. The vanity will be ideally located in the corner of bathroom, be unobtrusive, yet easy to access by the resident. Millwork corners are required to be rounded.

Insulate exposed hot water supply and waste pipes under the vanity to prevent burns to the residents in wheelchairs.

A grab bar could be mounted to the front of the sink counter for additional support.

Provide shelf space adjacent to each washbasin for resident personal use. Provide a paper towel dispenser, soap dispenser, protective glove dispenser and waste container. Take care to coordinate the location of wall-mounted dispensers so as not to interfere with lifting equipment.

4.14.4 Shower

Some care models include incorporating an ensuite shower in the resident bathroom to provide privacy and assist with incontinence issues for the resident. In such a model, the resident bathroom should be equipped with wheelchair accessible shower with wall-mounted grab bars on two sides and shower curtain. Room finishes need to be impervious to water and easily cleanable. Provide blocking for grab bar installation at all locations in the bathroom.

The floor of the ensuite bathroom will slope to a drain and be non-slip, non-glare, and made of material impervious to water. The floor area that slopes to the drain should be well marked to reduce risk of resident falls. Ceramic floor tile is not permitted.

Controls for the shower should automatically maintain water temperature. Provide a low-pressure telephone type hand shower spray with 3m length hose. Locate a concealed water control (usually under the vanity) to control water supply to the shower to avoid misuse by the residents.

Ensuite showers are recommended in palliative and respite bedrooms.

4.14.5 Grab Bars and Towel Rails

Grab bars will be installed on both sides of the toilet, either fixed and/or swing-away types. All grab bars will be installed in accordance with BC Building Access Handbook requirements. Grab bars should be a minimum of 30 mm diameter with a non-slip textured finish for use by residents who have arthritic hands.

All towel bars are to be designed and reinforced for use as grab bars and securely mounted to walls and floors. Wall framing in the ensuite bathroom should include backing secured at different levels to enable reinforced installation of grab bars and rails. As with basin installations, grab-bars will require heavyweight fixings and suitably reinforced wall framing.

4.14.6 Medicine Cabinet and Mirror

Provide a medicine cabinet for each resident adjacent to the wash hand basin. Provide a mirror positioned so that the resident can see him or herself behind each washbasin. Each shall be installed at a suitable height for residents in a wheelchair and/or standing.

4.15 Bathing Areas

4.15.1 Basic Concept

Provide one bathing area per house or neighbourhood, or one bathing area for 24 – 36 residents, or as determined by the care/bathing program.

The bathing area will contain at least one assisted bathing tub, a stretcher shower, a toilet, a wheelchair accessible washbasin, and a dressing table.

4.15.2 Bathing Privacy

To preserve the privacy and dignity of the resident, the bathing area must be designed to prevent the resident being exposed to the public activity areas of the facility.

Licensing may not support the design concept if residents need to be transported through public areas to get to/from the bathing room. Portable lifts are not to be used as a means of transferring residents from their bedrooms to the bathing room.

To maintain privacy the bathing area is intended to accommodate only one bather and necessary staff at one time.

4.15.3 Bathing Residential Appearance

The bathing area should be designed to be as home-like as possible, and provide sufficient room for staff to assist the bather. The use of familiar “home bathroom” details can help the cognitively-impaired resident recognize the purpose of the bathing room and help overcome the discomfort and fear produced by the unfamiliar appearance of an assisted bathing tub.

Care should be taken to provide non-institutional lighting, with illumination levels that are safe, desirable and maintain a home-like ambience. A fluorescent lighting fixture directly over the bathtub is not permitted.

4.15.4 Wheelchair Accessible Shower

It is expected that ensuite showers will be used to clean incontinent residents in the privacy of their own bedrooms; however, a wheelchair shower in the bathing room may be the preferred bathing mode for some residents.

The shower in the bathing room should be designed to facilitate residents in “shower chairs” and “stretcher lifts”, with the necessary space to safely and efficiently manoeuvre.

Controls should be placed outside of the shower area and should automatically regulate water temperature to prevent scalding. A low-pressure hand-held shower spray will be incorporated into the design.

A working space on one side of the shower stall is required, which can be separated from the shower by a half wall. Grab bars must be provided. The shower may also have a pull-down hinged seat.

The floor surface is required to be non-slip and non-glare.

4.15.5 Ceiling Lifts in Bathing

The bathing room will be equipped with a ceiling lift to facilitate the transfer of residents as required.

4.15.6 Assisted-Bathing Tub

Consider providing more than one type of assisted bathtub in the bathing rooms. One of the tubs shall be suitable for recumbent bathing. Grab bars must be provided.

4.15.7 Mixing Valves

A non-scald mixing valve of the pressure-activated type is to be incorporated in shower, bathtub facilities, and washbasins to a maximum water temperature of 49°Celsius.

4.15.8 Toilet and Washbasin

Provide a wheelchair accessible toilet complete with grab bars. This can be (a) screened from bathing area, (b) in a separate adjacent room with a wheelchair accessible shower, or (c) have the assisted bathing tub plus washbasin and toilet in the same room.

Provide a wheelchair accessible washbasin, with insulated hot water pipes, waste pipes, and grab bars.

4.15.9 Comfort Level

Provide a ceiling heat radiation device over the resident drying space and consider additional ways of helping a resident to stay warm in the bathing area. Curtains that pull around the tub can be used to control drafts and increase the feeling of privacy appropriate to this intimate activity.

Towel warming cabinets can be used to warm towels for the end of the bath. Curtain materials and towel cabinets should be selected to give a home-like rather than an institutional appearance.

Proximity: Bathing adjacent to resident bedrooms

4.16 Support Spaces Within the House

4.16.1 Linen Storage

Each house will contain a linen alcove or cupboard where linen carts can be stored. Shelf space for extra pillows and blankets is also required.

Provide space for the following equipment:

- Blanket warming cabinet
- Clean linen cart

4.16.2 Soiled Linen/Utility Room

Provide a soiled utility room for each house, or pair of houses, which functions as a holding area for soiled linen, used equipment, and waste. The soiled linen/utility room will include an area to wash off soiled sheets and storage for soiled linens in covered containers.

Ventilation is very important to remove odours. Any areas or alcoves with soiled linen carts are to be ventilated.

The soiled linen/utility room will include the following fixtures, or as required:

- Counter top with single bowl sink and elbow controlled mixing faucet
- Shelves under and over counter
- Paper towel dispenser and soap dispenser
- Flushing rim sink
- Wall hung bedpan flusher sanitizer
- Janitors' curb sink

Provide space for the following equipment:

- Soiled linen hampers
- Housekeeping/utility cart
- Garbage container (or cart)
- In addition to the above, one room shall contain a utensil washer-sanitizer.
- Portable urinals and bed pans

Proximity: Locate for easy access by two houses
Area: 6.0 m²

4.16.3 Care Equipment Storage

Provide a care equipment storage room for each house. This room is intended for ready storage of care equipment that is needed for daily use in the houses as opposed to the longer-term bulk storage room provided for the entire care facility.

Where site spatial constraints exist, application may be made to the health authority to have a care equipment storage room for more than one house. Consider that equipment is bulky and can require a large area of floor space.

4.16.4 Janitor Room/Closet

Provide a janitor room/closet in each house. These spaces should also be in close proximity to kitchen services area and laundry, but should not be accessible by the residents.

4.16.5 Staff Washroom

Provide a staff only washroom in each house with toilet, washbasin, soap dispenser and paper towel dispenser. Include a small locker for staff to access their personal items without having to leave the house.

4.17 Support Spaces Outside the House

4.17.1 Resident Common Areas

Some resident common areas will serve the entire care facility (e.g. multi-purpose room, activity room, hairdressing salon, spa, etc). Consider locating these particular common areas in conjunction with physiotherapy in a central location giving residents somewhere to go for an outing outside their house but still inside the care facility. Other features may include a banking counter, tuck shop, and retail crafts displays.

4.17.2 Facility Multi-Purpose Room or Area

A large multi-purpose room is recommended to serve the entire facility. The multi-purpose room or area could be used for larger-scale events and activities, including: celebrations, staff training, family events, and community events where appropriate. The multi-purpose area would also

allow for residents to congregate and socialize outside of their respective houses and should be large enough to accommodate 75% of the residents.

The multi-purpose room should be centrally located with easy access from the various houses. The room should have a common outdoor space. Imaginative design opportunities are available to have the room function for a variety of uses and have appropriate electrical, Internet and televising capabilities. A kitchen servery should be provided adjacent to this room to provide refreshments to visitors, staff and residents.

The space for this room should be based on 1.4 square meters X 50% of total number of residents in a care facility, and may be increased by transferring some activity room allocations from the individual houses activity rooms. This large multi-purpose space should be fitted with curtains or movable partition to provide smaller spaces when required.

A handicapped accessible washroom should be located close to this common area.

Proximity: Central location
Area: 1.4 m² x 50% of number of residents

4.17.3 Care Station

The Care Station will be the main location within the facility for staff to carry out health care planning, and monitoring of building security and nurse call systems. The Care Station should be easily accessible and recognizable for families and residents and have the ability to maintain confidentiality and privacy.

One Care Station may serve a neighbourhood. Multiple Care Stations may be required if the facility is designed as a multi-storey building or if the facility extensive on a single level, encompassing multiple neighbourhoods. In a multi-storied facility it is expected there would be a Care Station on each floor, or as required.

The Care Station is not envisioned as a traditional nursing care centre or nursing station. It is not intended that this room be staffed at all times, but rather that it be used on an as-needed basis.

The Care Station should have the capacity to maintain health records (paper or electronic), and will have the monitoring systems including nurse call, close circuit TV, wandering monitoring, and fire alarm panels.

The space will be a meeting, reporting and conferencing area for care staff when they are not in the individual houses. The space will generally contain a working desk, a conference table and some staff purse lockers.

The Care Station may also be used for night reception and security control. For evening operation, motion sensor and intrusion alarms can be a useful tool for security in multi-storied buildings.

The centralized medicine preparation storage for each floor's houses can also occur within or adjacent to this space.

4.17.4 Medication Rooms

Provide a medication room within easy access from the Care Station(s), fitted with counter space that includes a sink, storage cupboards and space for a small refrigerator for some medicines.

Medications are to be stored in a separate and locked area that is not used for any other purpose. Provide a lockable medication storage cabinet to include a separate locked compartment for narcotics and controlled drugs.

Depending upon the nursing procedure and storage requirements for medication administration, the room will be required to accommodate one medication cart per house. Medication carts should not obstruct the work areas in the room.

Provide a medicine cabinet with adjustable shelves to suit the dosage system. Provide cupboards and/or wall racks.

If facilities will be using the automated unit dosage system, the space requirements will be different than those required for the unit dosage system. Automated dosage systems require a locked cabinet in each resident's room.

4.17.5 House Medication Distribution

The house medication distribution can be a space from where medications can be distributed. Depending on the delivery service, this space can take the form of a lockable cupboard with wall space for individual blister packs for each resident, or a small lockable alcove for a medicine cart, or a lockable one person closet with a writing area and wall space for medicines storage.

This space should be located near the kitchen/living area for each house and be near a hand wash sink.

4.17.6 Clean Utility

The clean utility room is for storage of house supply of clean linens, blankets, pillows, incontinent products and small medical equipment.

There does not need to be a water supply unless there is need for additional hand washing.

4.17.7 Examination/Treatment Room

Provide a room for medical examinations, podiatry, audiologist testing, massage therapy, minor surgical and dental procedures and other services with the following fixtures:

- Work counter with above-counter storage cupboards, and space under the counter for mobile carts, trash container, and other supplies.
- Counter sink with elbow operated controls, gooseneck faucet, soap or detergent dispenser, paper towel dispenser, and waste container.

Provide space for the following equipment:

- Examination table
- Portable reclining adjustable dental chair
- Small surgical lamp that may be pedestal type
- Mobile utility table
- Wall mounted clock with second hand

Consideration should be given to identifying space for specific portable testing services/devices to bring the service to the resident versus the resident to the service. Portable testing services/devices could be accommodated temporarily in the examination/treatment room.

4.17.8 Exercise/Occupational/Physiotherapy Room

The importance of exercise and walking for people all ages has been clinically proven to increase body and mind functions. Provide an exercise/occupational/physiotherapy area suitably designed to function for physical activities and located to serve residents. A desirable location is adjacent to the multi-purpose room, away from the residential areas.

Storage will be required for equipment that will be brought out and put away depending on the activity.

Provide with the following fixtures:

- Counter sink, gooseneck faucet, soap or detergent dispenser, paper towel dispenser and waste container
- Work counter approximately 600 x 1500 mm long with storage cupboards under and shelves over

Provide space for the following equipment:

- Collapsible and stackable table and chairs
- Physiotherapy equipment
- Parallel bars
- Three-step stairs with handrails
- Exercise equipment as required: weights, treadmill, mats

4.17.9 *Hairdressing Room/Salon*

The hairdressing room/salon is a popular destination and should be centrally located with a waiting area that promotes interaction between residents. A waiting area will be designed for residents arriving early for their appointment as well as those in varying stages of being served. The size of the waiting area will vary by the size of the facility.

The hairdressing room/salon should have a good layout for hair washing, drying and styling with all the necessary equipment to provide hairdressing services. The space should include a vanity, a shampoo basin at a suitable height for accessibility, and ergonomically designed chairs and mirrors. There should be a closet/cabinet to store clean towels and hairdressing supplies.

Provide an exhaust air system to remove odours from hair processing chemicals and a hand wash sink for infection control.

Proximity: The salon could be located next to the main facility activity rooms such as the exercise room, tuck shop, and multi-purpose room.

4.17.10 *Gift/Tuck Shop*

A small gift shop should be provided near the multi-purpose room to accommodate the display of merchandise as well as provide for storage of merchandise and mobile cart.

It is anticipated this service will be used by many residents and visitors and should be located in a higher traffic area.

4.17.11 *Volunteers' Room*

The Volunteers' Room will be a place where volunteers can store personal belongings as well as receive information regarding activities within the facility.

5.0 RECEPTION AND ADMINISTRATION SPACES

5.1 Main Entrance

The main entrance should be a welcoming space, which invites, orientates and readily identifies key strategic areas of the facility. The area should be located near the general activity/multi-purpose room versus resident houses in order to maintain separation between the more public areas from the private areas.

The main entrance should be located and designed as to be recognizable to visitors and should not be so remote that residents cannot journey to the front entry and waiting area from the houses.

A canopy should protect the main entrance of the building and be large enough to shelter persons in wheelchairs to/from vehicle transport. The canopy should extend a reasonable distance to the edge of the sidewalk.

The main entrance shall provide a vestibule to prevent drafts at the front entry and an accessible door opening push plate device for easy access to the building.

5.2 Access

Access should be simple, easy, and level for people in wheelchairs. Impediments to access should be minor and few; avoiding curbs, steps, steep ramps, and thresholds. Unduly heavy or difficult to operate doors, cramped vestibules, and rough or slippery floor surfaces are to be avoided.

5.3 Entry Options

The design approach for the entrance to the building and individual houses will vary for single versus multi-storied buildings.

In single story buildings, the ideal solution is to have individual house entries as the “front door”, usually through the outdoor garden space. The administrative entry to the facility would be primarily for staff (administrative, care, hospitality, other) and other support services.

In multi-storied facilities, the main entrance would be designed for arrivals, with a separate service entrance.

5.4 Reception and Waiting Areas

Reception will play a strong role in the identity of a facility, and should be located adjacent to the main entrance as a place to greet and orient visitors. A waiting area will be provided for visitors and residents.

A security monitoring system may be required at the reception area, subject to a review of “best placement”.

In the case of a multi-storied facility, the waiting area could be combined with the activity/multi-purpose room. A small waiting area will be required adjacent to the administrative office for administration purposes. In the case of a single story building, a small waiting area should be located near the administrative entrance.

5.5 Elevators

Elevators are required for buildings with more than one level. Elevator dimensions will be large enough to accommodate a stretcher, attending care staff and other large equipment simultaneously.

5.6 Visitor/Resident Washrooms

Two handicapped accessible visitor/resident washrooms shall be provided near the front entry.

5.7 Administrative Offices

The administration area is primarily comprised of office and meeting spaces for the administrative personnel. Administrative office requirements will vary depending on the size and complexity of the facility/organization.

Careful analysis and projections of administrative functions should be undertaken to determine appropriate space requirements for offices, support, and storage areas.

Some offices can be shared or located with therapy spaces (such as exercise/occupational/physiotherapy) where appropriate. Provide a confidential meeting room for family consultations. An open-plan office space is acceptable in order to maximize the administrative space.

5.8 Conference/Meeting Room

An appropriately sized and equipped conference/meeting room is required. It is anticipated this room may provide space for other functions such as training, presentations, meetings, and special seminars.

5.9 Photocopy/Supplies Room

The photocopy/supplies room will contain the primary photocopier, printer, and fax machine as well as provide adequate space for the storage of stationary supplies. Locate the room adjacent to or near the administration area.

6.0 SUPPORT SERVICES SPACES

6.1 Food Services

A full service main kitchen is required for each facility to provide fresh food service to the resident houses. Provide adequate and appropriate space for the bulk food storage, day storage, refrigerated storage, frozen storage, food production, pot-washing/sanitation, meal preparation, equipment storage and a small office for the dietitian.

Food preparation and washing areas should be clearly separated preferably with separate entrances. Locate the dietitian office with visual access to the kitchen and close access and intercom connection to the receiving area.

Detailed design parameters for the main food services kitchen will depend on the number of people being served, foodservice workflow and facility operational factors.

It is anticipated food will be prepared in the main kitchen and transported to the kitchen/servery areas located in each resident house. Some food preparation may occur within the resident house kitchen/servery. This model anticipates that preparation of minor meals and snacks, plating and serving will be undertaken in the individual house kitchens to promote the engagement of residents in activities of daily living.

Dish and cutlery cleaning could take place in the resident house dishwasher. Special attention should be paid to food handling and hygiene requirements.

Provide natural daylight where possible. Floors are to be non-slip and wall finishes are to be easy to clean. Avoid ceramic tile flooring finishes.

Proximity: Centrally located within the facility next to receiving.

6.2 Utility Storage

Allowance should be made for storage spaces in close proximity to the facility loading dock/service entrance.

Decentralized storage shall also be provided in each house or neighbourhood, and within the administration area. Storage rooms will accommodate a variety of dry good storage as well as larger equipment items such as beds and wheelchairs.

6.3 Wheelchair Storage/Cleaning/Battery Charging

Provision should be made for the storage of motorized wheelchairs, with adequate space and facilities for cleaning and washing wheelchairs. Provide extra electrical outlets for motorized wheelchair battery charging.

6.4 Bulk Storage

Bulk storage should be accommodated adjacent to the receiving area and/or distributed throughout the facility, depending on the needs of each area and operations of the facility.

6.5 Waste Disposal/Recycling Area

A holding room for waste disposal/recycling should be provided adjacent to the loading dock/receiving area. This area will accommodate refuse as well as provide sufficient temporary holding space for recycled items and boxes.

6.6 Maintenance Area

A general maintenance shop should be provided within the service area of the facility, and located in close proximity to the receiving area. It is preferable to have this area accessible from the exterior of the building and away from residents' houses.

Landscaping/outdoor maintenance equipment storage may be required depending on whether a facility provides this service directly or purchases the service from an outside provider.

6.7 Central Linen – Clean and Soiled

Provide two separate holding areas for clean linens and one for soiled laundry (primarily sheets and towels). These areas should be located in close proximity to the receiving area and service elevators.

The room should be sized for appropriate laundry equipment required to meet the needs of the size of the facility.

The area should be well ventilated and provide good exhaust and sound separation from residential areas.

6.8 Staff Locker Room/Staff Canteen/Staff Room

Provide a staff locker room sized appropriately for number of staff. The locker room should include lockers, shower facilities, and a washroom(s).

Provide a small staff canteen and break room that accommodates tables and chairs, a kitchenette, as well as comfortable furniture and non-institutional lighting.

The kitchenette should be sized appropriately for number of staff, and have a sink and a full size refrigerator. Provide electrical outlets for small appliances such as a toaster oven, microwave, kettle, and coffee maker.

6.9 Receiving Area

Provide a receiving area located immediately adjacent to the loading dock for short-term storage and receiving of all goods such as general stores, materiel, and linens if not laundry not on site. Locate near the maintenance work area.

Doors from the receiving area should open directly onto the loading dock and also into the main service corridor.

7.0 FINISHES

7.1 Finishes and Colours

All finishes and colours in the facility shall be selected to give comfort and meaning to the care environment. Emphasis will be placed on landmarks and other features that make it easier for residents and visitors to find their way.

Consider using finishes and colours in each house to help distinguish houses to aid with “way-finding”.

Selection of colours and finishes should consider residents with visual impairments. For example, it is essential there is sufficient contrast between a doorframe and a door. The same applies to door handles, cabinet pulls and other items residents use or interact with on a daily basis.

Adequate contrast of finishes and colours is extremely important in bathing areas.

Low contrast and non-contrast features decrease the likelihood some residents will recognize these as entry/exit points and disguised areas that are designated “staff only”. For example, a door and doorframe should have the same finish and colour as the wall. Locking or handle mechanism should be unobtrusive.

Residents with visual impairment have perceptual difficulty with reflective finishes. Therefore, all flooring surfaces should be low glare, easily maintainable, absorb sound, and cushion falls. To avoid glare, bright lights should not be used.

Avoid the use of red, black, or very dark coloured hard flooring as scuff marks and small debris are more visible.

7.2 Flooring

Avoid using materials that make walking difficult for residents with a gait disturbance or which may impede the movement of residents in wheelchairs.

Minimize changes in floor finishes, junctions between floor finishes and abrupt changes in colour. Edges between different types of flooring can create a tripping hazard and impede movement of wheelchairs and walkers.

Strong patterns can also be difficult for residents with perceptual problems and gait disturbance, and should be avoided.

Designs shall always consider the resident population and their levels of ability. Finishes and materials (floor and otherwise) shall be selected to avoid and prevent the likelihood and results of resident falls. Finishes shall be selected that reduce or minimize resident confusion and anxiety.

7.3 Carpeting

Carpets can absorb sound, remove glare, cushion falls and contribute to a homelike environment. Although carpeting, in general, is not recommended, some carpet materials and applications are designed for hospital and residential care facility use.

Carpet could be considered as a floor material for the entry and other common areas of the facility, with the exception of those areas where frequent cleaning is required or water resistance is important. While generally not recommended as a standard floor material for resident rooms, carpeting may be considered for some resident rooms.

Carpet should not be used in the dining area, resident kitchen or bathing areas, storage areas, physiotherapy/exercise room, hairdressing room/salon, or the exam/treatment room.

Avoid residential grade carpet. Carpet is to be low VOC, rubber-backed, durable and be easy to maintain. Direct glue-down with low VOC adhesive installation is recommended.

7.4 Hard Surface Flooring

Hard surface flooring is preferred throughout residential care environments to provide a smooth accessible surface that promotes mobility.

Institutional grade, heat-welded seamed flooring, with cove base, and with a no-wax, non-glare finish, provides a warm finish and is appropriate for areas where water resistance and frequent cleaning are required. Hard surface flooring is appropriate for general flooring purposes including dining rooms, kitchens, hallways, resident rooms and service rooms.

Select hard surface flooring that does not require a polished finish to reduce glare. Maintain flooring in accordance with manufacturer's recommendations for cleaning and sealing.

7.5 Ceramic Tile

Ceramic tiles are generally not accepted in areas subject to high humidity and moisture, such as resident bathrooms and bathing rooms.

8.0 MISCELLANEOUS EQUIPMENT

8.1 Introduction

The equipment described is not a complete list of all equipment needed for a residential care facility.

8.2 Waste Systems

Provide adequate space to fit waste bins (garbage cans) where they are necessary. Small waste bins generally require more frequent monitoring and emptying and could increase housekeeping costs.

Pop-up waste systems are not recommended as they require more cleaning and are more susceptible to breakage/malfunction.

8.3 Toilet Paper Dispensers

Toilet paper dispensers with a secondary roll are recommended.

8.4 Paper Towel Dispensers

Paper towel dispensers should use “single-fold” types of paper towels. Larger dispensers that hold more paper towels are preferred to minimize monitoring and replenishment frequencies.

8.5 Appliances

The house kitchen appliances, washers and dryers, are to be heavy-duty residential appliances, with the exception of the dishwasher, which is required to be temperature-boosted commercial grade. Accessible appliances should have front mounted controls.

The main kitchen equipment and appliances are to be commercial grade.

Smaller appliances such as toasters, coffee makers and kettles shall be high quality durable equipment designed for heavy use.

9.0 HEATING, VENTILATION AND AIR CONDITIONING

9.1 General

The intent is to provide a fully operating HVAC system appropriate for a residential care environment. The design should meet the principles as outlined in Section 2.0 Design – Guiding Principles, to provide a comfortable and safe environment for elderly frail residents and young disabled adults.

9.2 Codes and Standards

For buildings located in the City of Vancouver, mechanical systems shall be designed and installed to meet the requirements of the current Vancouver Building By-Law. For buildings located outside the City of Vancouver, the mechanical systems shall be designed and installed to meet the requirements of the current British Columbia Building Code.

All buildings, regardless of location, shall comply with the current “Model National Energy Code of Canada for Buildings” or with the energy efficient design requirements of ANSI/ASHRAE 90.1 Standard “Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings”.

The following Codes and Standards shall be adhered to, where applicable, in the design and installation of the mechanical systems:

- Vancouver Building By-Law
- British Columbia Building Code
- Model National Energy Code of Canada for Buildings
- ANSI/ASHRAE 90.1 Standard “Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings, applicable version for jurisdiction having authority
- CAN/CSA-B149.1-05 Standard “Natural Gas and Propane Installation Code”
- Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulations
- CAN/CSA-Z317.2 Standard “Special Requirements for HVAC Systems in Health Care Facilities”
- CAN/CSA-Z318.1 Standard “Commissioning of HVAC Systems in Health Care Facilities”
- CAN/CSA-Z318.2 Standard “Commissioning of Control Systems in Health Care Facilities”
- ANSI/ASHRAE 62 Standard “Ventilation for Acceptable Indoor Air Quality”
- ASHRAE Handbooks
- SMACNA Manuals

- NFPA Standards
- Workers' Compensation Board Regulations
- Provincial and Municipal Directives
- Design Conditions

Building HVAC systems shall be designed based on Climatic Information for Building Design as per Appendix C of British Columbia Building Code.

Design outdoor air temperature for winter shall be temperature in January that is not lower for more than 1% of total hours in January.

Design outdoor air wet and dry bulb temperatures for summer shall be temperatures in July that are not exceeded for more than 2.5% of total hours in July.

A safety factor of 10% shall be added to winter design calculations. A safety factor of 5% shall be added to summer design calculations. The HVAC systems should be designed, zoned and controlled to maintain the following indoor air temperatures:

TABLE 2: Ambient Temperature Requirements

SPACE	Minimum	Maximum
Rooms	Winter Indoor Temperature	Summer Indoor Temperature
Common Areas	Minimum 22°	Maximum 24°C
Resident Suites	Minimum 24°C	Maximum 27°C
Bathing Rooms	Minimum 25°C	Maximum 27°C
Kitchen / Laundry	Minimum 22°C	Maximum 27°C

9.3 Heating Systems

Heating system should be selected to provide a stable comfortable environment for the residential. Care is required in selecting the appropriate heating elements for residents with severe dementia and physical requirements to ensure safety and prevent confusion for the resident.

Hydronic hot water heating is considered beneficial in the operating of a residential care facility whereas electric baseboards are not recommended for this type of facility.

Either hydronic radiant ceiling panels or radiant floor heating is recommended to heat resident bedrooms. Any wall mounted heating elements used shall be selected to avoid any scalding hazard to residents.

Each resident bedroom shall be provided with individual temperature control of the heating system.

Heating of the common areas shall be achieved through hydronic heating, forced air heating or a combination of the two.

The boiler plant shall include minimum of two boilers, each capable of providing at least two thirds of the design heating loads. Boilers shall be at least minimum mid-efficiency. If, alternate systems like geothermal heat pump system are being considered, a payback cost recovery and life cycle cost analysis may be required.

In the event of a power failure there must be adequate amount of heating equipment on emergency power to maintain the building's temperature level.

9.4 Humidification

Where required, humidification shall be via an evaporative system or a steam injection system. If steam is used for humidification from a central steam plant, then a steam-to-steam convert or dedicated boilers with no chemical treatment are recommended.

Humidifier system shall be fully modulating and interlocked with the air handling supply fans. Relative humidity discharge high limit controls shall be provide to override the operating control.

9.5 Ventilation Systems

All areas within the building shall be ventilated to ensure an air exchange adequate to control contaminant levels, odours, temperature and humidity. The ventilation system shall be generally designed to provide air movement from clean to less clean areas.

Resident suites shall be provided with a continuously operating central ventilation supply system ducted to each suite. The ventilation supply system shall be sized to provide minimum of two (2) outdoor air changes per hour for each suite. The ventilation supply system for the resident suites shall be provided with means of mechanical cooling during the summer season. Consideration should be given to increasing amount of ventilation air supplied to the resident suites facing west and south to account for additional cooling requirements during the summer season.

Ensuite bathrooms in the resident suites shall be provided with a continuously operating central exhaust system. The exhaust system shall be sized to provide minimum ten (10) air changes per each bathroom and not less than amount of ventilation supply air to the suite.

Careful consideration shall be given to the design of the air distribution systems to avoid short-circuiting of air flow between the supply and exhaust systems, drafts and noise.

Utilizing heat recovery between the central ventilation supply and exhaust systems serving the resident suites is highly recommended.

Partial re-circulation of air supplied to the common areas is acceptable, provided that the air handling systems serving these areas are capable of supplying sufficient amount of outdoor air to satisfy ventilation requirements.

The use of the ceiling space as a return plenum is not allowed for any part of the building due to infection control concerns.

Refer to Table 3 in this section, for additional requirements of ventilation systems.

9.6 Air Filtration

The ventilation systems serving residential area shall be equipped with filter sections having a minimum MERV 8 filter rating or greater. Air filters shall be located within the ventilation system to avoid getting wet from humidifiers, cooling coils, and other source of moisture.

9.7 Cooling Systems

The design of the HVAC systems should be integrated with the architectural design to co-ordinate use of external and internal shading devices and selection of exterior glazing in order to reduce cooling requirements of the building.

All interior common areas including the dining rooms, lounges and activity areas and all administration areas shall be fully air-conditioned. The air-conditioning systems shall be zoned to provide adequate thermostatic controls.

Resident bedrooms and common areas located along the perimeter wall with operable window shall be provided with partial air-conditioning by providing mechanical cooling. Consideration should be given to increasing the amount of ventilation air supplied to the resident bedrooms

facing west and south to account for additional cooling requirements during the summer season.

The main kitchen and central laundry areas shall be provided with air-conditioning to maintain 27°C indoor temperature during the summer season.

9.8 Energy Conservation

The HVAC systems shall be designed to meet the applicable version requirements of the “Model National Energy Code of Canada for Buildings” or ANSI/ASHRAE 90.1 Standard “Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings”.

9.9 Controls System

The controls system shall allow energy conserving building management strategies.

The central components of the HVAC systems, such as the boiler plant, cooling plant, main air handling units, central exhaust systems, etc. shall be controlled by the Direct Digital Controls (DDC) system.

The DDC system shall be provided with an easy to operate interface and operating software and shall allow a remote access for servicing and remote operation purposes.

The DDC system shall allow energy conserving building management strategies such as night set-back controls for common and administration areas, use of free cooling, and automatic reset of heating water temperatures based on outdoor air conditions, for example.

9.10 Balancing and Commissioning

All air and water systems shall be balanced by a qualified independent Balancing Agency. All HVAC systems shall be commissioned by a qualified independent Commissioning Agency. The balancing and commissioning reports shall be included in the Operating and Maintenance Manuals.

Where applicable, the commissioning process shall comply with CAN/CSA-Z318.1 Standard “Commissioning of HVAC Systems in Health Care Facilities” and CAN/CSA-Z318.2 Standard “Commissioning of Control Systems in Health Care Facilities”

TABLE 3: Ventilation Requirements

Area	Min. O/Air Changes per Hour	CFM per Person	Min. Total Air Changes per Hour	Relative Pressurization	Min. Exhaust Air Change per Hour	Comments
Administration Areas		20	6	Equal		Air conditioned
Conference Room		20	10	Negative	Yes	Air conditioned; locally operated exhaust system
Dining Room		15	6	Equal		Air conditioned
Lounge, Activity Areas		20	6	Equal		Air conditioned
Resident Suites	2		Note 1	Equal	10	Partially air conditioned
Resident Bathroom				Negative	10	
Corridor	1		3	Equal		
Walking Loop Corridor		20	6	Equal		Air conditioned, note 4
Soiled Utility Room				Negative	10	
Sterile Storage	1		4	Equal		
General Storage				Negative	2	
Commercial Kitchen	85% of kitchen exhaust			Negative	As required by cooking equipment	Partially air conditioned - Note 2
Laundry Room	3		10	Negative		Partially air conditioned - Note 3
Soiled Linen Room				Negative	10	
Clean Linen Room	2		10	Positive		

Note 1:

Consideration should be given to increasing amount of ventilation air supplied to the resident suites facing west and south to account for additional cooling requirements during the summer months.

Note 2:

Ventilation system for the commercial kitchen shall be designed and installed to meet requirements of the NFPA-96 Standard "Ventilation Control and Fire Protection of Commercial Cooking Operations".

Note 3:

Ventilation of the laundry room shall be designed to meet make-up air and exhaust requirements of the commercial dryers.

Note 4:

If walking loops are located on every residential floor, then the number of residents using the loop should be based on beds per floor. During night set back the air changes should go down to 1 AC per hour.

10.0 PLUMBING

10.1 Codes and Standards

The following codes and standards shall be adhered to in the fabrication, installation and selection of equipment with regard to all Plumbing services:

- British Columbia Plumbing Code
- Vancouver Building By-Law
- Provincial Boiler Inspection Department
- The Provincial Gas Inspection Regulations
- CSA Standards

10.2 Site Services

Method and location of connection to main services for the facility requirements shall be decided following site allocation and evaluation. Services shall include sanitary sewer, storm and footing drainage, domestic cold water, fire lines and natural gas, where necessary.

10.3 Sanitary Sewer System

A complete sanitary system including all wastes, drains, and vents from plumbing fixtures shall be provided.

Kitchen wastes shall be intercepted by grease trapping prior to discharge to the sanitary sewer. Hair dressing sinks shall include a hair interceptor.

All sanitary waste piping will be mechanical joint cast iron for long-term reliability and low maintenance. Cleanouts will be located exposed in utility areas or concealed behind access panels where appearance to the residents and/or the public is a concern.

10.4 Storm Sewer System

Full provision shall be made for storm drainage from rainwater leaders and footing drains.

All new storm rainwater leaders will be mechanical joint cast iron insulated to prevent condensation concerns on all finished architectural ceilings and walls.

10.5 Domestic Cold Water

A full domestic service shall be provided within the building, with connection to various items of equipment in kitchen, boiler room, hot water supply and refrigeration machinery, for example.

An analysis of water supply shall be arranged to determine the necessity or otherwise of water treatment.

All domestic cold, hot and hot water recirculation piping will be Type 'K' copper for long-term reliability and low maintenance. Pipe sizing will be based on a maximum velocity of 5 feet per second for cold water and 4 feet per second for hot water supply and hot water recirculation piping to minimize the effects of corrosion in the aggressive Lower Mainland raw water supply.

For ease of future maintenance, isolation valves will be provided on all branch connections to plumbing fixture groups. Ninety (90) degree closing lever ball valves will be used for all smaller diameter domestic water piping with full lug pattern stainless steel disc butterfly valves to be used for pipe diameters 100mm [4"] and larger.

Access panels for maintenance to concealed plumbing valves and equipment will be located in maintenance areas wherever possible. Otherwise, access panels with stainless steel finish will be coordinated with architectural ceilings in common corridor areas with respect to finish for visual appearance and size for ease of serviceability. In washroom areas, access panels will be mounted below counters or in non-feature walls to minimize the visual effect of the architectural concepts.

Provide a plan of all the access panels and shut off valves for maintenance staff.

10.6 Domestic Hot Water

A full domestic hot water piping system with means of recirculation or heat tracing of the supply pipe shall be provided. All required and necessary connections shall be made to items of equipment as supplied by others.

Temperature of hot water supplied to the bathtubs, showers and washbasins used by the residents must not exceed 49° C [120.2° F]. Non-scald mixing valve (pressure activated type) shall be incorporated in both shower and both facilities.

Hot water supply to servery kitchens is to be delivered at 60° C [140° F]. Some kitchen equipment (i.e. dishwashers) will require the water to be boosted to 82° C [180° F].

10.7 Natural Gas Service

Dependent upon availability and analysis of fuel costs, this service may be required for (a) prime fuel to boilers, (b) domestic water heaters, and (c) kitchen requirements. Interruptible service with a suitable back-up system shall be used, where applicable.

Failing availability of this service, a propane supply may be required in lieu of item (c) and also boiler ignition.

Automatic Seismic actuated shutoff valve to be provided at incoming source.

10.8 Fire Protection

All floor spaces shall be fully sprinklered to National Fire Protection Association (NFPA) #13 - Standard for the Installation of Sprinkler Systems and where required (NFPA) #14 – Standard for the Installation of Standpipe, Private Hydrant and Hose Systems.

Each facility shall be sprinklered. The sprinkler system shall meet the requirements of the current British Columbia Building Code and all Municipal by-laws.

10.9 Plumbing Fixtures

Plumbing fixtures shall be selected in accordance with various recommendations within these guidelines. They shall be of such design and adaptability so as to provide ease of use by aged and infirm residents as described in these Guidelines.

10.10 Toilets

Toilets should be mid-high height (400mm height recommended to meet accessibility requirements) to accommodate shorter residents, and should have elongated seats and be able to accommodate a commode seat. Toilets for resident use shall conform to accessible requirement for handicapped designation. A contrasting colour (wood grain or black, closed front with cover) for the toilet seat can be of assistance to residents whose vision is impaired.

10.11 Washbasins

Washbasins, whether in a vanity or wall hung, shall be installed to ensure that accessibility requirements are met. Sharp corners are to be avoided. The washbasin, equipped with 100 mm blade handles, shall be mounted at 840 mm height with 770 mm clearance for wheelchair accessibility. P-Traps shall be offset and insulated with specific pre-formed insulation. Provide an open grid strainer drain. To control bacteria growth, overflows should not be included.

10.12 Showers

Showers shall accommodate wheelchairs where required. A mixing valve (pressure balance) and slide bar hand shower system shall be included. The slide bar shall be of a type that can double as a grab bar and be firmly anchored to perform that function. Provide additional spring valves to prevent cross-flow in an accessible location, upstream of the supplies into the mixing valve.

10.13 Piping Materials

Piping materials shall be selected with due regard to longevity, economy and their proposed usage.

10.14 Medical Gases

Generally, medical gas systems are not required. Medical gases will be provided through the use of portable containers or pumps.

Where medical gases are deemed necessary by the health authority, a small piped oxygen system could be provided in bedrooms grouped near the Care Station. Other piped medical gases are not generally required.

Medical gas piping and system installation will conform in all respects to Canadian Standards Association (CSA) CAN/CSA-Z305.1-92 Non-flammable Medical Gas Piping Systems. All medical gas piping will be factory degreased Type L hard temper copper tubing with brazed joints and tested prior to occupancy by an independent medical gas-testing agency retained directly by owner.

Medical gas control (valve box and alarm) shall be provided up-stream of the outlet(s). The control shall be located in close proximity to a staff area. Medical gas will be supplied from DISS wall outlet(s).

10.15 Energy Conservation

All main distribution domestic water piping will be insulated for prevention of condensation on cold water lines and for prevention of heat loss on domestic hot water supply and hot water recirculation piping.

11.0 ELECTRICAL SERVICES

11.1 Codes and Standards

The design and construction/installation requirements for electrical services shall be in accordance with the latest editions of national, provincial and municipal codes and bylaws. All equipment and/or materials selected shall be CSA approved. With any project, compliance with the most restrictive codes and standards is required.

- British Columbia Building Code
- Vancouver Building By-Law
- Canadian Electrical Code, Part 1-C22.1, as adopted for use in B.C.
- CSA Z32, Electrical Safety and Essential Electrical Systems in Health Care Facilities
- CAN/CSA-C282 Emergency Electrical Power Supply for Buildings
- IES RP28-98 Recommended Practice for Lighting and the Visual Environment for Senior Living
- C22.2 No 125, Electromedical Equipment
- CAN/CSA-C22.2 No. 60601 series of Standards, Medical Electrical Equipment
- CAN/ULC-S524, Standard for the Installation of Fire Alarm Systems
- UL 1069 Hospital Signaling and Nurse Call Equipment
- Model National Energy Code of Canada for Buildings – 1997
- City of Vancouver Energy Bylaw which adopts ASHRAE/IESNA Standard 90.1-2001

11.2 Power Supply

Transformer sizing and system design should take into account load requirements, service continuity, future expansion, flexibility of operation, and safety of maintenance personnel.

The utility may provide transformation to the utilization voltage depending on the size of the facility and reliability of the utility service. Each facility should establish that the utility would have immediate access to spare transformers or other critical components for replacement or repairs.

11.3 Secondary Distribution

A 600 volt or 120/208 volts distribution system should be utilized. Building interior lighting shall operate at 120 volts. Lighting for large parking lots can be 347 volt.

Panel boards (this does not apply to standby power panels) of 120/208 volts should be located within the same area as the circuits they feed but located out of view of residents and in service rooms if possible. Panel

boards should be sized in ampacity and circuit capacity to provide 25 percent spare capacity. Every effort shall be made to provide a system power factor of at least 90 percent. Capacitors for large motors may be installed at the motor control centres.

Stub spare conduits into ceiling space from each panel board, and terminate in suitable junction boxes. All switchgear is to be of drip proof construction when electrical room is to be sprinklered. Switchgear connected to the standby power system is to be colour coded.

11.4 Standby Power

On-site generator will be provided, preferably contained in a separate room within the facility. Sound-attenuated and weather-protected outdoor units may be considered if a viable interior option is not available.

A common remote alarm should be located at the care station and/or the main fire alarm annunciator, and a comprehensive local annunciator complying with CAN/CSA Z32 and CAN/CSA C282M shall be provided.

Labels for equipment connected to standby power system should be colour coded, such as red with white lettering.

Where Vital and Delayed Vital branches are provided, Delayed Vital labels should be colour coded, such as blue with white lettering.

The fuel supply shall be as per CAN/CSA Z32 with provisions to store a supply of fuel on site to allow the facility to operate for at least 72 hours in the event of an emergency.

The minimum loads, which should be connected to the standby system, are as detailed in CAN/CSA Z32. Emergency power should also be provided to smaller cooking/warming equipment such as coffee maker, toaster, microwave, for example; and some heating in lounge or activity areas.

Emergency power should be provided to at least one plug in each resident room to operate the electric bed and to plug in equipment such as oxygen concentrators.

Consideration shall also be made to have separate Vital and Delayed Vital branches to ensure mechanical or elective loads do not compromise the Vital loads. The combination of Vital, Delayed Vital, and Conditional branches on a single branch should only be considered where it can be shown that this would not compromise the Vital Loads.

Note that smoke control fans would be classified as Vital and some mechanical systems are classified as Conditional. Conditional loads

should be able to be connected to essential power by typical maintenance personnel using such devices as interlocked tie breakers and selective breaker or switch operation. An alternative would be to have Conditional loads connected to the Delayed Vital branch where Delayed Vital is separate from Vital.

11.5 Wiring Methods

The use of wireway systems or conduits for all power and lighting systems, in any type of construction, is preferred. Relaxation of this requirement may be given for power wiring horizontally in wood frame stud walls within resident rooms or other locations where changes are not anticipated in the long term. The use of non-metallic sheathed cable should not be considered even for combustible, wood frame construction due to the difficulty of complying with CEC C22.1 Section 24 and CAN/CSA Z32 requirements and intent.

All building wire and cable are to be copper conductors. Special consideration may be given for the use of aluminium conductors under certain conditions such as for larger feeds to kitchen or mechanical equipment. Aluminium conductors are not permitted in resident rooms or areas associated with resident care.

Conduits and wireways are to be installed with exposure in attic spaces or above suspended ceilings and in crawlspaces.

Flexible conduit/armoured cable is to be used for connections to equipment subject to vibration and may be used for final connections to recessed light fixtures in accessible ceilings and as noted above where changes are not anticipated in the long term.

The use of ISO-BX may be required for certain areas including for some light fixtures in resident care areas.

11.6 Communications

Each resident room shall be wired for telephone, cable television and Internet access. Structured cabling shall be installed to central communication rooms, sized to permit dual servicing where more than one service type is provided. Cable television shall be provided in public areas.

11.7 Wiring Devices

11.7.1 Receptacles

Hospital grade non-locking receptacles (15A & 20A) shall be used in all resident care areas and specification grade may be used in non-resident care areas, e.g., administration and maintenance. Receptacles connected to the standby power system are to be red in colour.

Consideration may be given to using tamper proof receptacles within certain resident care areas to enhance resident safety.

Noise transmission through common walls shall be minimized by installation of acoustic insulation between back to back or closely spaced outlets. Outlets shall not be installed back-to-back between resident rooms to prevent noise transmission through walls.

Receptacles in corridors for housekeeping purposes shall be CSA 5-20RA style, located for cleaning equipment cords can reach all the areas of the corridor and not block a doorway.

Outdoor receptacles are to be protected by ground fault breakers, or are to be of a ground fault circuit interrupter type.

Where required, due to geographical location, a minimum number of receptacles for outdoor parking block heaters should be provided.

Resident bed heads should have a minimum of 2 duplex receptacles. One receptacle will be required for motorized beds. One receptacle in each resident room should be connected to emergency power for medical oxygen provided by oxygen concentrators and for the electrically operated beds.

Ground Fault Circuit Interrupter type receptacles shall be provided adjacent to vanity units in resident rooms and in resident ensuite bathrooms. A receptacle shall be provided for each resident bed area for a television and a computer.

Residential care facilities will be generally be classified as Health Care Facilities; the use of Arc Fault Circuit Interrupters is not anticipated to be required.

11.7.2 Switches

Lighting switches are to be specification grade. Generally, illuminated type toggle switches are not acceptable, except to control resident room night lighting. The switch to operate the resident's reading light and/or night-light should be accessible for the resident from the bed location as well as the entry to the room.

11.8 Cover Plates

Provide cover plates for all outlets. These are to be brushed stainless steel or high impact nylon.

11.9 Clocks

Battery operated clocks are facility provided equipment and not included in construction. Master clock systems are not deemed necessary or recommended.

11.10 Lighting

Every effort should be made to create a homelike environment and avoid an "institutional" look with well-lit spaces. The intent of this guideline is to highlight specific and special requirements in this type of facility and encourage creative appropriate lighting systems to meet the needs of both residents and staff. (See IESNA RP-28-98, Lighting and the Visual Environment for Senior Living.)

Provide even lighting in corridors, that does not create shadows on floor surfaces that could be mistaken for "edges" or "holes" by the resident and create a tripping hazard.

Generally, fluorescent lighting is to be utilized throughout the building and H.I.D.¹ sources for any site lighting (white-light metal-halide lamps are recommended). General illumination and night lighting in corridors should be provided from fluorescent sources units that combine functions. Control should be by three-position or multiple switching at locations adjacent to the Care Station.

Lighting systems should be capable of offering a range of different lighting levels to make use of available daylight and a variety of space usages. Safety, efficiency and low maintenance must also be considered.

Illumination levels should be higher than I.E.S.² Lighting Handbook recommended minimums in resident areas such as ensuite bathrooms, activity, dining and recreation. This level may be achieved with reading lamps in some areas. At the same time, every effort should be made to reduce glare and the brightness ratio between different areas.

Incandescent lamps should generally be kept to a minimum as supplementary lighting and on dimmer switches in areas where frequency and duration of use are low or limited to a small number of fixtures.

¹ High Intensity Discharge

² Illuminating Engineering Society

Supplementary dimmed incandescent lighting is recommended in the Quiet Rooms.

Fluorescent lamps should be specified as the standard size and type. Consideration should be given to high-frequency electronic ballasts to maximize efficiency and reduce flicker.

All fixtures are to be the high power factor type to reduce the likelihood of power factor correction capacitors being required (thus avoiding inherent cost and complications).

11.11 Resident Rooms Lighting

Lighting for the resident bedroom will need to provide both adequate light for reading and for provision of care, while providing a comfortable home environment for the resident. Given the geometry of resident rooms, finishes, and accessories, there will be several lighting solutions. These Guidelines identify considerations and techniques to assist designers in making choices. (see IES RP-28-98)

A wall mounted over-the-bed fixture with a moveable or adjustable arm, similar to those used in hotel rooms, may be provided for the resident's use as a reading light. The resident should control these locally; with an insulated pull cord for ease of use. These fixtures usually provide a more homelike atmosphere.

Care should be taken to select ambient lighting for general examination and provision of care. Although fluorescent fixtures arranged in valences or incorporated in over-the-bed fixtures should provide adequate ambient lighting, neither provides a homelike atmosphere. Matt finishes in conjunction with indirect lighting is especially effective in reducing glare, but requires sufficient ceiling height.

Care should be taken to coordinate fixtures with the configurations and supports for the ceiling lifts. Durable, low maintenance sources, which can be cleaned and re-lamped easily should be considered. A single switch controlling general lighting from the room entry will be satisfactory.

A night-light should be provided to assist the resident and staff. These lights should illuminate the area between the bed and bathroom entry areas primarily, and be directed to avoid glare to the resident. These fixtures may be wall mounted or integrated with another fixture.

Lighting should also be provided for vanities and bathrooms, and controlled from local switches.

A heat lamp shall be provided and equipped with a timer switch in bathing and shower rooms over the resident drying space.

Ambient lighting shall provide sufficient illumination for general examination purposes. Downlight fixtures do not usually provide uniform lighting over the entire bed, nor does ambient lighting and therefore these should not be relied on for detailed examinations. Portable examining lights may be used for detailed examinations. Refer to the latest edition of Illuminating Engineering Society of North America for recommended lighting levels.

11.12 Emergency Lighting:

Emergency lighting is to be provided in compliance with all applicable codes. Normally emergency lighting should be provided from emergency power circuits. Some areas should also be equipped with battery packs (i.e. generator room, care station).

Note that minimum illuminance for emergency egress lighting in corridors and stairs may not be adequate for elderly residents. (see IES RP-28-98).

11.13 Nurse Call System

While nurse call systems detract from a homelike environment, the reality of family expectations and staffing levels will make a reliable nurse call system a necessity. The likely location of caregivers in the care model should be considered in the design of the system and the location of its annunciation devices.

The nurse call systems shall be CSA listed on a complete system basis and approved as Electro-medical Equipment.

The preferred system is one that has the ability to operate effectively in a silent manner that is not audible to the residents to minimize agitation.

Flexibility to integrate with wireless two-way voice communication between staff is desirable (where possible, subject to resident and caregiver input). It is possible that considerable time can be saved with the implementation of wireless phones and two-way voice communication technologies. Care should be taken as some residents might be confused by a disembodied voice from a wall speaker.

Behavioural pattern recognition systems that can alert caregivers to abnormal resident behaviour is available and should be considered where caregivers feel it would enhance patient safety. The system should not generate too many false alarms and be easy to reprogram as residents' behaviour changes.

Wireless nurse call systems (other than for staff notification: pager, wireless phones) are an option. The following guidelines should be considered:

- Wireless patient devices shall be supervised for low battery level
- If the patient device is designed to be mobile, it shall be supervised to ensure that it is within range and is functional
- Mobile patients with wireless devices shall be tracked using RF or IR technologies to assist in locating the patient if assistance is required.

The basic nurse-call and related components shall be installed as follows:

- Each bed shall have its own call-cord station
- Emergency stations with the pull cord in ensuite bathrooms shall be close enough to be pulled by a resident using the toilet and the shower (if provided), and reach to the floor
- Staff stations shall be located in staff work areas, e.g., bathing, treatment, lounge, dining spaces, unless reliable wireless devices are provided for the staff and can replace this function
- Duty stations in some staff work areas and in some corridors, unless reliable wireless devices are provided for the staff and can replace this function
- Rooms with nurse call devices, except staff work rooms, will have corridor dome lights located outside the rooms and be clearly visible unless reliable wireless devices are provided for the staff and can replace this function
- Corridor intersections will have zoned directional dome lights unless reliable wireless devices are provided for the staff and can replace this function
- Ensuite bathroom devices will not have a separate dome light
- Staff emergency stations should not be provided in resident rooms
- Tone stations should be provided near the end of a corridor unless reliable wireless devices are provided for the staff and can replace this function
- The floor control station is to be located at the care station unless staff is expected to be exclusively mobile and notification is provided by other reliable means. It should be noted that there will need to be a notification system to communicate troubles in the system to maintenance staff once operational.

11.14 Fire Alarm System

The fire alarm system shall be installed and comply with B.C. Building Code and/or Vancouver Building By-Law (as applicable) and the Standards for the Installation of Fire Alarm Systems.

Addressable systems are required to facilitate full compliance with annual inspection requirements and resident room annunciation requirements.

Systems are to be separate and stand-alone with dedicated hardware and software.

The annunciation of individual resident room smoke detectors may be through a separate annunciator located at the associated care station or the nurse call system master station.

Egress control release shall be as per Building Code or equivalency requirements.

Resident room doors should not have door closers/holder unless required by the Building Code.

Fire alarm pull stations should be of the guarded type (to deter accidental operation and vandalism); chimes are recommended rather than bells.

Generally Complex Residential Care facilities will be classified as Health Care Facilities and as such, in-suite silencing, smoke alarms, and circuit isolation modules may not be required.

11.15 Telephone & Data Wiring

The system outlet locations should be closely coordinated with the owner with regard to their requirements.

Provide for a wheelchair accessible payphone outlet in convenient waiting areas.

Provision for telephone outlets shall be made at all bed locations. It is possible that residents will elect to use third party Voice Over Internet Protocol (VOIP) gateways, so flexibility should be allowed for this option. Facility telephones may be a separate, facility owned system.

Include back boxes, cover plates and conduits of suitable size.

Provide access and interface to other communication systems such as pocket pagers and wireless handsets. These and other technological options should be evaluated and chosen based on responsiveness of care and other factors leading to quality of care outcomes.

11.16 Television

Outlets should be provided for each bed (on the opposite wall to the bed), in lounge/activity areas, and in team conference and/or break room.

Include back boxes, cover plates, conduits of suitable size complete with pull cords and closet space for possible sub-distribution equipment. Coordinate the design with the cable company.

11.17 Voice Paging System

Voice paging systems are generally not recommended in complex residential care facilities as they do not provide a home-like environment for the residents.

11.18 Closed Circuit Television (CCTV)

A closed circuit television system may be required and should be limited to one main entrance door monitored from one strategic location. Smaller video intercom type systems may be acceptable in some facilities.

11.19 Security Systems

Security systems can be utilized but should emphasize egress control rather than monitoring. Perimeter alarming shall also be utilized.

There are several types of systems to prevent resident elopement available, but the total function and reliability of these systems requires careful examination. The design of the physical space should maximize resident autonomy and staff supervision of residents, and reduce the requirement for electronic type controls. Compliance with Building Code regulations is required.

A door alarm system shall be provided at street level exit doors to indicate unauthorized opening of the doors. This alarm shall register at the care station and be able to be deactivated during daytime working hours. Each door should have individual bypass control. This system may be interfaced with the nurse call system.

Buzzers may be provided at the activated door. This system should have simple disarming controls located near the entrance used by staff.

Egress control systems need to be carefully designed in compliance with Building Code requirements.

The use of "mag-locks" should be discouraged, as they are difficult to implement in a Building Code compliant manner (regarding indiscriminate usage). The electrical contract should include, at a minimum, "roughing-in" provision around exit doors to provide for future wiring of Building Code compliant egress control systems.

11.20 Intercom System

General intercom requirements should be handled through the telephone or nurse call system. A comprehensive stand-alone system is not recommended and any system considered should be a stand-alone master-slave station type (from the front door to the care station).

The exterior entry door and vestibule may need an intercom station to the reception and the care station.

11.21 Existing Facilities

Buildings undergoing upgrading and additions are to be reviewed on a case-by-case basis regarding incorporating the requirements stipulated in these Guidelines. Discussions, coordination and cooperation with health authority and other jurisdictions staff are required prior to and during re-development.

12.0 BUILDING CODE CONSIDERATIONS

12.1 Applicable Building Codes

Buildings located in the City of Vancouver shall be designed to meet the requirements of the current Vancouver Building By-Law (VBBL) and the Vancouver Fire By-Law. Buildings located outside of the City of Vancouver shall be designed to meet the requirements of the current B.C. Building Code (BCBC) and the B. C. Fire Code. Building Code references listed in this report apply to the 1998 BCBC and 1999 VBBL unless otherwise stated.

12.2 Fire Safety Plan

Fire safety for residents in a Complex Residential Care building is predicated on the ability of staff to carry out, at all times, essential life safety functions in accordance with the fire safety plan. Details for a plan are contained in the B. C. Fire Code. The Fire Department in the (project's) municipality will review the fire safety plan prior to occupancy of the building. It is advised to get this feedback as early as possible in the design process.

Many factors may affect the ability of staff to carry out fire safety and life saving functions, including resident mobility and other physical/mental limitations.

If a resident area in a building contains staffing limitations or other limiting factors which would increase the time normally required to evacuate residents or to undertake other life safety measures, then consideration should be given to providing additional fire protection measures to ensure resident safety requirements are met.

12.3 Impeded Egress Zones

Access to exits by residents of many of the Complex Residential Care facilities is governed by egress control systems. As defined by the VBBL and BCBC, these buildings must have impeded egress zones.

Article 1.1.3.2 of both codes contain the following definition: Impeded Egress Zone means a supervised area in which occupants have free movement but require the release, by security personnel, of security doors at the boundary, before they are able to leave the area; but does not contain a contained use area.

Article 3.4.6.15 restricts the use of electromagnetic locks to doors that will open after 15 seconds of pressure being applied to the door opening hardware. This requirement does not generally apply to impeded egress zones.

Article 3.2.2.19 requires impeded egress zones conform to Articles 3.2.2.36, or 3.2.2.37, which in turn requires non-combustible construction and sprinklers.

For considerations related to staff management of residents, the fire safety plan and extra building requirements related to these matters please refer to section 13.2 of this section.

Some municipalities have accepted equivalencies related to one or two storey sprinklered combustible buildings with controlled egress at the perimeter. This potential alternative is discussed in section 12.7 below.

12.4 Three Storey Buildings or Lower

A three storey Complex Residential Care building would be designated a “B-2 occupancy”, but if egress control measures are in place, Article 3.2.2.19 requires it comply with Article 3.2.2.37 (B-1 occupancy) as follows:

- Maximum Area: 12,000 m² if 2 storeys, 8,000 m² if 3 storeys
- Fire Protection: Sprinklers required
- Construction: Non-combustible
- Floors: Fire separations having a 1 hour fire resistance rating
- Mezzanines: 1-hour fire resistance rating
- Roofs: Not rated

Emergency power to CAN/CSA-Z32.99

12.5 Four Storey Buildings or Higher

A four storey Complex Residential Care building would be designated a “B-2 occupancy”, but if egress control measures are in place, Article 3.2.2.19 requires it comply with Article 3.2.2.36 (B-1 Occupancy) as follows:

- Maximum Area: Any area
- Fire Protection: Sprinklers required
- Construction: Non-combustible
- Floors: Fire separations having a 2 hour fire resistance rating
- Mezzanines: 1 hour fire resistance rating
- Roofs: Not rated

12.6 Measures for High Buildings

Article 3.2.6.1 states that a building containing a group B major occupancy above the third storey, or more than 18 metres above grade must be designed as a “high-rise” building, with the additional following requirements:

- 2 hour emergency power
- Protection of electrical conductors to 3.2.6.5.(6) and 3.2.6.9
- Limits to smoke movement below grade as per 3.2.6.2
- Venting to aid fire fighting as per 3.2.6.6
- Fire Fighter’s Elevator complying with 3.2.6.4. and 3.2.6.5
- Emergency recall for all elevators
- Central Alarm & Control meeting 3.2.6.7
- Voice communication system

12.7 Two Storey Combustible Buildings

Some municipalities have accepted equivalencies that permit the construction of Complex Residential Care facilities in sprinklered one or two storey combustible buildings. Acceptance of any equivalency by a municipality cannot be guaranteed, but this option provides the potential of a cost effective alternative to non-combustible construction. Any design team contemplating an equivalency of this type should submit it early in the design process for review by the jurisdictional authority.

12.8 Elevators

At least one of the elevators should meet 3.2.6.5.2 for size of platform.

12.9 Requirements for Resident Bedrooms

Floors containing resident sleeping rooms are required to meet Article 3.3.3.5 as follows:

- Floor areas are to be subdivided into not less than two fire compartments, each not more than 1,000 m²
- Fire separations between fire compartments must have a fire resistance rating of 1 hour
- Doors and other closures in the 1 hour fire separations must be weather-stripped or otherwise designed to retard the passage of smoke
- Walls between sleeping rooms and adjacent rooms shall be constructed as unrated fire separations

- Corridors serving sleeping rooms shall have walls constructed as unrated fire separations
- Doors to sleeping rooms are permitted to be equipped with roller latches, and shall be not less than 1,050 mm wide
- Sentences 3.1.8.11(2)(c) & (d) allows closers to be omitted on doors to sleeping rooms
- Grilles are not permitted in sleeping room doors opening into the corridor
- Grilles are permitted between sleeping rooms and ensuite toilet or shower rooms
- Corridors serving bedrooms must be 2400 mm wide
- Corridors shall have no dead end portion
- Paired doors shall swing in opposite directions with the right hand door swinging in the direction of travel, and doors shall be not less than 1,000 mm wide
- Some municipalities have interpreted the corridor separation requirements in such a way that they have deemed it necessary to separate spaces like nursing stations and lounges from the corridor with unrated fire separations. The design team could investigate equivalent measures to the perceived requirement for fire separations in these cases.

12.10 Accessibility

The building must be accessible to persons with disabilities in accordance with Section 3.8, general accessibility provisions as required by Article 3.8.2.3 and specific occupancy provisions of article 3.8.2.26, including the following:

- Access from the street to at least one main entrance conforming to Article 3.8.3.5
- Where off street parking is provided for persons with disabilities, access from the parking area to an entrance conforming to Article 3.8.3.5 which serves the parking area, unless the entrance is located so as to conveniently serve both the parking area and the street
- An automatic door opener is to be provided at the main entrance
- Access to all areas where work functions can reasonably be expected to be performed by persons with disabilities
- Accessible washrooms conforming to 3.8.2.3.(2)
- Doors shall conform the requirements of sentences 3.3.1.12 (10), (11), (12) and (13)

12.11 Miscellaneous Fire Separation

Fire separations for service rooms and shafts will be as follows.

- Exit shafts shall conform to Article 3.4.4.1.

- Elevator shafts shall conform to Article 3.5.3.1.
- Service shafts shall conform to article 3.6.3.1.
- Sentence 3.6.2.1.requires that a service room containing a fuel fires appliance shall be separated from the remainder of the building by a fire separation having a fire resistance rating of 2 hours. (Roof top equipment is exempted from this requirement).
- Electrical equipment required by the electrical safety act to be in vaults shall conform to article 3.6.2.8.
- Electrical rooms not required to be in vaults require a 1 hour fire separation.
- Service rooms not containing fuel fired appliances, boilers, or electrical equipment do not require a fire separation.
- Rooms for combustible storage require a 1 hour fire separation. Soiled linen storage has been included in this designation by some municipalities.
- Janitor closets require an unrated fire separation.
- Laundry rooms require a 1 hour fire separation.

APPENDIX 1 – REFERENCE CODES

The following documents and information are provided as a reference to the design team. The consultants should always confirm these, and other references not listed, for current editions and application for the specific project conditions.

- National Building Code
- British Columbia Building Code
- British Columbia Fire Code
- City of Vancouver Building By-Law
- British Columbia Building Code – Building Access Handbook
- Adult Care Regulations of the *Community Care and Assisted Living Act*
http://www.qp.gov.bc.ca/statreg/reg/C/CommuCareAssisted/536_80.htm
- College of Pharmacists of British Columbia – Bylaw 7 Residential Care Facilities and Homes
- *Worker's Compensation Act* requirements
- Contaminated Site legislation
- Ministry of Finance and Corporate Relations "Green Buildings Guidelines"
- NFPA Bulletin 13
- NFPA Bulletin 14
- NFPA Bulletin 80
- NFPA Bulletin 96
- Canadian Standards Association (CSA)
- Model National Energy Code of Canada for Buildings
- ANSI/ASHRAE 90.1 Standard "Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings"
- CAN/CSA-B149.1-05 Standard "Natural Gas and Propane Installation Code"
- Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulations
- CAN/CSA-Z305.1-92 Nonflammable Medical Gas Piping System
- CAN/CSA-Z317.2 Standard "Special Requirements for HVAC Systems in Health Care Facilities"
- CAN/CSA-Z317.13-03 "Infection Control During Construction or Renovation of Health Care Facilities"
- CAN/CSA-Z318.1 Standard "Commissioning of HVAC Systems in Health Care Facilities"
- CAN/CSA-Z318.2 Standard "Commissioning of Control Systems in Health Care Facilities"
- ANSI/ASHRAE 62 Standard "Ventilation for Acceptable Indoor Air Quality"
- Canadian Electrical Code, Part 1-C22.1, as adopted for use in B.C.
- CSA Z32, Electrical Safety and Essential Electrical Systems in Health Care Facilities
- CAN/CSA-C282 Emergency Electrical Power Supply for Buildings

- IES RP28-98 Recommended Practice for Lighting and the Visual Environment for Senior Living
- C22.2 No 125, Electromedical Equipment
- CAN/CSA-C22.2 No. 60601 series of Standards, Medical Electrical Equipment
- CAN/ULC-S524, Standard for the Installation of Fire Alarm Systems
- ASHRAE Handbooks
- SMACNA Manuals
- NFPA Standards
- Provincial and Municipal Directives

APPENDIX 2 – PROGRAM AREA MATRIX

	CGSM			CGSM			CGSM			CGSM		
	# Units	NIT m ²	AREA m ²	# Units	NIT m ²	AREA m ²	# Units	NIT m ²	AREA m ²	# Units	NIT m ²	AREA m ²
12 Beds/House 60, 72, 84, 96, 108, 120, 132, 144				14 Beds/House 84, 112, 130, 158			16 Beds/House 64, 80, 96, 112, 128, 144			18 Beds/House 72, 108, 144		
Resident Bedrooms (including Ensuite Bath)												
1-bed	12	23	276	14	23	322	16	23	368	18	23	414
Lounge/Living Area	12	1.5	18	14	1.5	21	16	1.5	24	18	1.5	27
Activity Lounge	12	1	12	14	1	14	16	1	16	18	1	18
Dining Room	12	2	24	14	2	28	16	2	32	18	2	36
Kitchen/servery	1	14	14	1	14	14	1	14	14	1	14	14
Chart Area (Care Centre)	1	2	2	1	2	2	1	2	2	1	2	2
Quiet meeting room	1	8	8	1	8	8	1	8	8	1	8	8
Resident Washroom	1	5	5	1	5	5	1	5	5	1	5	5
Resident Laundry	1	5	5	1	5	5	1	5	5	1	5	5
Linen Supply (Closet)	1	2	2	1	2	2	1	2	2	1	2	2
Medication Cupboard	1	1	1	1	1	1	1	1	1	1	1	1
Janitor Broom Closet	1	0.5	0.5	1	0.5	0.5	1	0.5	0.5	1	0.5	0.5
Staff Washroom	1	3	3	1	3	3	1	3	3	1	3	3
Soiled Utility	1	6	6	1	6	6	1	6	6	1	6	6
Care Equipment Storage	1	4	4	1	4	4	1	4	4	1	4	4
House Entry	1	0	0	1	0	0	1	0	0	1	0	0
Subtotal			380.5			435.5			490.5			545.5

"UNIT" is based on 12 bed house model	UNIT m ²	60		72		84		96		108		120		132		144	
		# Units	AREA m ²	# Units	AREA m ²	# Units	AREA m ²	# Units	AREA m ²	# Units	AREA m ²	# Units	AREA m ²	# Units	AREA m ²	# Units	AREA m ²
The House																	
Resident House	380.5	5	1902.5	6	2283	7	2663.5	8	3044	9	3424.5	10	3805	11	4185.5	12	4566
Support Spaces																	
Multipurpose Room (1.4m2 x 50% of Residents)	1.4	1	42	1	50.4	1	58.8	1	67.2	1	75.6	1	84	1	92.4	1	100.8
Care Station	10	1	10	1	10	1	10	2	20	2	40	2	80	2	160	2	320
Examination /Treatment Room/ First Aid	12	1	12	1	12	1	12	1	12	1	12	1	12	1	12	1	12
Exercise/OT/PT Room (Therapy)	15	1	15	1	15	1	15	1	15	1	15	2	30	2	30	2	30
Hairdressing Salon	10	1	10	1	10	1	10	1	10	1	10	2	20	2	20	2	20
Resident Bathing	15	2	30	2	30	2	30	3	45	3	45	4	60	4	60	4	60
Housekeeping	10	1	10	1	10	2	20	2	20	2	20	3	30	3	30	3	30
Gift/Tuck Shop	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10
Volunteer Room	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10
Storage / wheelchair battery	25	1	25	1	25	2	50	2	50	2	50	3	75	3	75	3	75
Subtotal (CGSM)			174		182.4		225.8		259.2		287.6		411		499.4		667.8
Administration																	
Reception	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8
Administrator	13	1	13	1	13	1	13	1	13	1	13	1	13	1	13	1	13
Coordinators	9	2	18	2	18	2	18	3	27	3	27	3	27	4	36	4	36
General Office	18	1	18	1	18	1	18	1	18	1	18	2	36	2	36	2	36
Team Conference Room	30	1	30	1	30	1	30	1	30	1	30	1.5	45	1.5	45	1.5	45
Public Washrooms	4	2	8	2	8	2	8	2	8	2	8	2	8	2	8	2	8
Subtotal (CGSM)			95		95		95		104		104		137		146		146
Food Service																	
Day Storage	100	0.5	50	0.5	50	0.5	50	1	100	1	100	1	100	1	100	1	100
Refrigerated Storage		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Frozen Storage		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Food Production		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Potwash, Sanitation		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Meal Preparation Area		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Office		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Miscellaneous		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Subtotal (CGSM)			50		50		50		100		100		100		100		100
Service Facilities																	
Receiving Area	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
Waste Disposal	6	1	6	1	6	1	6	1	6	2	12	2	12	2	12	2	12
Staff Lounge	2.5	5	12.5	6	15	7	17.5	8	20	9	22.5	10	25	11	27.5	12	30
Staff Lockers	3	5	15	6	18	7	21	8	24	9	27	10	30	11	33	12	36
Subtotal (CGSM)			39.5		45		50.5		56		67.5		73		78.5		84
Service Areas																	
Maintenance: as required	20	1	20	1	20	1	20	1	20	2	40	2	40	2	40	2	40
Subtotal (CGSM)			20		20		20		20		40		40		40		40
Subtotal (CGSM)			2,281.0		2,675.4		3,104.8		3,583.2		4,023.6		4,566.0		5,049.4		5,603.8
DGSM (1.3 Gross Factor)			2,965.3		3,478.0		4,036.2		4,658.2		5,230.7		5,935.8		6,564.2		7,284.9
BGSM (1.2 Gross Factor)			3,558.4		4,173.6		4,843.5		5,589.8		6,276.8		7,123.0		7,877.1		8,741.9
Area per Bed			59.3		58.0		57.7		58.2		58.1		59.4		59.7		60.7

APPENDIX 3 – DESIGN PRINCIPAL CONCEPT DIAGRAMS

Several graphic representations of design principle concept diagrams have been included in this section.

These designs may be of assistance to architects embarking on designing Complex Residential Care facilities however are not intended to suggest recommended design solutions.

Individual site characteristics, configurations, building heights other constraints and permissions will affect some of these design principals for specific projects.

Drawings include:

- Typical Residential House Model
- House Diagram
- Room and Bathroom Layout (Option 1)
- Room and Bathroom Layout (Option 2)
- Diagram #22 House Entry
- Diagram #23 Front Porch
- Diagram #26 Dining
- Diagram #27 Millwork Requirements
- Diagram #28 Kitchen
- Diagram #28 Kitchen (view 2)
- Diagram #29 Kitchen Care Work Station
- Diagram #30 Resident Laundry
- Diagram #31 Corridor Widths
- Diagram #32 Handrails and Wall Guards
- Diagram #35 Room Layout
- Diagram #36 View Cone (view 1)
- Diagram #36 View Cone (view 2)
- Diagram #36 View Cone (view 3)
- Diagram #37 Window Openings
- Diagram #38 Bathroom Layout
- Diagram #40 Bathing Room
- Diagram #41 Chart Area and Linen Storage
- Diagram #46 Activity Lounge
- Diagram #47 Servery
- Figure 13 Connection to the Community
- Figure 14 Campus of Care
- Figure 15 Usable Outdoor Space – Multistorey Concept
- Figure 18 Common / Private / Support Spaces
- Figure 19 Common Spaces
- Figure 20 Connection Between Interior and Exterior

SCHEDULE F

PROPOSAL EXTRACTS

1. Drawings and Specifications



Sechelt Final Signed
Drawings 2016-Apr-13

2. Project Schedule

Item/Elapsed Months	2016												2017												2018							
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			
Administrative																																
Contract Signing: April 2016	█																															
Site Acquisition																																
Land Deposit on Contract Award	█																															
Land Deposit/Letter of Credit on Rezoning								█																								
Complete Land Purchase														█																		
Start-up																																
Financing		█	█											█	█	█																
Rezoning				█	█	█	█	█	█	█																						
Subdivision		█	█	█	█	█	█	█	█	█																						
Site servicing and offsites						█	█	█	█	█	█	█	█	█																		
Development Permit				█	█	█	█	█	█	█	█	█	█																			
Design/Construction Documents Phase																																
Schematic		█																														
Design Development		█	█																													
Working Drawings @ 30%				█	█																											
Working Drawings @ 50%					█	█																										
Working Drawings @ 100%								█	█	█	█	█	█	█	█																	
Building Permit									█	█	█	█	█	█																		
Construction Phase																																
Tender/Issue Contracts													█	█	█																	
Siteworks															█	█	█	█	█	█												
Concrete																█	█	█	█	█	█											
Structure																	█	█	█	█	█	█										
Rough-ins																		█	█	█	█	█	█									
Finishes																						█	█	█	█	█	█	█	█			
Commissioning & Inspection																																
Schematic Drawing Review			█																													
Working Drawing and Specification Approval					█	█			█	█				█																		
Resubmission (if Drawings revised)															█																	
Pre-commissioning Tour																												█				
Commissioning/Inspection/Completion																												█	█			
Final Licensing Approval																													█			
Facility Opening																																
Facility set-up and staff training/orientation																													█			
Occupancy																													█			

3. Project Management Plan

Provide:

(1) a Gantt Chart that shows the milestones as follows:

- Site acquisition (e.g., closing of purchase and sale transaction(s) or execution of lease agreement(s));
- Decanting (if applicable);
- Start up (Financial, Zoning, Planning);
- Design (Schematic Design, Design Development, Working Drawings to 50%, Working Drawings to 100%);
- Construction;
- Commissioning and Inspection; and
- Facility Opening.

Refer to Schedule F – Item 2 for the Project Development Schedule (Gantt Chart) that shows the following milestones:

- Site acquisition (e.g., closing of purchase and sale transaction(s));
- Start up (Financial, Zoning, Planning);
- Design (Schematic Design, Design Development, Working Drawings, Building Permit);
- Construction;
- Commissioning and Inspection; and
- Facility Opening.

(2) a detailed narrative accompanying the Gantt Chart which sets out the Proponent's comments on timelines, dependencies, contingencies and approach, including a detailed summary of all conditions (including closing conditions, financing, rezoning, etc.) that must be satisfied prior to the Proponent being issued a building permit; and

Site Acquisition: The outstanding conditions for sale are held by us as Purchaser and relate to rezoning and site servicing requirements. The removal of our conditions is dependent on the Vendor registering a Subdivision Plan with the District of Sechelt and completing on Stage 1 infrastructure requirements. We understand and have confirmed the support of the District for both the rezoning of our proposed development and the Subdivision Plan.

Start Up (Financial, Zoning, Planning):

- **Zoning:** The land is designated for the intended use in the OCP Amendment approved by council July 4, 2012. (This OCP Amendment designates the land for future use according to a Land Use Plan, a copy of which was provided in our Phase 1 submission called “App 1.2.3 – OCP Map – Land Use Plan”). The present designation in the approved Land Use Plan is R-4 (multi-family). The Land use concept supports seniors housing and care. A Comprehensive Development Zone, or text amendment to an existing residential zone, if deemed appropriate by District of Sechelt Staff, will be negotiated with the District for the specific needs of residential care. While the land is already designated for its intended use, we expect the rezoning process together with the registration of the subdivision plan will take approximately 6 months.
- **Site Servicing and Infrastructure:** Once rezoning has been obtained and the subdivision plan has been registered, the Vendor will commence site servicing including the construction of required roadways, storm and sanitary sewers, and water lines. It is estimated this will take

approximately 7 months, although some of this work may be able to be completed concurrently with the zoning process.

- **Development Permit (DP):** A Development Permit is required for the project and an application will be submitted concurrent with the re-zoning application. We expect to obtain the Development Permit in an elapsed time of 9-10 months from the date of contract award.

Design:

- **Schematic Design:** This has been completed as part of the RFS submission.
- **Design Development:** This has been initially completed as part of this submission and will be further refined with input from VCH. We would also look to involve Licensing at this stage to gain their input and support early in the process. We have estimated 1-2 months for this process.
- **Working Drawings (30%):** We estimate it will take approximately 1-2 additional months to complete working drawings to 30%. We will submit these Working Drawings and Specifications to Licencing for review.
- **Working Drawings (50% and 75%):** We expect to submit 50% Working Drawings to receive 1st and 2nd reading for our zoning application. At 75% Working Drawings, we expect to receive 3rd reading for zoning and at this point we would submit our building permit application in order to start the approval process.
- **Final Drawings and Building Permit:** We expect to obtain the building permit on May 1, 2017 (approximately 12 months since contract award). We would also want to obtain the approval of Licensing at this point to ensure the building permit is compliant with licensing requirements.

Construction: Construction has been estimated at 14 months from ground-breaking to occupancy approval. This is a wood-frame structure on a bare land site and no particular issues or delays are expected. Throughout construction, regular site management meetings occur to monitor progress. In addition, the lender requires the involvement of a quantity surveyor to track timelines and percentage completion. It is also important to keep Licensing informed – particularly of any change orders. We will arrange for a pre-inspection tour approximately 4 weeks prior to completion in order to gain input on any concerns in advance of expected opening.

Commissioning and Inspection: From experience, we have estimated 2-3 weeks for building cleaning, set-up, team training and inspection clearance and approvals. These processes run concurrently but require the building to be fully accessible to complete.

As mentioned, the involvement of Licensing early in the project is critical to achieving the timelines. Specifically, the significant requirements of Licensing are:

1. Approval of design concepts and identifying any risk areas or concerns;
2. Formal approval of working drawings (at 30% and ideally prior to submission for building permit to ensure full compliance with regulations);
3. Review and approval of significant changes as part of change order process throughout construction;
4. Pre-commissioning tour to identify any risks prior to final inspection; and
5. Final approval and issuance of License for site operation. This involves the project review and includes documentation on policies, manager profile, etc.

Facility Opening: August 2018.

Based on a contract award of April 2016, we have estimated a total project timeline of 28 months resulting in a target opening/occupancy by August 2018. This timeline is comprised of an estimate of:

- 1 month for project start-up;
- 12 months for construction documents, rezoning and subdivision plan, site servicing and infrastructure, development permit and building permit;
- 14 months wood-frame construction; and
- 1 month for project set-up and pre-opening requirements.

These are realistic targets which we believe are achievable but must be closely managed. We will promptly notify VCH in writing if the submission of any Project Documents, the Work, or the Project is behind the Project Schedule or upon becoming aware of any actual or threatened occurrence or condition which would reasonably be expected to cause a delay in meeting the deadlines set forth in the Project Schedule.

In our RFS submission, we included a copy of our Facility Opening Plan (Appendix 2.2) that outlines, in detail, the steps required to prepare the building for start-up and operations. As well, Section 3.3 of the RFS submission provided additional details on move in planning, staffing schedule and risk management plans.

Summary of Conditions to gain a Building Permit: The detailed conditions that must be met prior to being issued a building permit are:

1. Closing/completion of land purchase and sale agreement;
2. Complete registration of a Subdivision Plan with the District of Sechelt (by the Vendor);
3. Submit and achieve rezoning of the site concurrent with a development permit for the building exterior;
4. Complete site servicing and civil infrastructure (by the Vendor);
5. Submit a completed application for building permit including detailed working drawings, fee payments and payment of development cost charges.

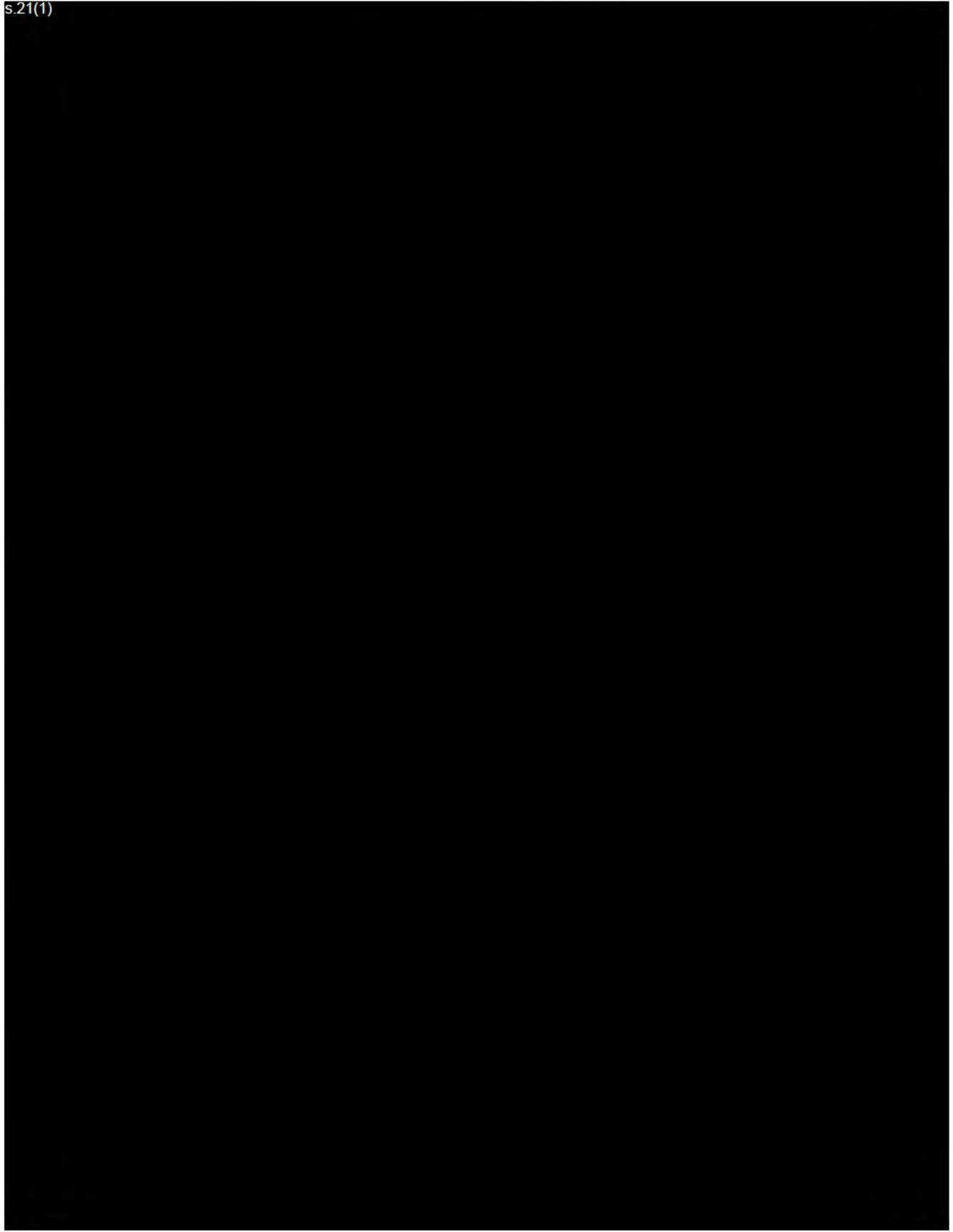
4. Financing Documents



Trellis Support Ltr -
Silverstone-Mar 16.px

s.21(1)





SCHEDULE G
FORM OF GUARANTEE



Guarantee Sechelt
PDA.doc

GUARANTEE AGREEMENT

THIS GUARANTEE is dated as of April ____, 2016.

BETWEEN:

TRELLIS SENIORS SERVICES LTD., a corporation formed under the laws of British Columbia

(the “**Guarantor**”)

AND

VANCOUVER COASTAL HEALTH AUTHORITY, a health authority established under the laws of British Columbia

(“**VCH**”)

WHEREAS:

- A. On or about the same date as the date of this Guarantee, Silverstone Care Centre Limited Partnership, represented by its general partner, Silverstone Care Centre Ltd. (the “**Project Developer**”), entered into a Project Development Agreement (the “**Agreement**”) with respect to its plans to build a residential care facility at Silverstone Care Centre in which the Project Developer will provide residential care services to VCH’s clients upon the date that Occupancy is achieved.
- B. The Project Developer is an affiliate or business partner of the Guarantor.
- C. This Guarantee is made supplemental to the Agreement. It is a condition to the award of the Agreement that the Guarantor makes available this guarantee and, inter alia, in consideration of the benefit the Guarantor will realize from its affiliation with the Project Developer, the Guarantor has agreed to guarantee the due performance of the Agreement by the Project Developer from the date hereof until the date that is five (5) years following the date that Occupancy is achieved.
- D. It is the intention of the parties that this Guarantee be executed under seal.

IT IS AGREED as follows:

- (1) Unless otherwise expressly stated, the words and expressions used in this Guarantee shall have the same meanings as are assigned to them in the Agreement.
- (2) In consideration of the Project Developer entering into the Agreement with VCH:
 - (a) the Guarantor irrevocably and unconditionally guarantees to VCH the due and punctual performance by the Project Developer of each and all of the obligations (including any indemnity obligations), warranties, duties and undertakings of the Project Developer under and pursuant to the Agreement when and if performance of such obligations, warranties, duties and undertakings become due according to the terms of the Agreement (taking into account any period for performance of such obligations, warranties, duties and undertakings expressly provided for in the Agreement) and the due payment and discharge of all such sums of money and liabilities due, owing or incurred or payable and unpaid by the Project Developer to VCH pursuant to the Agreement (taking into account any period for payment of such sums and liabilities expressly provided for in the Agreement) or as a result of any breach of the terms of the Agreement by the Project

Developer (including all expenses, including reasonable legal fees and taxes incurred by VCH in connection with VCH seeking to enforce any of the above). The Guarantor agrees with VCH that if at any time and from time to time the Project Developer fails to perform any obligation (including any indemnity obligations), warranties, duties, or undertaking under the Agreement or to make payment of any sum due and payable under the Agreement (taking into account any period for performance of such obligation, warranty, duty or undertaking or payment of such sum expressly provided for in the Agreement), the Guarantor shall promptly on receipt of a written demand from VCH and in any event within 5 Business Days, pay, perform or discharge such obligations, warranties, duties, undertakings and liabilities, as the case may be, as if such Guarantor instead of the Project Developer was expressed to be the Project Developer under the Agreement;

- (b) the Guarantor shall indemnify VCH, promptly on receipt of written demand from VCH and in any event within five (5) Business Days of receipt of such demand, in respect of any claim, demand, proceedings, liability, loss, damage, costs, charges or expenses (and any taxes arising thereon) arising out of any failure by the Project Developer to perform any of the obligations, warranties, duties and undertakings of the Project Developer or to pay and discharge each and all sums of money and liabilities due, owing, incurred or payable and unpaid by the Project Developer to VCH, in each case pursuant to the Agreement when and if such obligations, warranties, duties and undertakings become due and payable or performable according to the terms of the Agreement; and
 - (c) the Guarantor shall indemnify VCH, promptly on receipt of written demand from VCH and in any event within (five) 5 Business Days of receipt of such demand, against any loss or liability suffered by VCH as a result of any obligation, warranty, duty or undertaking guaranteed by the Guarantor being or becoming unenforceable, invalid or illegal as a result of any intentional act or omission of the Project Developer or the Guarantor that could reasonably have been expected to result in such unenforceability, invalidity or illegality (other than as a result of an act or omission of VCH) as if the obligation guaranteed had not become unenforceable, invalid or illegal provided that the Guarantor's liability shall be no greater than the Project Developer's liability would have been if the obligation guaranteed had not become unenforceable, invalid or illegal and provided further that the Guarantor shall not be obligated to perform any obligation to the extent that it would be illegal for it to do so.
- (3) This Guarantee will be maintained in full force and effect from the date hereof until the date that is five (5) years following the date that Occupancy is achieved (the “**Expiration Date**”).
- (4) The Guarantor shall not be exonerated by:
- (a) time being given to the Project Developer by VCH;
 - (b) any concession or arrangement or waiver or forbearance granted or made by VCH to or with the Project Developer;
 - (c) anything that VCH or the Project Developer may do or omit or neglect to do (including, without limitation, the assertion or failure or delay to assert any right or remedy of VCH or the pursuit of any rights or remedies by VCH or the giving by the Project Developer of any security or the release, modification or exchange of any such security or the liability of any persons, or any present or future law or regulation purporting to reduce or prejudice any of the obligations or liabilities of the Project Developer pursuant to the Agreement) which, but for this provision, might exonerate the Guarantor; or
 - (d) any unenforceability, illegality or invalidity of any provision or provisions of the

Agreement or any of the Project Developer's obligations under the Agreement, or under any other document or security so that this Guarantee shall be construed as if there were no such unenforceability, illegality or invalidity.

- (5) Without prejudice to VCH's rights against the Project Developer as principal obligor, the Guarantor shall be deemed a principal obligor in respect of its obligations under this Guarantee and not merely as surety. Accordingly, the Guarantor shall not be discharged nor shall its liability under this Guarantee be affected by any act or thing or means whatsoever by which its said liability would have been discharged or affected if it had not been principal obligor.
- (6) The Guarantor hereby authorizes (without need for further consent) the Project Developer and VCH to make any amendment, addendum or variation to the Agreement, the due and punctual performance of which amendment, addendum, variation or extension shall be likewise guaranteed by the Guarantor in accordance with the terms of this Guarantee. The obligations of the Guarantor under this Guarantee shall in no way be affected by any amendment, variation or addendum to, or extension of, the Agreement.
- (7) This Guarantee is a continuing guarantee from the date hereof until the Expiration Date and accordingly:
 - (a) it shall remain in operation and in full force and effect (notwithstanding any intermediate satisfaction by the Project Developer, the Guarantor or any other person) until all obligations and undertakings to be carried out or performed and all sums of money and liabilities now or at any future time due, owing, incurred or payable by the Project Developer under the Agreement from the date hereof until the Expiration Date shall have been satisfied or performed or as the case may be discharged in full;
 - (b) it is not revocable;
 - (c) it is in addition to and not in substitution for any other security which VCH may at any time hold for the performance of such obligations; and
 - (d) it may be enforced against the Guarantor without first having recourse to any such security and without taking any steps or proceedings against the Project Developer, any other guarantor or any other person.
- (8) The obligations of the Guarantor are independent of the Project Developer. A separate action may be brought and prosecuted against the Guarantor whether or not any action is brought against the Project Developer and whether or not the Project Developer is joined in any such action or actions. In the event that VCH brings formal legal proceedings against the Project Developer in relation to the Agreement, the Guarantor will be bound by any final judgment made by the court in such proceedings. Notwithstanding anything else contained in this Guarantee, VCH shall not make a claim pursuant to this Guarantee unless the Project Developer is in default pursuant to the terms of the Agreement, notice of such default has been given to the Project Developer, and any cure period, if applicable, has elapsed in accordance with the Agreement.
- (9) Neither the liability of the Guarantor under this Guarantee nor the rights of VCH in relation to this Guarantee shall be discharged, released, reduced, impaired or affected by reason of:
 - (a) any release or stay of proceedings against the Project Developer pursuant to any law relating to bankruptcy, insolvency, restructuring or affecting creditors' rights;
 - (b) any failure to obtain, preserve or perfect any right against the Project Developer;
 - (c) the winding up, dissolution, administration, incapacity, lack of power or re-organisation

of the Project Developer or any change in its status, function, control or ownership or any lack or deficiency in the authority of any person acting on behalf of the Project Developer in connection with the Project Developer's obligations under the Agreement; or

- (d) any other act, event or omission which might, but for the provisions of this Guarantee, operate to discharge, impair or otherwise affect any of the obligations or liabilities of the Guarantor or any of the rights, remedies or powers conferred on VCH.
- (10) While any amount is payable by the Project Developer under the Agreement or any amount is payable by the Guarantor under this Guarantee, the Guarantor shall not:
- (a) by virtue of or in respect of any payment made, security realised or monies received for or on account of the Guarantor's liability under this Guarantee, be subrogated to, benefit from, succeed to or share in any rights, security or monies held or received by VCH or be entitled to any right of contribution or claim any right of indemnity, or exercise any other rights or legal remedies; or
 - (b) claim, recover, accept or prove as creditor or otherwise in competition with VCH in respect of any monies owing to it by the Project Developer in the event of any bankruptcy, liquidation or other insolvency proceedings relating to the Project Developer. The Guarantor shall give VCH the benefit of each such claim and proof and of all monies to be received in respect thereof and in the meantime hold the same in trust for VCH.
- (11) If any payment by the Project Developer or the Guarantor in respect of the obligations, warranties, duties and undertakings of the Project Developer under and pursuant to the Agreement prior to the Expiration Date is avoided or annulled or must be repaid as a result of insolvency or any similar event, the liability of the Guarantor will continue as if such payment had not occurred and to the extent necessary, the guarantee of the Guarantor will automatically be reinstated and the Guarantor shall indemnify and save VCH harmless from all related costs. For greater certainty, the Guarantor agrees that it will remain liable for the performance in full of such obligations even if the Project Developer is discharged from them by applicable legislation relating to bankruptcy, insolvency or reorganization.
- (12) The Guarantor assumes responsibility for being and keeping informed of the financial condition of the Project Developer and of all other circumstances bearing upon the risk of non-performance of the Project Developer's obligations, warranties, duties and undertakings under and pursuant to the Agreement prior to the Expiration Date which diligent inquiry would reveal, and agrees that VCH shall have no duty to advise the Guarantor of information known to it at any time regarding such condition or any such circumstances.
- (13) The Guarantor covenants that, on demand from VCH, it will perform all acts and execute all deeds and documents reasonably necessary to give full effect to the provisions of this Guarantee and to ensure that this Guarantee will be at all times enforceable against the Guarantor for all matters covered through the Expiration Date.
- (14) Any amount not paid when due under this Guarantee shall bear simple interest at the rate of one percent (1%) per month (or twelve percent (12%) per year) until paid, provided that such interest will not be in duplication of any interest payable pursuant to the Agreement and claimed under this Guarantee.
- (15) While any amount is payable by the Project Developer under the Agreement or any amount is payable by the Guarantor under this Guarantee, the Guarantor shall not:
- (a) by paying any sum due under this Guarantee or by any means or on any ground, claim or recover by the institution of proceedings or the threat of proceedings or otherwise such

sum from the Project Developer;

- (b) claim any set-off or counterclaim against the Project Developer; or
- (c) prove in competition with VCH to claim or have the benefit of any security which VCH holds or may hold for any money or liabilities due or incurred by the Project Developer to VCH.

In case the Guarantor receives any sums from the Project Developer in respect of any payment made by the Guarantor under this Agreement, the Guarantor shall hold such monies in trust for VCH so long as any sums are due and payable (contingently or otherwise) under this Guarantee.

- (16) All sums payable under this Guarantee shall be paid in full free and clear of and without deduction of or withholding for or on account of any present or future taxes, duties and/or other charges, save where required by law.
- (17) No action or proceedings for any breach of this Guarantee shall be commenced against the Guarantor after the expiry of the limitation period in respect of the underlying obligation of the Project Developer under the Agreement.
- (18) The invalidity, illegality or unenforceability in whole or in part of any of the provisions of this Guarantee shall not affect the validity, legality and enforceability of the remaining part or provisions of this Guarantee.
- (19) The Guarantor represents and warrants that this Guarantee is its legally binding obligation, enforceable in accordance with its terms, and that all necessary governmental, corporate and other consents and authorisations for the giving and implementation of this Guarantee have been obtained.
- (20) The Guarantor waives any demand for payment, presentment or notice.
- (21) Any notice or demand (“**Communication**”) under this Guarantee shall be in writing and may be given by delivering, sending by electronic facsimile transmission or other means of electronic communication capable of producing a printed copy, or sending by prepaid registered mail posted in Canada, the notice to the address or number of the Project Developer and VCH contact persons set out below, or to such other address or number as any party may specify by a Communication in writing to the other party:

If to VCH at:

Attention: Ron Van Halen
520 West 6th Avenue
Vancouver, BC V5Z 4H5
Email: Ron.Vanhale@vch.ca
Fax: 604-874-6736

If to the Guarantor at:

Attention: Mary McDougall
s.19(1) [REDACTED]
North Vancouver, British Columbia s.19(1) [REDACTED]
Email: mary mcdougall@trellisgroup.ca

Any Communication delivered or sent by electronic facsimile transmission or other means of electronic communication capable of producing a printed copy on a business day will be deemed conclusively to have been effectively given on the day the Communication was delivered, or the

transmission was sent successfully to the number set out above, as the case may be. Any notice sent by prepaid registered mail will be deemed conclusively to have been effectively given on the third business day after posting; but if at the time of posting or between the time of posting and the third business day thereafter there is a strike, lockout, or other labour disturbance affecting postal service, then the Communication will not be effectively given until actually delivered.

Any party may change its address for Communication to another address by prior Communication in writing to the other party.

- (22) This Guarantee shall be governed by the laws of the Province of British Columbia and the laws of Canada applicable therein without regard to conflicts of laws principles, and all actions or proceedings in respect of any claim arising out of or related to this Guarantee, whether in contract, tort, at law or in equity, shall be brought in the courts of the Province of British Columbia.
- (23) This Guarantee may be executed and delivered in any number of counterparts with the same effect as if the parties had all signed and delivered the same document, and all counterparts will be construed together to be an original and will constitute one and the same agreement. Any party may deliver and execute a copy of this Guarantee by facsimile or other electronic means but that party will immediately dispatch by delivery to the other parties an originally executed copy of this Guarantee.
- (24) Notwithstanding anything stated in this Guarantee above to the contrary, the terms, conditions, and obligations of this Guarantee, including all obligations to pay, perform or discharge the obligations and liabilities of Project Developer under the Agreement:
- (a) shall not require the Guarantor to engage in any activity which, if done by Project Developer, would violate any obligation, representation, or warranty of Project Developer under the Agreement (including its Schedules) relating to the protection of Personal Information or to Project Developer's constating documents or corporate structure; or to compliance with Applicable Law;
- (b) are applicable only up to and to the extent of Project Developer's obligations under the Agreement with no additional obligations or liability of any kind, provided that this provision shall not reduce the indemnity contained in Section (2)(c) of this Guarantee; and
- (c) are subject to the same defenses, exemptions and exclusions that would be available to Project Developer under the Agreement. To the extent the terms of the paragraph are inconsistent with the terms of remainder of this Guarantee or the Agreement, the terms of this paragraph shall supersede and control.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS whereof this Guarantee has been executed under seal and delivered by the Guarantor the day and year first before written.

TRELLIS SENIORS SERVICES LTD.

By:

Its Authorized Signatory

Name:

Title:

Acknowledged and Agreed:

VANCOUVER COASTAL HEALTH AUTHORITY

By:

Its Authorized Signatory

Name:

Title:

[Signature Page to Guarantee for Sechelt PDA]

SCHEDULE H

LANDS

The Lands consist of a minimum of 2.4 acres of land to be subdivided from the lands and premises located in Silverstone Heights, District Municipality of Sechelt, British Columbia, which are legally described as:

PID 015-861-660

DL 1384, GROUP 1, NEW WESTMINSTER LAND DISTRICT, EXC: PT ON PL 14180, PL BCP31726 (Roll 570 03402.000); and

PID 024-694-118

LOT A DL 4295A, GROUP 1, NEW WESTMINSTER DISTRICT PLAN LMP4391, EXC. PLAN BCP31726 AND EPP31745 (6013 Sunshine Coast Hwy, Roll 570 06385.005)