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## SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

### Comments - Commentaires

THIS DOCUMENT CONTAINS A SECURITY  
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<b>Title - Sujet</b> 1500 Bronson Rehabilitation Project	
<b>Solicitation No. - N° de l'invitation</b> EJ078-193032/A	<b>Amendment No. - N° modif.</b> 008
<b>Client Reference No. - N° de référence du client</b> 20193032	<b>Date</b> 2019-10-22
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<b>File No. - N° de dossier</b> fe174.EJ078-193032	<b>CCC No./N° CCC - FMS No./N° VME</b>
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<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> PWGSC 1500 Bronson Ave. Ottawa, Ontario Canada	

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Solicitation No. - N° de l'invitation  
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Client Ref. No. - N° de réf. du client  
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## **A) AMENDMENT TO THE REQUEST FOR PROPOSAL DOCUMENT**

The following changes in the Request for Proposal document are effective immediately. This amendment will form part of the contract documents.

### **1) Request for Proposal Document**

#### **PROJECT BRIEF**

ANNEX G: GENERAL FIT-UP REQUIREMENTS

#### **.1 ADD THE FOLLOWING:**

**ANNEX G: GENERAL FIT-UP REQUIREMENTS** (*amendment 008, attached herein*)



# General Fit-up Requirements Report

1500 Bronson Ave, Confederation Heights Campus  
Ottawa, Ontario

**Prepared by:** Denise Lepage, PMSS for Confederation Heights

**Date:** 16 October 2019

**SIGMA number:** R.076861

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## 0 Executive Summary

### 0.1 Introduction

This report provides information on the potential capacity and the generic fit-up requirements for a typical federal government tenant of 1500 Bronson. It is based on the intention to accommodate general office space in compliance with the most recent federal accommodation standards, GCworkplace, and in alignment with the conservation guidelines for this federally designated Classified heritage building.

The report also identifies suitable locations for some special purpose space if required by a future tenant. The building's ability to accommodate one single tenant or multiple tenants is studied. Potential accommodation scenarios are illustrated in Space Equations, Vertical Stacking and in Test plans to convey the opportunities and capacity that the rehabilitated building can support with several fit-up alternatives illustrated.

### 0.2 Project Main Objectives

The main objectives to preparing this report for 1500 Bronson are twofold:

1. To provide a guide document for the Prime Consultant team to enable their preparation of GCworkplace compliant Generic fit-up of the building as well as the basis for preparing a full functional program.
2. To provide the Confederation Heights Project Management Service Delivery Line with tools for communicating with potential client tenants the potential of 1500 Bronson to address their accommodation requirements and thereby secure tenant(s) commitments to occupy the rehabilitated building.

### 0.3 Summary Recommendations

A fully rehabilitated 1500 Bronson provides an ideal setting for federal GC workplace compliant general office fit-up due to its typical narrow floor plate with universal access to natural light and views. The parabolic shaped facades provide 42% glazed area. This creates a humane and habitable environment providing long natural views of the Rideau River and surrounding neighborhoods within a landscaped campus site.

#### 0.3.1 Summary Findings

##### 0.3.1.1 Project Information

Division 1 of this report contains information regarding the building asset, its features and existing conditions, the site and campus context, the heritage designation, and the intentions of the building rehabilitation.

##### 0.3.1.2 Building Capacity

Division 2 of this report provides the spatial allocation and distribution spreadsheets information based in the GCworkplace Accommodation Standard using the GC workplace workbook for three planning options further described below under Design Concept. It is based on floor useable areas derived from several sources. The useable areas will require validation following design development of the base building rehabilitation, as proposed design interventions may impact the useable area available for tenant fit up.

##### 0.3.1.3 Design Concept

Division 3 of this report provides vertical stacking diagrams and test plans. The Vertical Stacking shows the capacity potential based on the GCworkplace target density of 12 m<sup>2</sup> / person for each of the three Balanced profile fit-up options illustrated in the Generic Concept Test Plans. These options show a range

of approaches to the spatial arrangement of quiet, transitional and interactive zones to serve single floor or multi-floor tenant occupancy profiles.

The best locations to provide special purpose space, if it is required by a future tenant, are locations in the building with reduced requirements for access to natural light. This is primarily the ground floor which is a half basement level. Another location in the building with special purpose space potential is the southwest wing end of the 6<sup>th</sup> floor. It features a larger open span with fewer columns. This is the location most suitable for a larger executive boardroom, conference, or training facility and was originally used by CBC as board room.

#### 0.3.1.4 Planning and Design Guidelines

Division 4 provides the planning and design guidelines and standards that must inform the detailed design development of any federal tenant fit-up. It includes highlight requirements of the GC workplace federal accommodation standard as it applies to general office and special purpose space, Communications and Data Guidelines currently being used by Shared Services Canada, Security standards and Requirements that may apply depending on the tenant occupants' site-specific threat and risk assessment and Mechanical and Electrical requirements that apply to federal fit-ups in the province of Ontario and City of Ottawa.

The table **0.3.2 Capacity Potential below** documents the occupant capacity range limits of 1500 Bronson between 578 to 863 persons depending on the density used and the quantity of special purpose space required. It is based on useable areas derived from Spacetech 2 space measurement data used to prepare occupancy instruments for the former building occupant. The Ontario Building Code limit is based on a Group D office occupancy using the prescribed occupant load calculation of 9.3 m<sup>2</sup>/person. This is not a recommended fit-up density. Quantity of visitors must be considered in the building occupancy loading as well as other factors. See also 1500 Bronson Avenue – Fire, Life Safety and Accessibility Review prepared by Jenson Hughes, August of 2019. The 578 represents a density of 12 m<sup>2</sup> per person while assigning the ground floor and part of the 6<sup>th</sup> floor to special purpose space.

#### 0.3.2 Capacity Limits

SPS  General Office

Floor	Um <sup>2</sup>	GC Workplace Density Cap at 12m <sup>2</sup> /P	OBC Occupant Load limit 9.3m <sup>2</sup> /person	
Pent.	49	0	MECHANICAL	
6	1182	86	General Office	SPS 150
5	1184	99	General Office	
4	1183	99	General Office	
3	1183	99	General Office	
2	1181	98	General Office	
1	1176	98	General Office	
GR	934		BB SERVICES	SPS 934
Total	8023	578	863	

## 1 Project Information

### 1.1 Asset Description

1500 Bronson (formerly known as the Sir Edward Drake Building) is a Crown owned office building located within the Confederation Heights Campus, Ottawa. The building was constructed between 1961 and 1964. It has an area of 8,529 m<sup>2</sup>u/10,024 m<sup>2</sup>r and carries "Classified" heritage status, the highest possible heritage designation, by the Federal Heritage Buildings Review Office (FHBRO). Rehabilitation is required to bring the building back into service and to meet obligations to conserve the heritage value, including the character defining elements of the building.

The asset has been vacant since 2015 and was decommissioned in early 2017. As indicated in a recently prepared Asset Management Plan (AMP, 2018) and a Feasibility Study (FS, 2017) the asset is in poor condition and has reached the point in its lifecycle where major capital reinvestment is required to maintain asset integrity, rehabilitate exterior masonry (which is deteriorating and failing in some areas), and to prepare it for modern federal office occupancy as soon as it is practicable, to protect the asset from further damage and return it to service.

As part of the modernization of the asset and given the recent roll-out of enhanced greening initiatives for federal buildings, the rehabilitation of 1500 Bronson Road is identified to include enhanced sustainability.

Once rehabilitated, the strategy is to provide a fit-up for general purpose office space, designed to conform to Government of Canada (GC) Workplace Fit-up Standards. There are several potential federal tenants that require swing space or consolidation for long term occupancy. Proceeding with the building rehabilitation and general office fit-up, concurrent with or prior to a tenant being fully committed to occupancy, allows the building to be rehabilitated while a client is selected for occupancy that is best suited to the building and site. This approach allows for the most expedient conservation and rehabilitation of deteriorating heritage character defining elements.

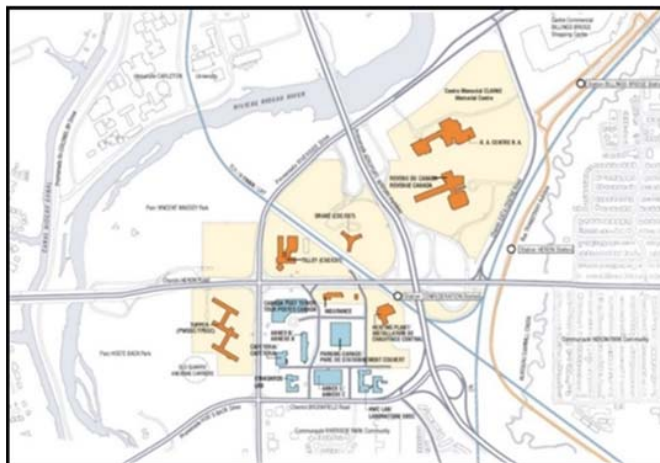
### 1.2 Site description

#### Location

1500 Bronson (formerly known as the Sir Edward Drake Building) forms part of the Confederation Heights Federal Campus. This campus area is bordered by Heron, Bronson, and Riverside in the south-central portion of the City of Ottawa and includes a mix of assets built mostly in the 1950's to 1990's period.

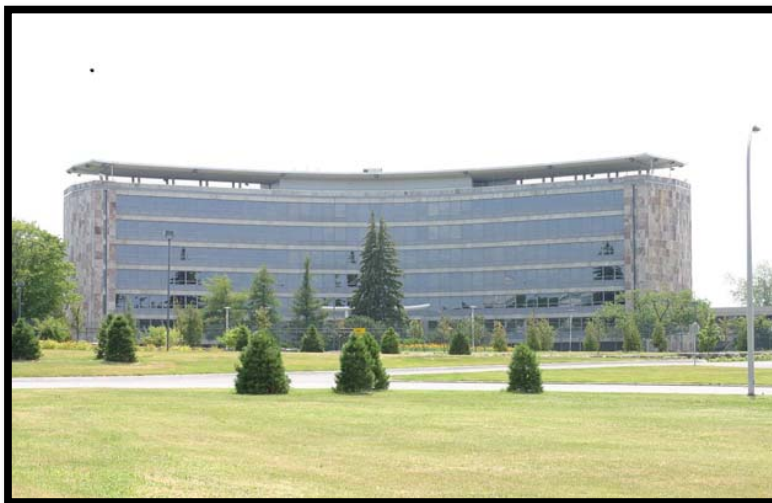
#### Building Information

1500 Bronson opened in 1964 as the head office of the Canadian Broadcasting Corporation (CBC). The building was purchased in 1997 by PSPC and immediately refurbished as an office building for Canadian Security Establishment (CSE). The building is a seven-storey (excluding mechanical penthouse) flat roofed reinforced concrete and steel structure with a flared "Y"-shaped footprint that features a flared white inverted roof and an entrance canopy, glazed elevations with granite spandrel panels, and monumental, stone clad lozenge shaped blocks at the end of each wing. The lowest storey is partially underground. It provides direct exiting to grade from the stairwells at the end of each wing, office space, mechanical and electrical service spaces, and special purpose storage. The building has a gross area of 11,580 square metres, a rentable area of 10,024 square metres, and a useable area of 8,529 square metres (useable to rentable ratio of 18%).





The building has been designated “classified” by FHBRO. The geometric shape, glazed curtain walls, granite panels, roof canopy, stairwells at wingtips, exterior finishes and the entrance pavilion’s forms and finishes all contribute to its architectural heritage value. Accordingly, interventions must be guided by the FHBRO Code of Practice. Specific conservation guidelines have been prepared by HCS which provide direction for the long-term protection of the heritage character of the building and support the rehabilitation project. The guidelines will also be used to mitigate the impact of the future tenancy of the building and to assist in developing interventions that are consistent with protecting and supporting the values of the building and its site, in compliance with the *Standards and Guidelines for the Conservation of Historic Places in Canada*.



### 1.3 Confederation Heights Campus Context

#### Confederation Heights Master Plan

A Master Plan is being developed for Confederation Heights in partnership with the Canada Lands Company (CLC), to identify surplus or underdeveloped lands which can be disposed or redeveloped as a means of achieving a complete, mixed use and transit-oriented community. This will also serve to satisfy the National Capital Commission’s (NCC) Federal Land Use, Design and Transactions Approval requirements (FLUDTA). The Master Plan will recognize and include the rehabilitation of 1500 Bronson.

#### Energy Services Acquisition Program (ESAP)

Also impacting the project is the future Crown ownership and operation of a central heating and cooling plant in Confederation Heights - the Confederation Heights Central Heating and Cooling Plant (CHCP), which provides heating and cooling to most of the assets in this federal node, including to 1500 Bronson. A Public Private Partnership (P3) project has been approved whereby a non-government 3rd party will take-over the CHCP (as well as other existing federally owned CHCPs in the NCA Region), undertake a program of upgrades, then operate the facilities, all in exchange for a long-term commitment from the Government of Canada to purchase heating and cooling for their assets.

This project – the Energy Services Acquisition Project (ESAP), was launched by PSPC in 2009 to determine the most cost-effective and environmentally responsible approach to meet the long-term energy requirements for its current portfolio of buildings in the NCA.

ESAP has conducted in-depth research and analyses to determine the full range of potential technology and procurement options. The analysis confirmed the cost and other advantages of maintaining district energy systems (CHCPs) utilizing new technologies (notably conversion to low temperature hot water versus the current steam systems), and the advantages of P3 procurement.

The first phase of ESAP has been approved and is being implemented with buildings in Confederation Heights and elsewhere in the NCA being readied for the proposed change-over to LTHW. The rehabilitation of 1500 Bronson, and the associated building upgrades, will be undertaken in recognition of and in alignment with anticipated changes resulting from ESAP



Project in Other Confederation Heights Buildings.

1500 Bronson is located within the Confederation Heights campus. Most of the buildings in the campus were constructed prior to 1500 Bronson, and many require major interventions or complete redevelopment. Details on these other projects, including their likely timing and impacts on 1500 Bronson, if any, are found in Appendix A.

## 1.4 Heritage Context

The architectural character defining elements that contribute to the building designation are described on the following website: <http://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=1865andpid=0>

The Consultant must maintain a high standard of architectural design, based on recognized contemporary design principles, while respecting the heritage characteristics and value of the building and site. All design elements, planning, sustainability, architectural, engineering and landscaping, must be fully coordinated, and consistent in adherence to good design principles.

The heritage conservation guidelines provide the following guidance for the interior of the building which will impact the tenant fit-up decisions.

*“The choice of new features and finishes should be informed by the original design intentions of the architect, as they relate to the style of the building, its Modern aesthetic and to the established palette and hierarchy of materials, both for the building’s exterior and interior. This could also include the reinstatement of missing features of the original design intent.”*

The 2017-2018 Level 1 Screening Report prepared by PSPC Heritage Conservation Section describes the interior materials as follows;

*“Quality materials were used throughout the building.... Interior materials include ‘Roman’ travertine marble and marble terrazzo for the floors, as well as ‘Radio Black’ marble detailing. Terra Cotta tiles were originally used in the washrooms and mosaic tile was used through the building for decorative effect, but these materials were removed. The entrance pavilion and lobby were lightly detailed in Carrera marble, teak and stainless steel.”*

## 1.5 Base Building Rehabilitation Context

The base building will be undergoing a rehabilitation that includes heritage conservation efforts and sustainability targets that will impact decisions and options regarding the interior fit-up. The features of the rehabilitation option selected for implementation are detailed in Appendix B and generally described as follows;

- Complies with Technical Reference for Office Building Design, 2017 (TRFOBD);
- Complies with commitments identified in Real Property Sustainability Framework, 2015 (RPSF);
- Will meet and obtain certification to **LEED V4 Platinum** or equivalent;
- Reduces carbon emissions to as much as possible, excluding the use of carbon offsets and without compromising the heritage qualities of the open site. Provides for clean on-site geothermal energy generation to partially offset the GHG emitted related to the energy consumed by the building;
- Is carbon neutral ready
- Achieves an energy performance that exceeds the National Energy Code for Buildings, 2011 (NECB) baseline building performance by **51%**; and
- Reduces GHG emissions by **88%** compared to 2005-2006 emissions.
  - Targeted GHG emissions 85 tons, which is a reduction of 602
- Integrate health and wellness design strategies to enhance social livability and create highly productive, healthful and comfortable environments within indoor and outdoor spaces that encourage social interaction, active living and nurture the human/nature connection. This includes:
  - spaces for active and passive recreation, as well as quiet contemplation/relaxation

- multi-functional spaces for facilitating social connections
- healthy indoor environment (i.e. integrated bio philia, daylight and space, natural shapes, forms and materials, fresh air, access to water, healthy food/food production)
- Use industry recognized health and wellness standard to frame strategies and pursue WELL v2 Core (Silver) certification

To achieve the above noted objectives, including reductions of GHG and energy consumption, as well as, supporting indoor environmental quality, occupant comfort, improved localized storm water management to support ecosystem health, optimal performance for waste and water, this option incorporates all the design features described in Appendix B.

## 1.6 Project Information Sources

Resources used for this Report include the following. GCdocs files may be obtained through the PWGSC Project Management team.

The following from PSPC Workplace Solutions

1. GCworkplace Design Guide- Transforming the Workplace Experience version 3 April 2019 Experience version 3 April 2019: <https://gcdocs.gc.ca/tpsgc-pwgsc/lisapi.dll/open/188471828>
2. GCworkplace Space Planning Workbook 2019: <https://gcdocs.gc.ca/tpsgc-pwgsc/lisapi.dll/open/191937051>
3. GCworkplace Data Sheets for Typical Workpoints:  
[http://www.gcpedia.gc.ca/gcwiki/images/e/e4/GC\\_Workpoint\\_data\\_sheets\\_-\\_2018.pdf](http://www.gcpedia.gc.ca/gcwiki/images/e/e4/GC_Workpoint_data_sheets_-_2018.pdf)

The following building reports from the Confederation Heights Project Management Service Delivery Line

1. Feasibility Study Report 101% Submission, DFS Inc. Architecture and Design (2017),
2. Building Condition Report, PWGSC (2016)
3. Designated Substances Report for 1500 Bronson Avenue Rehabilitation Project, Building by: DST Consulting Engineers Inc., - decommissioning
4. Designated Substances Report for the 1500 Bronson (DST Consulting Engineers) March 2014 and Designated Substance Report Specifications Section 011425 (DST Consulting Engineers) – 2014

The following Heritage Section, Building specific files

1. FHBRO Heritage Character Statement Edward Drake Building, Ottawa, ON.  
[https://www.historicplaces.ca/media/17162/2001-049\(e\)edwarddrakebuilding.pdf](https://www.historicplaces.ca/media/17162/2001-049(e)edwarddrakebuilding.pdf)
2. Standards and Guidelines for the Conservation of Historic Places in Canada, Parks Canada (January 2010)  
<http://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf>
3. A Guide to Working with the Federal Heritage Buildings Review Office (FHBRO), Parks Canada (January 2009)  
[http://www.historicplaces.ca/media/7313/fhbro\\_manual\\_parks%20canada.pdf](http://www.historicplaces.ca/media/7313/fhbro_manual_parks%20canada.pdf)
4. 1500 Bronson Building Level 1 Screening Report 2017-2018 <https://gcdocs.gc.ca/tpsgc-pwgsc/lisapi.dll?func=l1andobjaction=overviewandobjid=189198993>
5. 1500 Bronson Building and Site Conservation Guidelines Update 2018-2019 <https://gcdocs.gc.ca/tpsgc-pwgsc/lisapi.dll?func=l1andobjaction=overviewandobjid=172311572>
6. Heritage Elements, PWGSC Heritage Conservation Services (2018)

## 2 Building Capacity

### 2.1 Functional Space Equations

Building Capacity has been analyzed, based on the GCworkplace Space Planning Workbook (April 2019) and recommendations by PSPC Workplace Solutions. Based on the Workbook, maximum area allocation per person is 12 m<sup>2</sup>. The Balanced profile has been identified as the most suitable, and three options were developed using this model

The GCworkplace Space Planning Workbook prepared by PSPC Workplace Solutions is an excel spreadsheet that is the functional space equation tool used to express the potential capacity of a general office fit-up and provides for the assignment and distribution of unit space types. The workbook sets out standard building factors, and circulation percentages for use in planning and calculates capacity based on the useable area divided by 12 m<sup>2</sup> per person, less any required special purpose space. This density is effectively the new Space Allocation Standard; however, clients are permitted to plan to an increased density to the limits of the building's capacity, which given applicable building codes, the limiting factor is usually the prescribed exit capacity for a group D occupancy. i.e. a 9.3 m<sup>2</sup> per person. However, the space equations provided as examples of potential planning options all use the maximum area allocation per person of 12 m<sup>2</sup>. In each option presented a large meeting/conferencing/ training special purpose space of 150 m<sup>2</sup> is assumed on the 6<sup>th</sup> floor. If such a facility is not required, then the occupant capacity can be increased.

### 2.2 Occupant Profile Selection

The workbook provides for three different occupant profiles as follows. The Balanced Occupant Profile has been recommended by PSPC Workplace Solutions for this report.

**Autonomous:** Best suited to organizations with limited interaction among colleagues or teams and features the highest proportion of individual work points.

**Balanced:** Best suited to organization with moderate interaction levels and has the most balanced distribution of work points, with an equal proportion of individual and collaborative work points.

**Interactive:** Best suited to organization with a high degree of interaction between colleagues and among teams. It features the highest proportion of collaborative work points.

The distribution ranges between individual workpoints (Type A) spaces and collaborative workpoints or support spaces (Type B) spaces is shown for each profile in the chart below.

WORKPOINT DISTRIBUTION COMPARISON			
	AUTONOMOUS	BALANCED	INTERACTIVE
Individual Workpoints	50-65%	30-50%	5-30%
Collaborative Workpoints and Support	35-50%	50-70%	70-95%

## 2.3 Workplace Zones

Each profile is informed by the activity-based workplace model of space planning where space types are provided and distributed in zones specifically Quiet, Transitional and Interactive. Boundaries between the zones may overlap and some space types may be assigned to more than one zone. Generally, the zone assignments are characterized as follows.

**Quiet Zones:** accommodates individual work points, and studies, for focused work. “A Quiet Zone includes open, semi-enclosed, and enclosed individual workpoints. The intent is to encourage individual focus work, and to support the need for quiet or private spaces.”

**Transitional Zones:** accommodates shared support spaces such as lockers, equipment areas, and shared storage and may also include some enclosed or open collaborative spaces. “A Transitional Zone includes a variety of open and enclosed spaces where less intense concentration is supported. Transitional Zones may include open individual and group workpoints, semi-enclosed collaboration, and support spaces such as lockers or shared equipment areas. “

**Interactive Zones:** accommodates enclosed or open collaborative spaces, and active workstations. “In an Interactive Zone, socialization and group collaboration is promoted and strongly encouraged. Providing a variety of group workpoints, and locating these activities away from the Quiet Zone, it is possible to achieve a balance within the workplace which supports all types of work activities and work styles.”

## 2.4 Space Planning Options

As recommended by Workplace Solutions the Balanced profile is used in the development of the three accommodation options for application to 1500 Bronson. The three options for tenant accommodation considered are as follows;

**Option 1** This option profiles a single floor for one or multiple tenants and distributes all three zones in each wing. The central core is an active zone and hosts most hard-walled collaborative spaces as well as open collaborative spaces. Moving outwards into each wing, workstations and support spaces are arranged into transitional zoning and quiet zoning at the ends, farthest from the core. This option can be used for single tenants using one or more wings or floors or multiple floors.

**Option 2** This option profiles a single floor for one or multiple tenants and distributes the three zones one in each wing. Each wing is zoned separately, such that there is one active, one transitional, and one quiet wing. The central core acts as a transitional zone and houses most hard walled spaces. This option can be used for single tenants using one or more floors or multiple floors.

**Option 3:** This option combines three floors of population and area into a single workbook, to divide quiet, transitional, and active zones by floor. The example shown in stacking, illustrates the 6<sup>th</sup> floor as active, the 5<sup>th</sup> transitional, the 4<sup>th</sup> quiet, the 3<sup>rd</sup> transitional, the 2<sup>nd</sup> active, and the 1<sup>st</sup> transitional. This option can be used for larger or one single tenant occupancy.

The ground floor can be special purpose space or fit-up for additional general office occupancy.

In addition to the above three options studied, a fourth option based on the April 2018 early version of GCworkplace was developed based on the Autonomous profile for background information in preparation of the Investment Analysis Report for the Rehabilitation of 1500 Bronson. That profile is illustrated in Annex B but is not analyzed because it was based on a different occupant profile.

The following pages provide the GCworkplace Space Planning Workbook populated for a balanced profile using each of three types of zone distributions. In each case a population of 578 to 611 can be accommodated assuming that 1084 m<sup>2</sup> are allocated to special purpose space and depending on the useable area source information used. The useable areas used for the following workbooks are based on area calculations from updated drawings prepared by Heritage Section. The useable areas in all the CAD drawings provided are greater than what the former Spacetech 2 and Occupancy Instrument data had

stated. The future design may further impact the useable area as well and could reduce or increase it depending on solutions implemented for the exterior envelope and perimeter heating as well as other design decisions.

**Option 1:** Balanced profile for a single floor for one or multiple tenant and distributes all three zones in each wing.

1.

ENTER YOUR KNOWN DATA IN THE WHITE CELLS:

Space Solution in m<sup>2</sup>u (NOT including any Special Purpose Space): 1288.64 m<sup>2</sup>

Target Occupancy\*: 107

Actual Population: 0

Built-in growth: 107

\*Target Occupancy is obtained by dividing the space solution by 12m<sup>2</sup>u.

Total Space = 1288.64 m<sup>2</sup>

Circulation (35%) = - 451.02 m<sup>2</sup>

Building Fit Factor (6%) = - 77.32 m<sup>2</sup>

**REMAINING SPACE FOR PLANNING = 760.30 m<sup>2</sup>**

2.

REVIEW AND ADJUST WORKPOINT QUANTITIES AS REQUIRED

NON-STANDARD

Over permitted quantity

Under permitted quantity

INDIVIDUAL	WORKPOINTS	Total number of seats	Suggested quantity	Adjust quantities as required	Average size (m <sup>2</sup> )		Required Area	
Primary Individual Open	Typical Workstation	73	43	46	x	3.5	= 161 m <sup>2</sup>	
	Touchdown		19	18	x	1.5	= 27 m <sup>2</sup>	
	Focus Pod		9	9	x	4.0	= 36 m <sup>2</sup>	
Primary Individual Enclosed	Focus Room	9	9	9	x	7.5	= 68 m <sup>2</sup>	
	Ministerial Dedicated (Deputy Head or Minister) total includes 9m2 washroom.		0	0	x	29.0	= 0 m <sup>2</sup>	
	Study (3m2 per occupant, min. 10 occupants)		0	0	x	3.0	= 0 m <sup>2</sup>	
Secondary Individual	Reflection Point	10	4	3	x	5.0	= 15 m <sup>2</sup>	
	Active Workstation		1	1	x	5.0	= 5 m <sup>2</sup>	
	Phonebooth		6	6	x	5.0	= 30 m <sup>2</sup>	
Other	Custom Individual Workpoint	0	0	0	x	0.0	= 0 m <sup>2</sup>	
Total no. of individual seats		92	Total space for individual workpoints					342 m <sup>2</sup>

## Option 1 cont.

COLLABORATIVE WORKPOINTS		Total number of seats	Suggested quantity	Adjust quantities as required		Average size (m <sup>2</sup> )	Required Area
Collaborative Open	Chat Point	8	2	2	x	3.0	= 6 m <sup>2</sup>
	Huddle	12	3	3	x	8.0	= 24 m <sup>2</sup>
	Teaming Area	20	2	2	x	15.0	= 30 m <sup>2</sup>
	Lounge	10	1	1	x	20.0	= 20 m <sup>2</sup>
Collaborative Enclosed	Work Room	16	4	4	x	15.0	= 60 m <sup>2</sup>
	Project Room	12	2	2	x	20.0	= 40 m <sup>2</sup>
	Medium Meeting Room	24	2	2	x	30.0	= 60 m <sup>2</sup>
	Large Meeting Room	20	1	1	x	60.0	= 60 m <sup>2</sup>
Support Spaces	Kitchenette	-	1	1	x	15.0	= 15 m <sup>2</sup>
	Equipment Area	-	2	3	x	5.0	= 15 m <sup>2</sup>
	Lockers Area (area is per FTE)	-	107	107	x	0.5	= 54 m <sup>2</sup>
	Shared Storage	-	1	1	x	10.0	= 10 m <sup>2</sup>
	Dedicated Server/Telecom Room - 1 per floor	-	1	0	x	10.0	= 0 m <sup>2</sup>
Other	Custom Collaborative Workpoint	0	0	0	x	0.0	= 0 m <sup>2</sup>
Estimated number of collaborative seats		122	Total space for collaborative workpoints and support spaces				394 m <sup>2</sup>

## 3.

## CHECK-IN ON THE SURPLUS/DEFICIT AMOUNT TO ENSURE OPTIMAL SPACE PLANNING

## SPACE PLANNING SUMMARY

PLANNING SPACE	=	760.30 m <sup>2</sup>
TOTAL INDIVIDUAL WORKPOINT SPACE	=	341.50 m <sup>2</sup>
TOTAL COLLABORATIVE & SUPPORT SPACE	=	393.50 m <sup>2</sup>
REMAINING SURPLUS* / DEFICIT*	=	25.30 m <sup>2</sup>

\*SIGNIFICANT SURPLUS WILL SHOW IN GREEN = ADD MORE WORKPOINTS

\*SIGNIFICANT DEFICIT WILL SHOW IN RED = REDUCE SOME WORKPOINTS

An exemption for the allocation of equipment areas is proposed due to the 3-wing nature of the building plan and architecture. One equipment area is recommended for each wing particularly in multi-tenant applications.

It is assumed that a stacked telecom room will be provided in the core of the building along with possibly a new universal washroom. These areas are excluded from the useable planning area.



**Option 2:** Balanced profile applied to a single floor for one or multiple tenants. Distributes the three zones one in each wing.

1.

ENTER YOUR KNOWN DATA IN THE WHITE CELLS:

Space Solution in m2u (NOT including any Special Purpose Space): 1288.64 m<sup>2</sup>

Target Occupancy\*: 107

Actual Population: 0

Built-in growth: 107

\*Target Occupancy is obtained by dividing the space solution by 12m2u.

Total Space = 1288.64 m<sup>2</sup>

Circulation (35%) = - 451.02 m<sup>2</sup>

Building Fit Factor (6%) = - 77.32 m<sup>2</sup>

**REMAINING SPACE FOR PLANNING = 760.30 m<sup>2</sup>**

2.

REVIEW AND ADJUST WORKPOINT QUANTITIES AS REQUIRED

NON-STANDARD

Over permitted quantity

Under permitted quantity

INDIVIDUAL	WORKPOINTS	Total number of seats	Suggested quantity	Adjust quantities as required	Average size (m <sup>2</sup> )	Required Area
Primary Individual Open	Typical Workstation	78	43	44	x 3.5	= 154 m <sup>2</sup>
	Touchdown		19	24	x 1.5	= 36 m <sup>2</sup>
	Focus Pod		9	10	x 4.0	= 40 m <sup>2</sup>
Primary Individual Enclosed	Focus Room	9	9	9	x 7.5	= 68 m <sup>2</sup>
	Ministerial Dedicated (Deputy Head or Minister) total includes 9m2 washroom.		0	0	x 29.0	= 0 m <sup>2</sup>
	Study (3m2 per occupant, min. 10 occupants)		0	0	x 3.0	= 0 m <sup>2</sup>
Secondary Individual	Reflection Point	11	4	4	x 5.0	= 20 m <sup>2</sup>
	Active Workstation		1	1	x 5.0	= 5 m <sup>2</sup>
	Phonebooth		6	6	x 5.0	= 30 m <sup>2</sup>
Other	Custom Individual Workpoint	0	0	0	x 0.0	= 0 m <sup>2</sup>
Total no. of individual seats		99	Total space for individual workpoints			353 m <sup>2</sup>

## Option 2 cont.

COLLABORATIVE WORKPOINTS		Total number of seats	Suggested quantity	Adjust quantities as required		Average size (m <sup>2</sup> )	Required Area
Collaborative Open	Chat Point	8	2	2	x	3.0	= 6 m <sup>2</sup>
	Huddle	12	3	3	x	8.0	= 24 m <sup>2</sup>
	Teaming Area	20	2	2	x	15.0	= 30 m <sup>2</sup>
	Lounge	10	1	1	x	20.0	= 20 m <sup>2</sup>
Collaborative Enclosed	Work Room	16	4	4	x	15.0	= 60 m <sup>2</sup>
	Project Room	12	2	2	x	20.0	= 40 m <sup>2</sup>
	Medium Meeting Room	24	2	2	x	30.0	= 60 m <sup>2</sup>
	Large Meeting Room	20	1	1	x	60.0	= 60 m <sup>2</sup>
Support Spaces	Kitchenette	-	1	1	x	15.0	= 15 m <sup>2</sup>
	Equipment Area	-	2	2	x	5.0	= 10 m <sup>2</sup>
	Lockers Area (area is per FTE)	-	107	107	x	0.5	= 54 m <sup>2</sup>
	Shared Storage	-	1	1	x	10.0	= 10 m <sup>2</sup>
	Dedicated Server/Telecom Room - 1 per floor	-	1	0	x	10.0	= 0 m <sup>2</sup>
Other	Custom Collaborative Workpoint	0	0	0	x	0.0	= 0 m <sup>2</sup>
Estimated number of collaborative seats		122			Total space for collaborative workpoints and support spaces		389 m <sup>2</sup>

## 3.

## CHECK-IN ON THE SURPLUS/DEFICIT AMOUNT TO ENSURE OPTIMAL SPACE PLANNING

## SPACE PLANNING SUMMARY

PLANNING SPACE	=	760.30 m <sup>2</sup>
TOTAL INDIVIDUAL WORKPOINT SPACE	=	352.50 m <sup>2</sup>
TOTAL COLLABORATIVE & SUPPORT SPACE	=	388.50 m <sup>2</sup>
REMAINING SURPLUS* / DEFICIT*	=	19.30 m <sup>2</sup>

\*SIGNIFICANT SURPLUS WILL SHOW IN GREEN = ADD MORE WORKPOINTS

\*SIGNIFICANT DEFICIT WILL SHOW IN RED = REDUCE SOME WORKPOINTS

An exemption for the allocation of equipment areas is proposed due to the 3-wing nature of the building plan and architecture. One equipment area is recommended for each wing particularly in multi-tenant applications.

It is assumed that a stacked telecom room will be provided in the core of the building along with possibly a new universal washroom. These areas are excluded from the useable planning area.

**Option 3:** Balanced profile applied to three floors combined into a single workbook, to divide quiet, transitional, and active zones by floor.

1.	<b>ENTER YOUR KNOWN DATA IN THE WHITE CELLS:</b>									
	Space Solution in m2u (NOT including any Special Purpose Space): <b>7477.30 m<sup>2</sup></b>									
	Target Occupancy*: <b>623</b>									
	Actual Population: <b>0</b>									
	Built-in growth: <b>623</b>									
	Total Space = <b>7477.30 m<sup>2</sup></b>									
	Circulation (35%)= <b>- 2617.06 m<sup>2</sup></b>									
	Building Fit Factor (6%)= <b>- 448.64 m<sup>2</sup></b>									
	<b>REMAINING SPACE FOR PLANNING = 4411.61 m<sup>2</sup></b>									
	<b>REVIEW AND ADJUST WORKPOINT QUANTITIES AS REQUIRED</b>									

INDIVIDUAL	WORKPOINTS	Total number of seats	Suggested quantity	Adjust quantities as required	Average size (m <sup>2</sup> )			Required Area
Primary Individual Open	Typical Workstation	414	249	254	x	3.5	=	889 m <sup>2</sup>
	Touchdown		112	108	x	1.5	=	162 m <sup>2</sup>
	Focus Pod		50	52	x	4.0	=	208 m <sup>2</sup>
Primary Individual Enclosed	Focus Room	92	50	50	x	7.5	=	375 m <sup>2</sup>
	Ministerial Dedicated (Deputy Head or Minister) total includes 9m2 washroom.		0	0	x	29.0	=	0 m <sup>2</sup>
	Study (3m2 per occupant, min. 10 occupants)		42	42	x	3.0	=	126 m <sup>2</sup>
Secondary Individual	Reflection Point	71	25	28	x	5.0	=	140 m <sup>2</sup>
	Active Workstation		6	6	x	5.0	=	30 m <sup>2</sup>
	Phonebooth		37	37	x	5.0	=	185 m <sup>2</sup>
Other	Custom Individual Workpoint	0	0	0	x	0.0	=	0 m <sup>2</sup>
<b>Total no. of individual seats</b>		<b>577</b>			<b>Total space for individual workpoints</b>			<b>2115 m<sup>2</sup></b>

COLLABORATIVE WORKPOINTS		Total number of seats	Suggested quantity	Adjust quantities as required	Average size (m <sup>2</sup> )			Required Area
Collaborative Open	Chat Point	52	12	13	x	3.0	=	39 m <sup>2</sup>
	Huddle	64	16	16	x	8.0	=	128 m <sup>2</sup>
	Teaming Area	120	12	12	x	15.0	=	180 m <sup>2</sup>
	Lounge	60	6	6	x	20.0	=	120 m <sup>2</sup>
Collaborative Enclosed	Work Room	104.0	24	26	x	15.0	=	390.0
	Project Room	60.0	11	10	x	20.0	=	200.0
	Medium Meeting Room	132.0	11	11	x	30.0	=	330.0
	Large Meeting Room	100.0	5	5	x	60.0	=	300.0
Support Spaces	Kitchenette	-	5	6	x	15.0	=	90 m <sup>2</sup>
	Equipment Area	-	11	12	x	5.0	=	60 m <sup>2</sup>
	Lockers Area (area is per FTE)	-	623	647	x	0.5	=	324 m <sup>2</sup>
	Shared Storage	-	3	6	x	10.0	=	60 m <sup>2</sup>
	Dedicated Server/Telecom Room - 1 per floor	-	1	0	x	10.0	=	0 m <sup>2</sup>
Other	Custom Collaborative Workpoint	0	0	0	x	0.0	=	0 m <sup>2</sup>
Estimated number of collaborative seats		692			Total space for collaborative workpoints and support spaces			2221 m <sup>2</sup>
3. CHECK-IN ON THE SURPLUS/DEFICIT AMOUNT TO ENSURE OPTIMAL SPACE PLANNING								
SPACE PLANNING SUMMARY								
PLANNING SPACE						=	4411.61 m <sup>2</sup>	
TOTAL INDIVIDUAL WORKPOINT SPACE						=	2115.00 m <sup>2</sup>	
TOTAL COLLABORATIVE & SUPPORT SPACE						=	2220.50 m <sup>2</sup>	
REMAINING SURPLUS* / DEFICIT*						=	76.11 m <sup>2</sup>	
*SIGNIFICANT SURPLUS WILL SHOW IN GREEN = ADD MORE WORKPOINTS								
*SIGNIFICANT DEFICIT WILL SHOW IN RED = REDUCE SOME WORKPOINTS								

An exemption for the allocation of equipment areas is proposed due to the 3-wing nature of the building plan and architecture and the multi floor single tenant occupancy that this option considers. Two equipment areas are recommended for each floor and 3 kitchenettes are recommended, one per floor.

It is assumed that a stacked telecom room will be provided in the core of the building along with possibly a new universal washroom. These areas are excluded from the useable planning area.

There are efficiencies inherent in the use of the 6<sup>th</sup> floor southwest wing for special purpose gathering space such as a departmental board room, conference or training space. In this option it allows for the provision of increased touchdown stations, resulting in a perceived overallocation of spaces.

### 3 Design Concept

#### 3.1 Vertical stacking


The vertical stacking below illustrates stacking options and potential. These options illustrate the potential capacity based on 12 m<sup>2</sup>/person using areas derived from two different data sources as noted. These areas derived from the updated CAD files are greater than those provided by the Spaceteck 2 space measurement drawings used for the Occupancy Instruments for the former building tenant.

##### Options 1 and 2 Vertical Stacking using Spaceteck 2 Useable Areas.

SPS  General Office

Floor	Um <sup>2</sup>	Capacity at 12m <sup>2</sup> /P				ZONE
Pent.	49	0	MECHANICAL			
6	1182	86	General Office		Dept'l Board room (150)	All
5	1184	99	General Office			All
4	1183	99	General Office			All
3	1183	99	General Office			All
2	1181	98	General Office			All
1	1176	98	General Office			All
GR	934	78	General Office		BB SERVICE SPACES	
<b>Total</b>	<b>8023</b>	<b>656</b>				

##### Options 1 and 2 Vertical Stacking using updated CAD files to calculate Useable Areas.

SPS  General Office

Floor	Um <sup>2</sup>	Capacity at 12m <sup>2</sup> /P				ZONE
Pent.	49	0	MECHANICAL			
6	1137	82	General Office		Dept'l Board room (150)	All
5	1303	109	General Office			All
4	1289	107	General Office			All
3	1288	107	General Office			All
2	1290	107	General Office			All
1	1172	98	General Office			All
GR	934	78	General Office		BB SERVICE SPACES	
<b>Total</b>	<b>8411</b>	<b>688</b>				

## Option 3 Vertical Stacking using updated CAD files to calculate Useable Areas

SPS 

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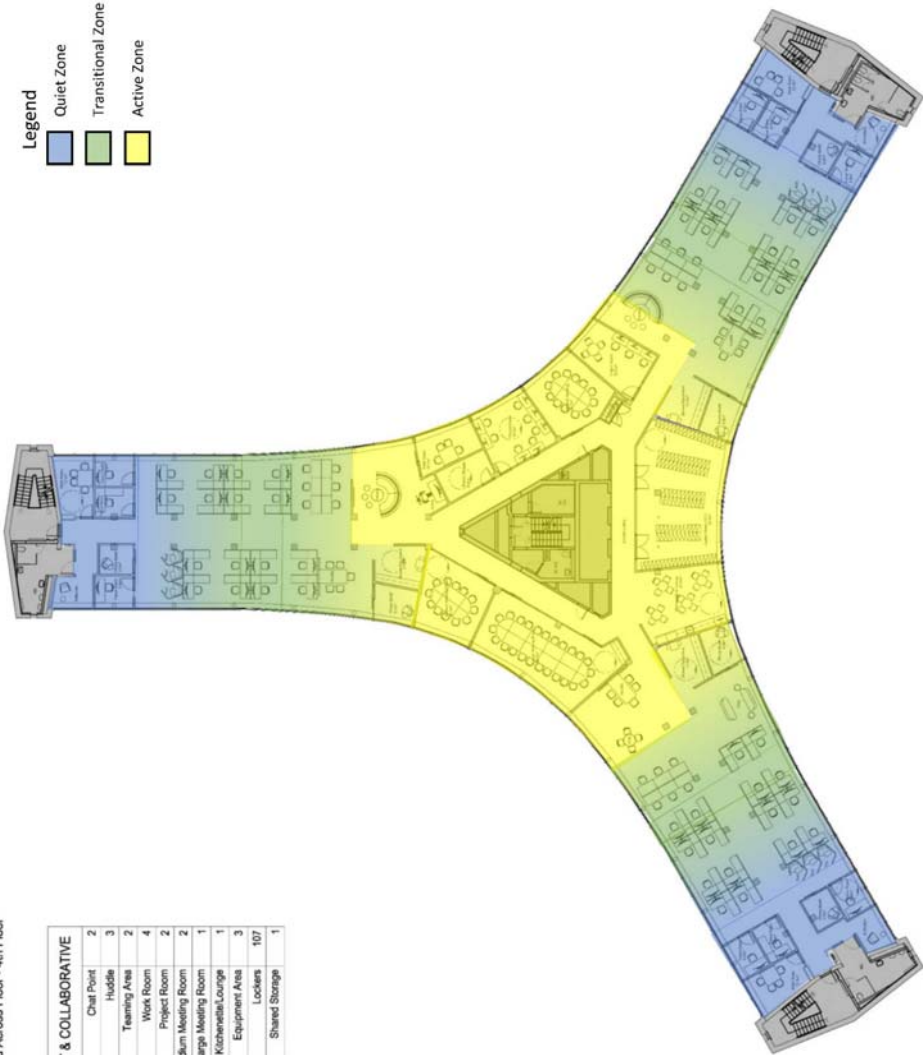
 General Office

Floor	Um <sup>2</sup>	Capacity at 12m <sup>2</sup> /P			Zone
Pent.	49	0	MECHANICAL		
6	1137	82	General Office	Dept'l Board room (150)	Active
5	1303	109	General Office		Transitional
4	1289	107	General Office		Quiet
3	1288	107	General Office		Quiet
2	1290	107	General Office		Transitional
1	1172	98	General Office		Active
GR	934	0	BB SERVICE SPACES SPS at 934m <sup>2</sup> .		
Total	8411	611			

3.2 Generic Concept Plans

1500 Bronson GWorkplace Option 1 - Zoned Across Floor - 4th Floor  
20 August, 2019  
1:300

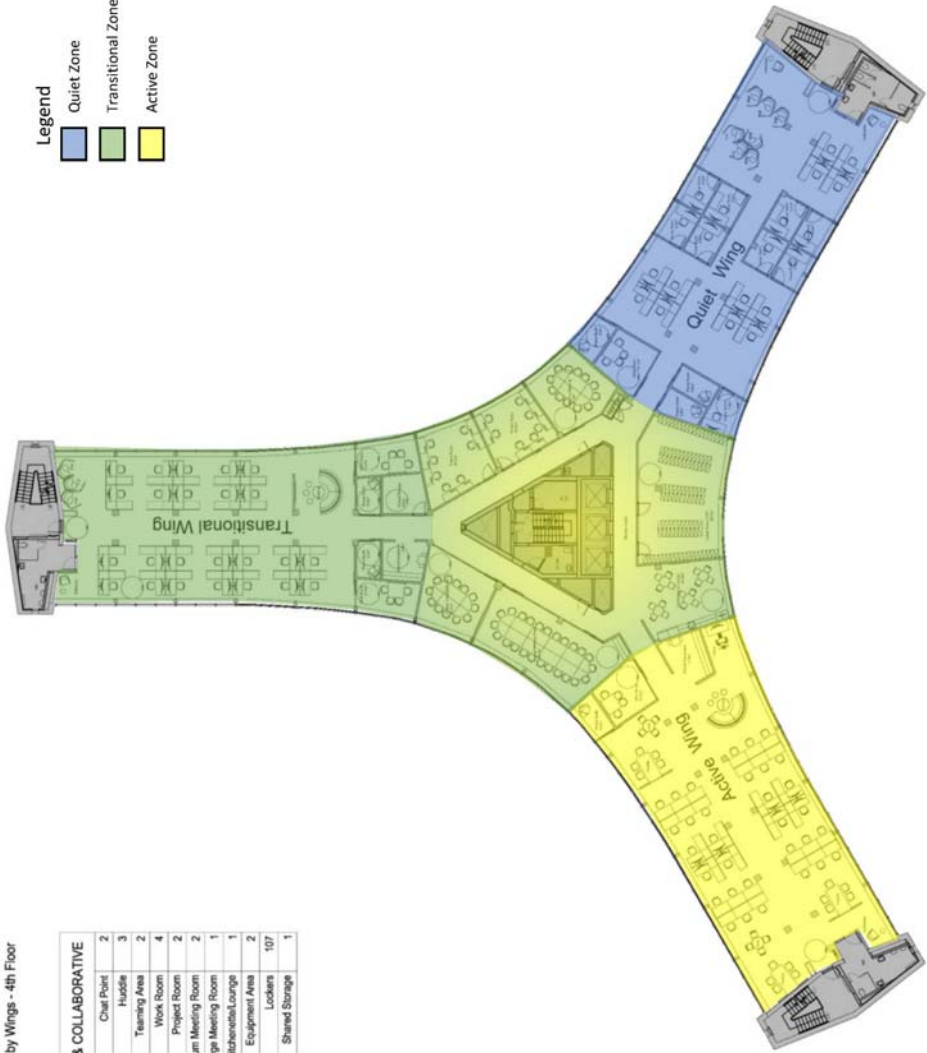
WORKPOINTS		SUPPORT & COLLABORATIVE	
Workstation	46	Chief Point	2
Touchdown	18	Huddle	3
Focus Pod	9	Training Area	2
Focus Room	9	Work Room	4
Study	0	Project Room	2
Reflection Point	3	Medium Meeting Room	2
Active Workstation	1	Large Meeting Room	1
Phonebooth	6	Kitchenette/Lounge	1
		Equipment Area	3
		Lockers	107
		Shared Storage	1





1500 Bronson GWorkplace Option 2 - Zoned by Wings - 4th Floor  
20 August, 2019  
1:300

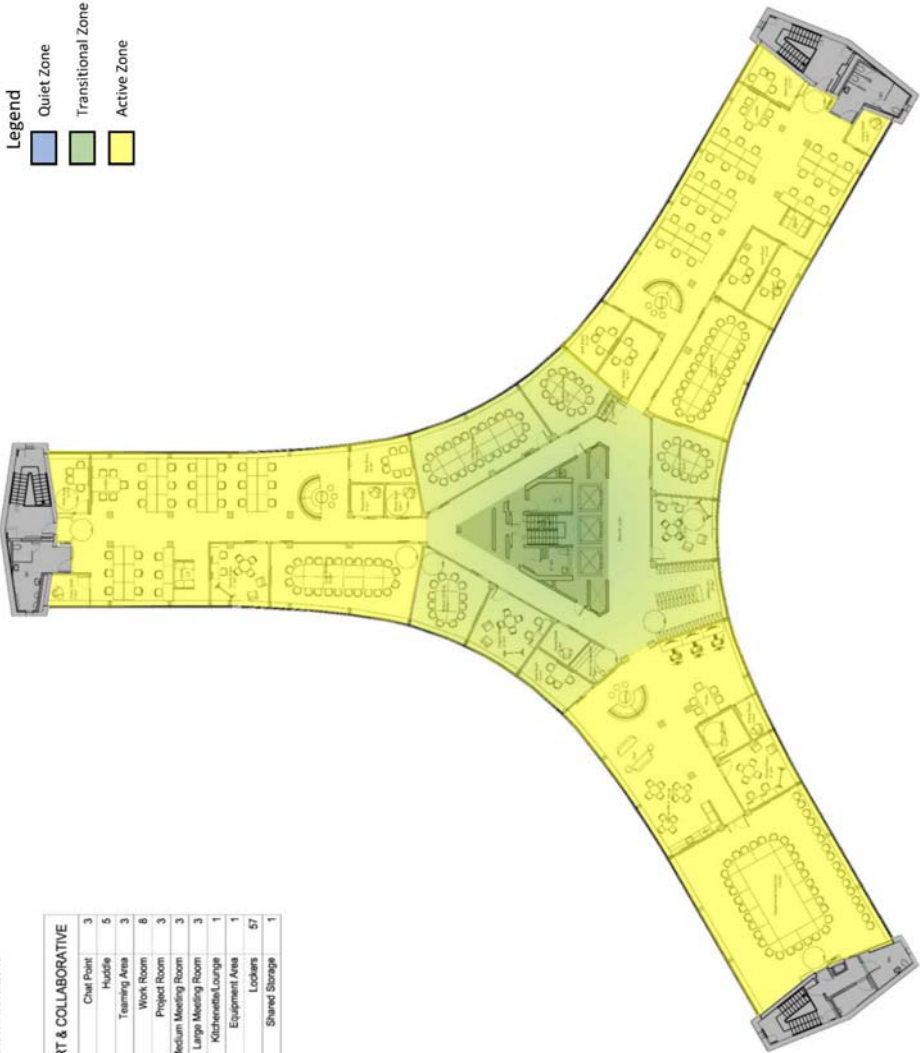
INDIVIDUAL WORKPOINTS		SUPPORT & COLLABORATIVE	
Workstation	44	Chat Point	2
Touchscreen	24	Huddle	3
Focus Pod	10	Training Area	2
Focus Room	9	Work Room	4
Study	0	Project Room	2
Reflection Point	4	Medium Meeting Room	2
Active Workstation	1	Large Meeting Room	1
Phonebooth	6	Kitchenette/Lounge	1
		Equipment Area	2
		Lockers	107
		Shared Storage	1



1500 Bronson GCWorkplace Option 3 - 6th Floor Active Zone  
20 August, 2019  
1:300

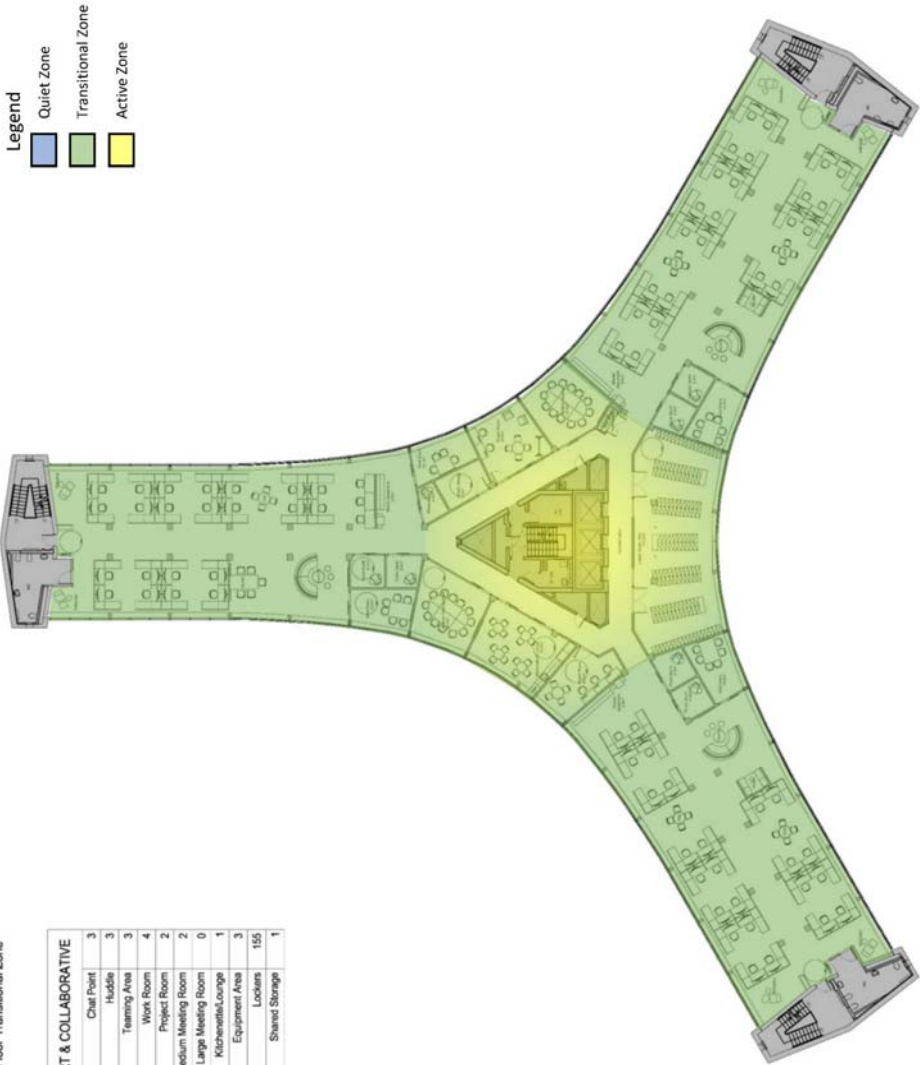
INDIVIDUAL WORKPOINTS	
Workstation	0
Touchdown	54
Focus Pod	0
Focus Room	0
Study	0
Reflection Point	0
Active Workstation	3
Phonebooth	6

SUPPORT & COLLABORATIVE	
Chat Point	3
Huddle	5
Training Area	3
Work Room	6
Project Room	3
Medium Meeting Room	3
Large Meeting Room	3
Kitchen/Lounge	1
Equipment Area	1
Lockers	57
Shared Storage	1



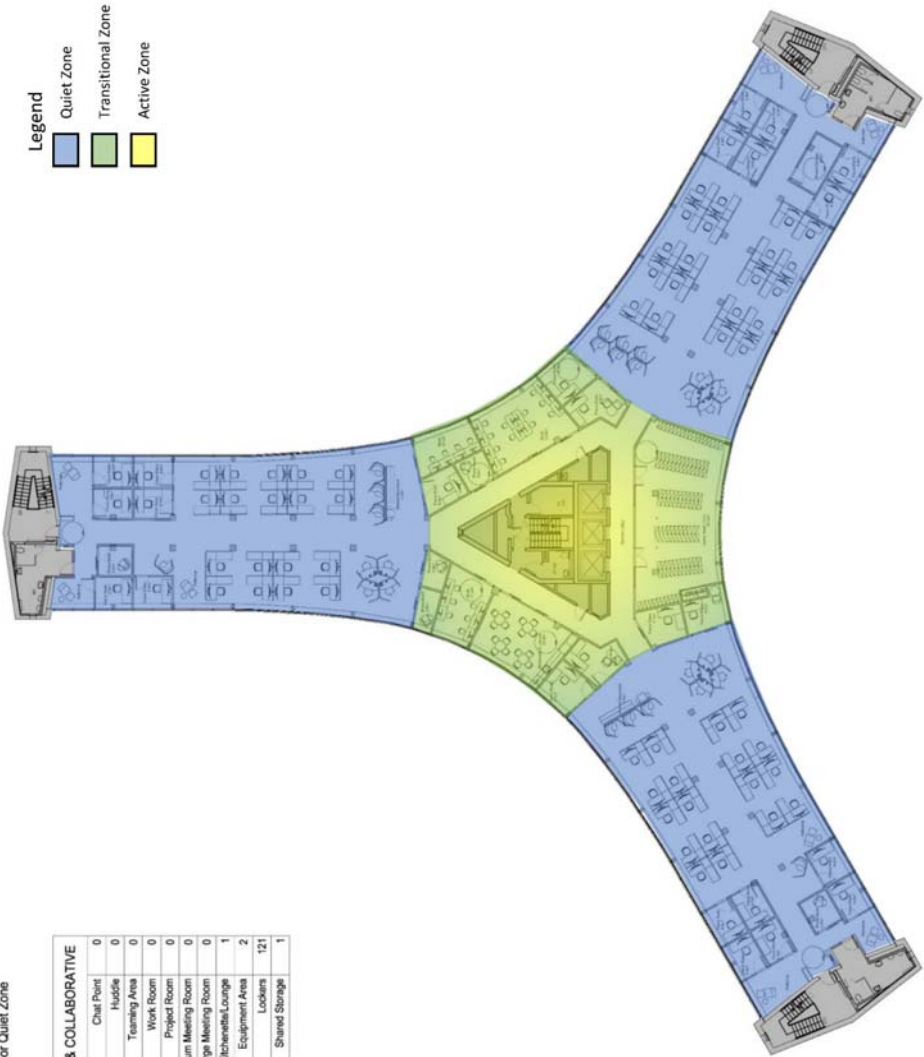
1500 Bronson GWorkplace Option 3 - 5th Floor Transitional Zone  
20 August, 2019  
1:300

INDIVIDUAL WORKPOINTS		SUPPORT & COLLABORATIVE	
Workstation	70	Chief Point	3
Touchdown	3	Huddle	3
Focus Pod	0	Teaming Area	3
Focus Room	0	Work Room	4
Study	0	Project Room	2
Reflection Point	6	Medium Meeting Room	2
Active Workstation	0	Large Meeting Room	0
Phonebooth	7	Kitchenette/Lounge	1
		Equipment Area	3
		Lockers	155
		Shared Storage	1



1500 Bronson Coworkspace Option 3 - 4th Floor Quiet Zone  
20 August, 2019  
1:300

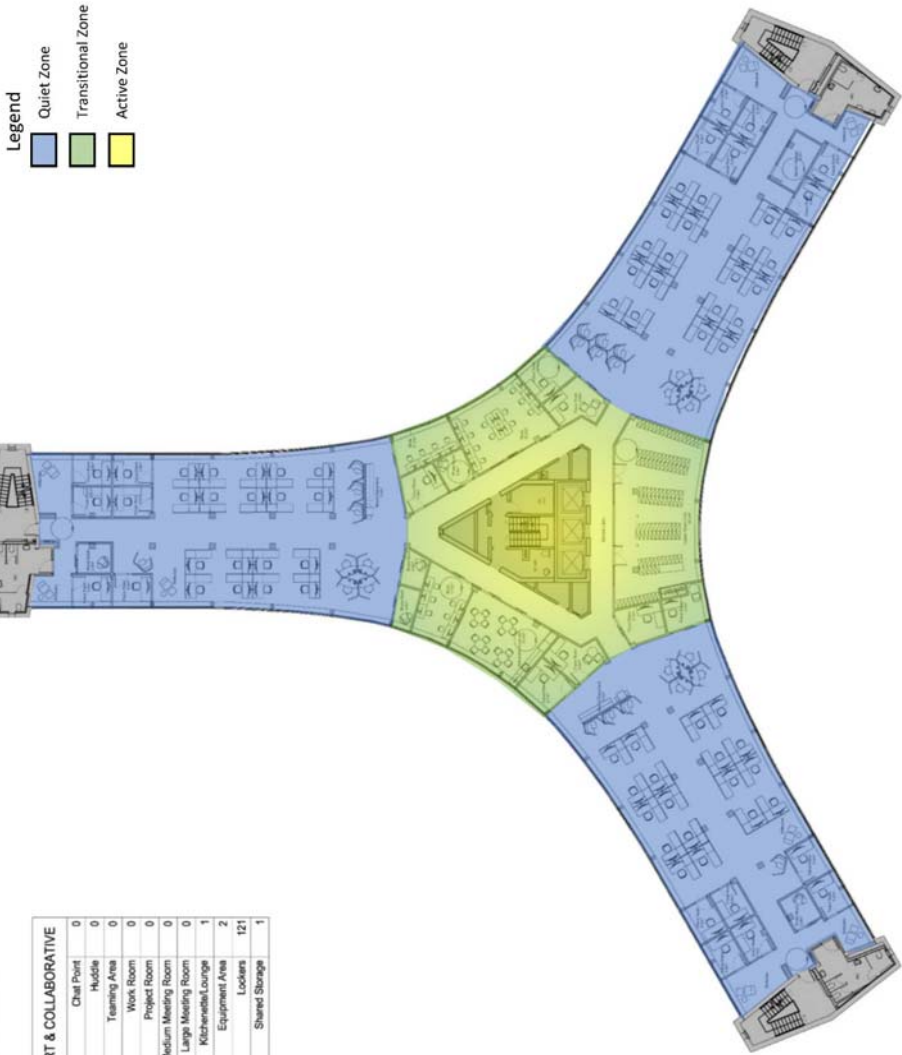
INDIVIDUAL WORKPOINTS		SUPPORT & COLLABORATIVE	
Workstation	55	Chat Point	0
Touchdown	0	Huddle	0
Focus Pod	26	Training Area	0
Focus Room	25	Work Room	0
Study (seals)	21	Project Room	0
Reflection Point	8	Medium Meeting Room	0
Active Workstation	0	Large Meeting Room	0
Phonebooth	5	Kitchen/Lounge	1
		Equipment Area	2
		Lockers	121
		Shared Storage	1



1500 Bronson GWorkplace Option 3 - 3rd Floor Quiet Zone  
20 August, 2019  
1:300

INDIVIDUAL WORKPOINTS	
Workstation	56
Touchdown	0
Focus Pod	26
Focus Room	25
Study (seats)	21
Reflection Point	8
Active Workstation	0
Phonebooth	5

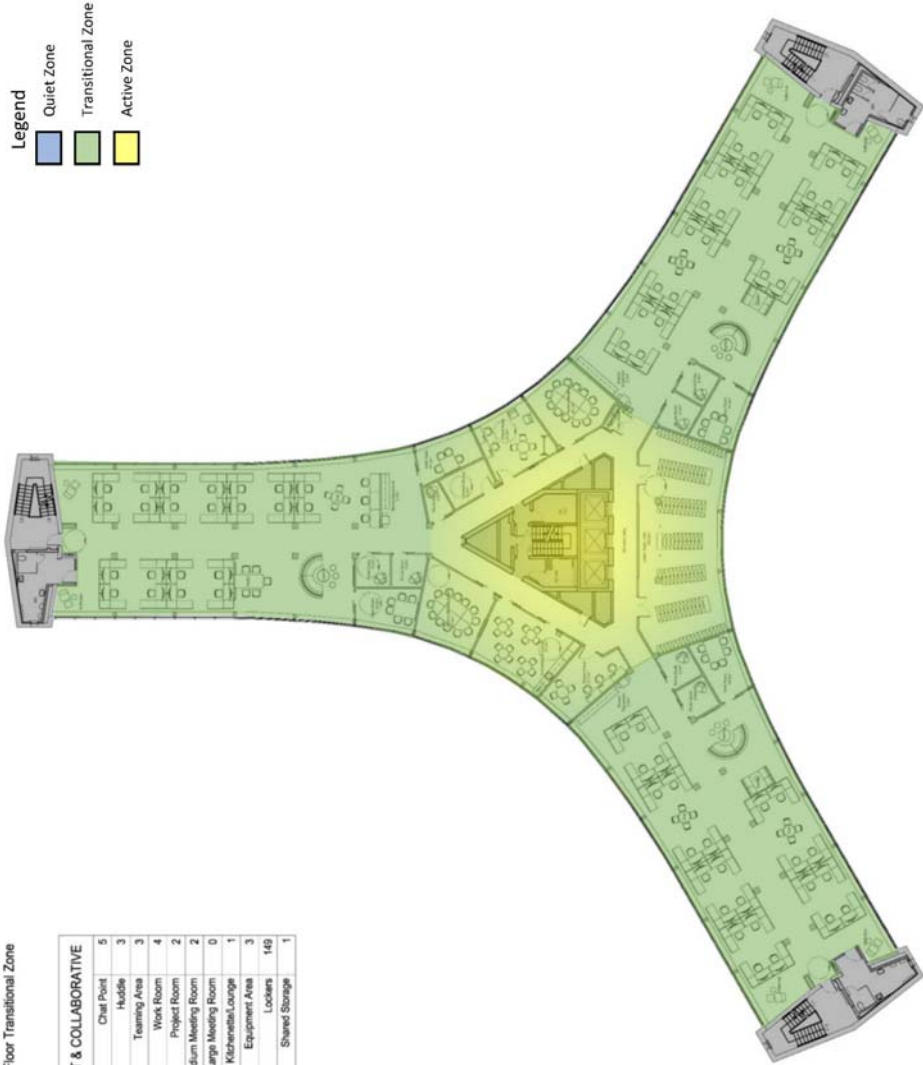
SUPPORT & COLLABORATIVE	
Chat Point	0
Hubble	0
Training Area	0
Work Room	0
Project Room	0
Medium Meeting Room	0
Large Meeting Room	0
Kitchenette/Lounge	1
Equipment Area	2
Lockers	121
Shared Storage	1



1500 Bronson GC Workplace Option 3 - 2nd Floor Transitional Zone  
20 August, 2019  
1:300

INDIVIDUAL WORKPOINTS	
Workstation	72
Touchdown	0
Focus Pod	0
Focus Room	0
Study	0
Reflection Point	6
Active Workstation	0
Phonebooth	7

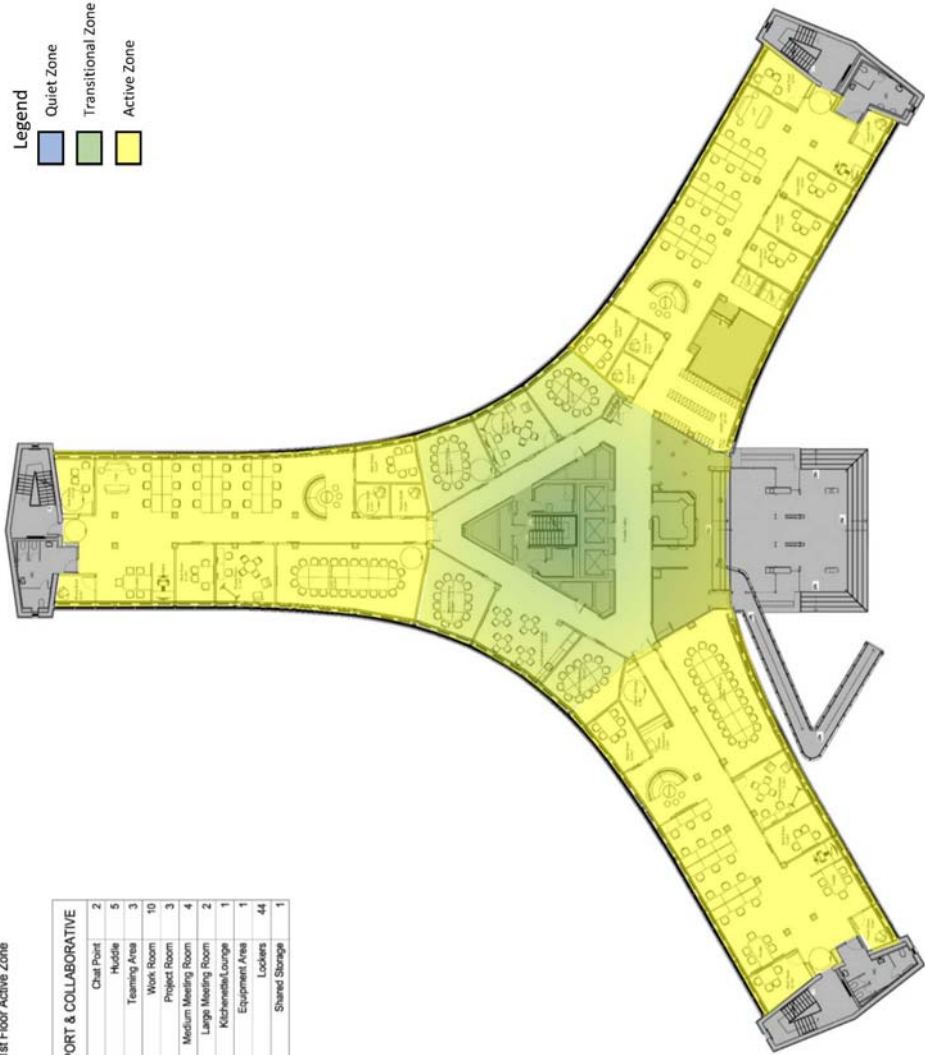
SUPPORT & COLLABORATIVE	
Chat Point	5
Huddle	3
Teaming Area	3
Work Room	4
Project Room	2
Medium Meeting Room	2
Large Meeting Room	0
Kitchenette/Lounge	1
Equipment Area	3
Lockers	149
Shared Storage	1



1500 Bronson GC Workplace Option 3 - 1st Floor Active Zone  
20 August, 2019  
1:300

INDIVIDUAL WORKPOINTS	
Workstation	0
Touchdown	51
Focus Pod	0
Focus Room	0
Study	0
Reflection Point	0
Active Workstation	3
Phonebooth	7

SUPPORT & COLLABORATIVE	
Chat Point	2
Huddle	5
Training Area	3
Work Room	10
Project Room	3
Medium Meeting Room	4
Large Meeting Room	2
Kitchen/Lounge	1
Equipment Area	1
Lockers	44
Shared Storage	1





### 3.3 Furniture Recommendations

The furniture recommended for implementation of a General fit-up compliant with GC workplace for 1500 Bronson is that which can be procured by the federal government through present and future standing agreements, in order to obtain the best value to the Crown. The present supply arrangements can be found at this link. <https://buyandsell.gc.ca/procurement-data/tender-notice/PW-PQ-992-74154>

Furniture layouts are included in 3.2 Generic Concept Plans above and in the 3.4 Unit Space Data Sheets that follow. Appendix D provides furniture and unit space images to illustrate further options available.

### 3.4 Unit Space Data Sheets

The Unit Space Data Sheets include graphics to illustrate some potential unit space layout and configurations shown in the options. Example furnishings are also included based on current furniture supply arrangements.

The supply arrangements may change prior to the start of the design of the fit-up. The space allocations are based on the GCworkplace Balanced profile shown in the options presented in 3.2 Generic Concept Plans.

The unit space data sheets are organized by the following groupings. All spaces are open unless indicated otherwise. All rooms are enclosed.

#### A series – Primary Individual Open Workpoints

- A1 Workstation
- A2 Touchdown
- A3 Focus Pod
- A4 Focus Room
- A5 Study, Enclosed
- A6 Reflection Point
- A7 Active Workstation
- A8 Phonebooth, Enclosed

#### B series – Collaborative Workpoints and Support

- B1 Chat Point
- B2 Huddle
- B3 Teaming Area
- B4.1 Lounge, Open
- B4.2 Lounge, Enclosed
- B5 Work Room
- B6 Project Room
- B7 Medium Meeting Room
- B8 Large Meeting Room
- B9 Kitchenette
- B10 Equipment Area
- B11 Locker Area (including visitor coat storage)
- B12 Storage Room
- B13 Telecommunications Room

Acronyms found in the unit space data sheets are as follows:

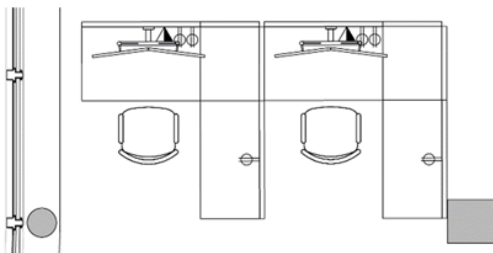
ASHRAE	American Society of Heating Refrigeration and Air Conditioning Engineers
c/w	Complete with
N/A	Not applicable
NRC	Noise Reduction Coefficient
SCW	Solid Core Wood
STC	Sound transmission class

A1		Workstation – 3.5 m <sup>2</sup>	
Function	Mid to long term workspace with proximity and access to others. Supports individual focus or team activities such as reading, writing, researching. Multiple workpoints can be grouped together to create teaming areas or pods. Formal posture. Low to medium visual privacy. Optional day storage according to user needs.		
Space Allocation	Quantity equal to 40% of the population		
Area/Dimensions	<b>Provided:</b> 3.6 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 3.5 m <sup>2</sup> average		
Location	Quiet or Transitional Zone, primarily located in proximity to perimeter windows;		
Occupancy	1 person; calculate occupancy at 100%		
Time of Use	■ Normal Business Hours   □ 24 / 7		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Base building carpet tile. Base treatment to suit flooring.		
Walls and Windows	N/A		
Ceilings	Base building standard – suspended lay in acoustical ceiling tile in grid system		
Doors, Frames, Hardware	N/A		
Millwork	N/A		
Acoustics	Low privacy; Open office environment		
Specialties	n/a		
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.		
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality		
Acoustic	Provide sound masking system		
Controls	Temperature Controls:   □ Dedicated   ■ Zoned Humidity Controls:   □ Dedicated   ■ Zoned Base building open office zone controls to suit tenant layout and orientation.		
Plumbing	N/A		

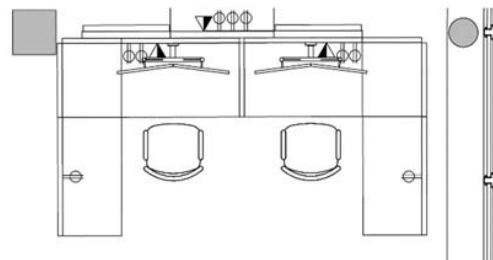
A1		Workstation – 3.5 m <sup>2</sup>	
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	3 duplex receptacles per workstation or 2 triplex receptacles per workstation. Allow for 1 circuit per 3 workstations. A minimum of 2 USB charging ports per workstation. Worksurface height outlets preferred.		
Emergency/UPS	N/A		
Lighting	Relocate Base building lighting to suit tenant layout		
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at worksurface.		
Controls	Divide open office into zones approximately 225 m <sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.		
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- 1 LAN drop with image/voice/data outlets</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		
Multimedia	N/A		
COMPONENTS			
Furniture <i>maximum height of system panels is 1.3 m or 54"</i>	Any surface with monitor(s) to be 30" deep to allow for use of monitor arm(s). At least one work surface per workstation to be height adjustable. Panels should not exceed 54" high; can be lower based on zone and activity being performed. Free standing or systems furniture. <b>Option 1: Systems furniture components</b> <ul style="list-style-type: none"><li>- Panels: 1x 610 mm wide, 1x 762 mm wide, 2x 1219 mm wide</li><li>- Free-standing height-adjustable work surface, 1219 mm x 762 mm, with grommet at rear</li><li>- Panel-hung or free-standing work surfaces with square edge and grommet at rear, 1x 1219 mm x 610 mm, 1x 762 mm x 610 mm .</li><li>- Optional open day storage</li><li>- Provide power modules at work surface.</li><li>- Include fully adjustable ergonomic task chair and task lighting.</li></ul> <b>Configuration 1:</b> Paired work stations, "T" style <b>Configuration 2:</b> Paired work stations, "C" style <b>Configuration 3:</b> Clustered work stations, "T" style (cluster of four (4)) <b>Configuration 4:</b> Clustered work stations, "C" style (cluster of four (4))		

<b>A1</b>		<b>Workstation – 3.5 m<sup>2</sup></b>	
<b>Equipment</b>	2 x 23” monitors on dual monitor arm, optional port replicator, power and USB outlets for charging located below edge of worksurface.		
<b>SECURITY REQUIREMENTS</b>			
	Typical Operational Zone		
<b>DRAWING</b>			

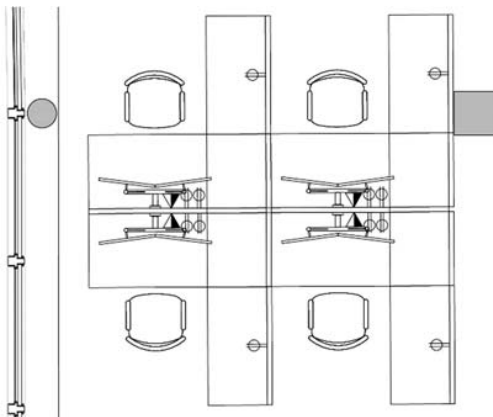
Configuration 1



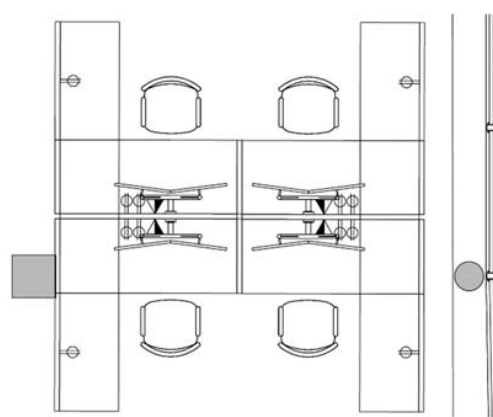
Configuration 2



Configuration 3



Configuration 4



GCworkplace example 1



GCworkplace example 2

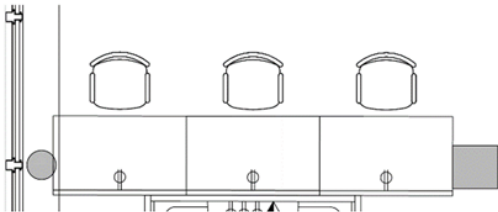


A2		Touchdown – 1.5 m <sup>2</sup>	
Functional Description	Individual landing workspace for short-term work or when checking in between other work activities. Supports typical office activities such as correspondence, writing or reading. Low visual privacy. Typically provided in clusters. Formal or casual posture.		
Space Allocation	Quantity equal to 18% of the population.		
Area/Dimensions	Provided: 1.5 m <sup>2</sup> ; dimensions vary Fit-up standard: 1.5 m <sup>2</sup> average		
Location	Locate in groupings in any zone, in proximity to perimeter windows when possible.		
Occupancy	1 person; calculate occupancy at 100%		
Time of Use	■ Normal Business Hours   □ 24 / 7		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Base building carpet tile. Base treatment to suit flooring.		
Walls and Windows	Locate near exterior windows where possible		
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system		
Doors, Frames, Hardware	N/A		
Millwork	N/A		
Acoustics	Low - Open office environment		
Specialties	N/A		
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.		
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality		
Acoustics	Provide sound masking system		
Controls	Temperature Controls:   □ Dedicated   ■ Zoned Humidity Controls:   □ Dedicated   ■ Zoned Base building Base building open office zone controls to suit tenant layout and orientation.		
Plumbing	N/A		

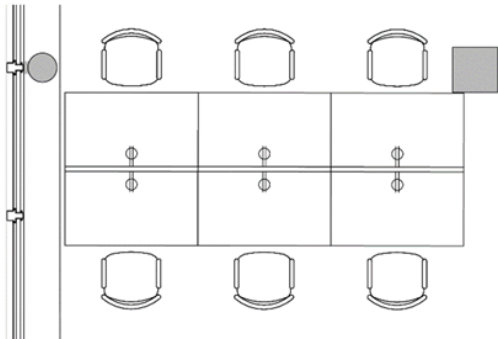
A2		Touchdown – 1.5 m <sup>2</sup>
Life Safety	<div>Sprinklers: <input checked="" type="checkbox"/> Wet Type    <input type="checkbox"/> Dry Type    <input type="checkbox"/> Pre-action    <input type="checkbox"/> Deluge</div> <div>Detectors: <input checked="" type="checkbox"/> Smoke Detection    <input type="checkbox"/> Heat Detection</div> <div>All to Base Building Standard</div> <div>Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.</div>	
ELECTRICAL REQUIREMENTS		
Power	<div>- <b>Workstation style:</b> 1 standard electrical duplex receptacle(s) within reach of each seat (1 circuit per 8 seats). Include USB charging ports. Worksurface height outlets preferred.</div> <div>- <b>Shared table/counter style:</b> 2 standard electrical duplex receptacle(s) (1 circuit per 8 seats) per 4-6 seats. Include USB charging ports. Worksurface height outlets preferred.</div>	
Emergency/UPS	N/A	
Lighting	Relocate Base building lighting to suit tenant layout	
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at worksurface.	
Controls	Divide open office into zones approximately 225 m <sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.	
BUILDING CONNECTIVITY		
Network	- Provide wireless capability.	
Multimedia	N/A	
COMPONENTS		
<div>Furniture</div> <div>maximum height of system panels is 1.3 m or 54"</div>	<div>Fixed surfaces at desk or counter height (systems furniture, freestanding furniture, or millwork), with appropriate seating depending on surface type.</div> <div>Option 1 and 2: Systems furniture components</div> <div><div>- Panel, 1372 mm wide, floor or desk-mounted</div><div>- Work surface, 1372 mm x 762 mm, freestanding or panel-mounted, desk or counter height, with power/USB module at back or below front edge</div><div>- Adjustable ergonomic multi-purpose chair/stool (to match surface height)</div></div> <div>Option 1: Cluster of 3, Option 2: Cluster of 6</div> <div>Option 3: Shared table or counter</div> <div><div>- Large table or long counter, with 762-1219 mm width per person, and min. 457 mm depth. May be desk or counter height.</div><div>- Guest chair or stool of height to suit table/counter</div></div>	
Equipment	N/A	

A2		Touchdown – 1.5 m²	
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			

Option 1



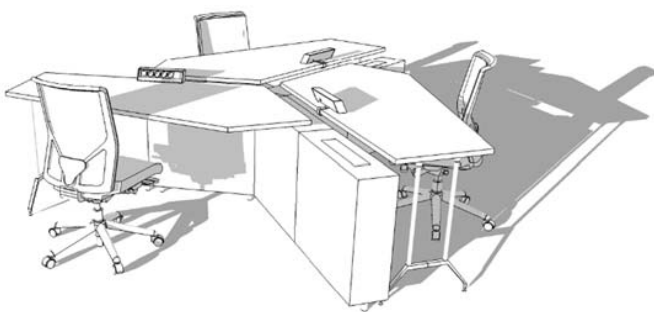
Option 2



GCworkplace example 1



GCworkplace example 2



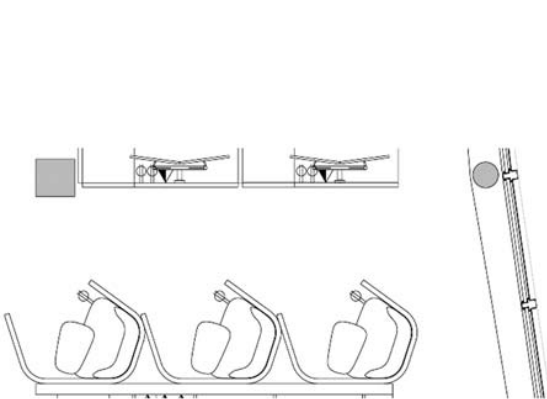


A3 <span style="float: right;">Focus Pod – 4.0 m<sup>2</sup></span>	
<b>Functional Description</b>	A secluded workpoint, typically semi-enclosed, that supports quiet concentration in an open work environment. High visual privacy. Medium acoustic privacy. Formal or casual posture.
<b>Space Allocation</b>	Workpoint for mid-term to long-term individual focused work. Quantity equal to 8% of the population.
<b>Area/Dimensions</b>	<b>Provided in Options:</b> 2.2 to 3.0 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 4.0 m <sup>2</sup> average
<b>Location</b>	Quiet Zone; in proximity to perimeter windows when possible
<b>Occupancy</b>	1 person; calculate occupancy at 100%
<b>Time of Use</b>	■ Normal Business Hours   □ 24 / 7
ARCHITECTURAL REQUIREMENTS	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	N/A
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	N/A
<b>Millwork</b>	N/A
<b>Acoustics</b>	Medium – locate in open office quiet zone with privacy enclosure
<b>Specialties</b>	N/A
<b>Signage</b>	N/A
MECHANICAL REQUIREMENTS	
<b>Temperature and Humidity</b>	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.
<b>Ventilation</b>	Comply with ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality
<b>Acoustics</b>	Provide soundmasking system
<b>Controls</b>	Temperature Controls:   □ Dedicated   ■ Zoned Humidity Controls:   □ Dedicated   ■ Zoned Base building Base building open office zone controls to suit tenant layout and orientation.
<b>Plumbing</b>	N/A

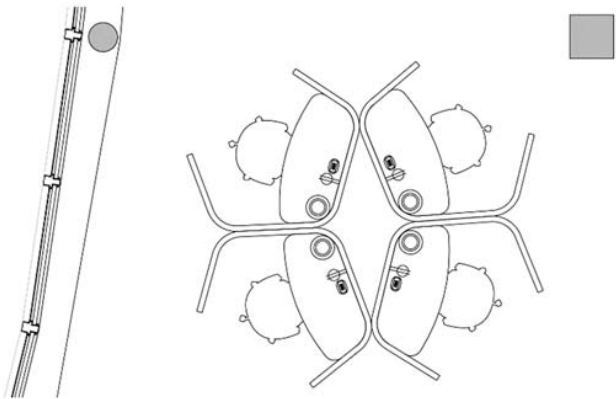
A3		Focus Pod – 4.0 m <sup>2</sup>
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.	
General	Comply with PSPC MD 15000-2012 Mechanical Environmental Standards for Federal Office Buildings.	
ELECTRICAL REQUIREMENTS		
Power	1 standard electrical duplex receptacle(s) per pod (1 circuit per 3 workpoints). Include USB charging ports.	
Emergency/UPS	N/A	
Lighting	Base building lighting system relocated to suit	
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at worksurface.	
Controls	Divide open office into zones approximately 225 m <sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.	
BUILDING CONNECTIVITY		
Network	Provide wireless capability.	
Multimedia	N/A	
COMPONENTS		
Furniture <i>maximum height of system panels is 1.3 m or 54"</i>	Freestanding or systems furniture with visual privacy elements <b>Option 1:</b> semi-enclosed furniture, casual posture <ul style="list-style-type: none"><li>- Lounge chair with tablet</li><li>- Visual privacy enclosure</li></ul> <b>Option 2:</b> semi-enclosed furniture, formal posture <ul style="list-style-type: none"><li>- Adjustable ergonomic multi-purpose chair or guest chair, according to intended duration of use</li><li>- Worksurface with readily accessible power</li><li>- Acoustic enclosure</li></ul>	
Equipment	Optional 1x 23" monitor on arm if supported by furniture type. Provide adequate task lighting.	
SECURITY REQUIREMENTS		
	Typical Operational Zone	

A3	Focus Pod – 4.0 m <sup>2</sup>
DRAWING	

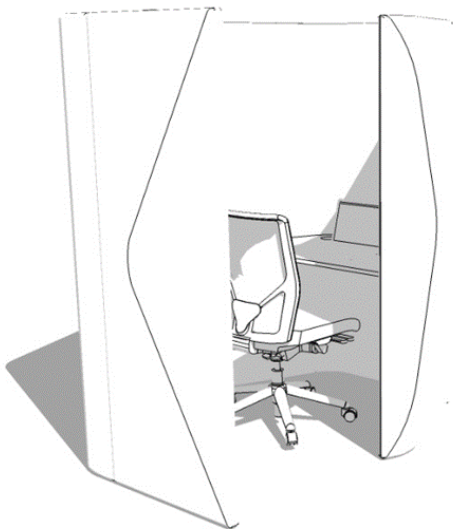
Option 1



Option 2



GCworkplace example

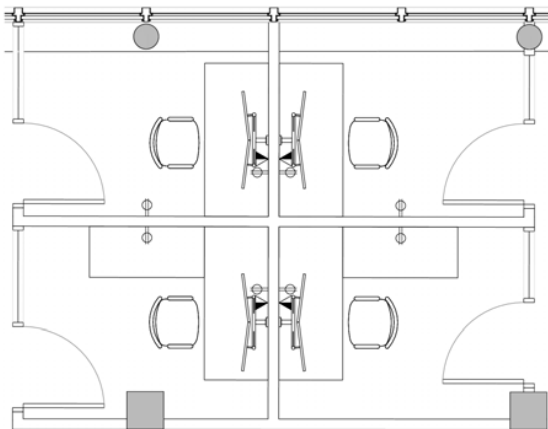


A4 <span style="float: right;">Focus Room – 7.5 m<sup>2</sup></span>	
<b>Functional Description</b>	Enclosed room for mid to long-term individual focused work where a high level of privacy is required. Can also be used for private conversations. Typically includes work surface to support focus work, however more casual postures are also acceptable. High visual privacy.
<b>Space Allocation</b>	Quantity equal to 8% of the population.
<b>Area/Dimensions</b>	<b>Provided:</b> 6.5 to 12.3 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 7.5 m <sup>2</sup> average
<b>Location</b>	Locate in a Quiet Zone.
<b>Occupancy</b>	1-2 people; calculate occupancy at 100%
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
ARCHITECTURAL REQUIREMENTS	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	<b>Walls:</b> <ul style="list-style-type: none"> <li>- Paint or prefinished or unfinished to suit substrate. Writable surface on minimum of 1 wall.</li> <li>- Enclosed room with demountable partitions and sliding door</li> <li>- Slab to underside of ceiling w/ insulation and plenum barriers</li> <li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li> </ul> <b>Glazing:</b> <ul style="list-style-type: none"> <li>- Glazed partition on one wall to allow light penetration (with privacy film), film application to comply CAN/CSA B651-18</li> </ul>
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	<b>Doors:</b> <ul style="list-style-type: none"> <li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li> <li>- Glass sliding doors if provided must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li> </ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Office function lockset or sliding door pull with optional equivalent lock
<b>Millwork</b>	N/A
<b>Acoustics</b>	Medium – STC 35. Consider acoustic solutions for sound absorption, such as ceiling hung or wall mounted acoustical panels.
<b>Specialties</b>	N/A
<b>Signage</b>	To suit tenant's signage standard. Numbered to enable inclusion in booking system.

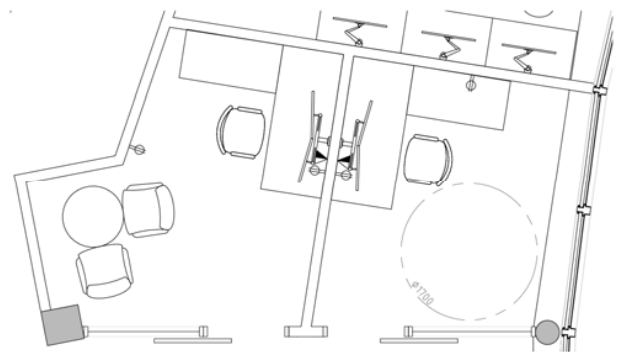
A4		Focus Room – 7.5 m²	
MECHANICAL REQUIREMENTS			
Temperature and Humidity	<ul style="list-style-type: none"><li>- Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.</li><li>- If located adjacent to each other, focus rooms are to share one terminal HVAC unit and temperature control.</li></ul>		
Ventilation	<ul style="list-style-type: none"><li>- Comply with ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Supply and return air elements</li><li>- Return air transfer fan c/w on/off switch for full height partitions</li></ul>		
Acoustics	<ul style="list-style-type: none"><li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li><li>- Mechanical equipment and components to be selected to support the room noise rating</li></ul>		
Controls	Temperature Controls: <div><input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned</div> Humidity Controls: <div><input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned</div> <p><b>Interior:</b></p> <ul style="list-style-type: none"><li>- Individual thermostat control c/w dedicated terminal unit. Shared with one other focus room if adjoining.</li></ul> <p><b>Perimeter (where required):</b></p> <ul style="list-style-type: none"><li>- Individual thermostat control for terminal units and perimeter system (induction units). Shared with one other focus room if adjoining.</li></ul>		
Plumbing	N/A		
Life Safety	Sprinklers: <div><input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge</div> Detectors: <div><input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection</div> All to Base Building Standard <p>Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.</p>		
ELECTRICAL REQUIREMENTS			
Power	2 standard electrical duplex receptacle(s) (1 circuit per 2 rooms). Worksurface height outlets and/or readily accessible locations preferred. Include USB charging ports.		
Emergency/UPS	N/A		
Lighting	Relocate Base building lighting to suit tenant layout.		
Level(s)	300 lux. Provide supplementary task lighting to achieve minimum 500 lux at worksurface.		
Controls	1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- 1 LAN drop with image/voice/data outlets</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		
Multimedia	N/A		

A4		Focus Room – 7.5 m <sup>2</sup>
COMPONENTS		
<b>Furniture</b> <i>maximum height of system panels is 1.3 m or 54"</i>	<b>Option 1:</b> <ul style="list-style-type: none"><li>- Height-adjustable table, 762 mm depth, width to suit room</li><li>- Optional return or table, 610 mm depth, width to suit room</li><li>- Fully adjustable ergonomic task chair, or adjustable ergonomic multi-purpose chair</li><li>- Optional guest chair</li></ul> <b>Option 2:</b> <ul style="list-style-type: none"><li>- Round table, 610-1067 mm diameter to suit room</li><li>- 2 guest chairs</li></ul> <b>Option 3:</b> <ul style="list-style-type: none"><li>- Lounge chair or sofa with ottoman</li><li>- Side table</li></ul> Day storage is optional. A larger focus room may include both a desk and a meeting area.	
<b>Equipment</b>	Task light, phone. Optional 1x 23" monitor on monitor arm where appropriate.	
SECURITY REQUIREMENTS		
	Typical Operational Zone	
DRAWING		

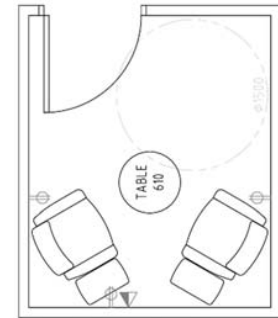
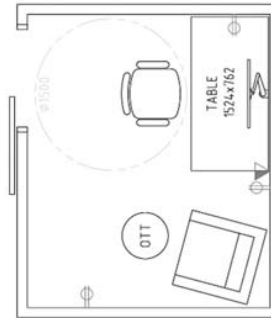
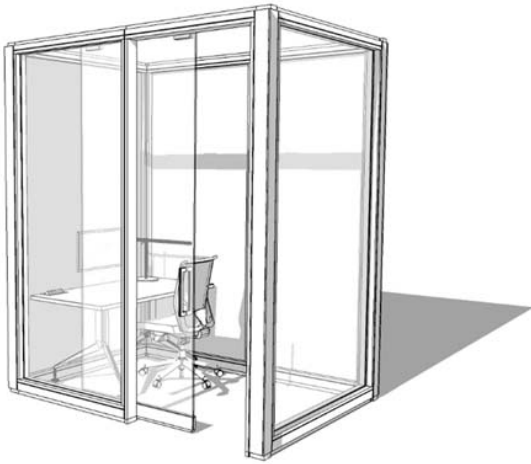
Option 1



Option 1+2



**GCworkplace examples**

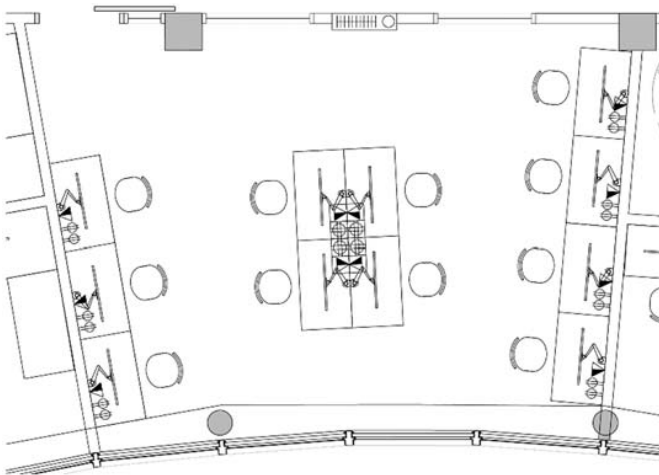


A5 <span style="float: right;">Study – 3 m<sup>2</sup> / occupant</span>	
<b>Functional Description</b>	A grouping of quiet individual workpoints in an enclosed room, supporting individual quiet work in a group setting. Low to medium visual privacy. Medium acoustic privacy. No phone use. Formal or casual posture.
<b>Space Allocation</b>	Quantity of seats equal to 6.8% of the population.
<b>Area/Dimensions</b>	<b>Provided:</b> 30+ m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> average 3 m <sup>2</sup> / occupant
<b>Location</b>	Quiet Zone
<b>Occupancy</b>	10+ people; calculate occupancy at 100%
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
ARCHITECTURAL REQUIREMENTS	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	<b>Walls:</b> <ul style="list-style-type: none"> <li>- Slab to underside of ceiling w/ insulation and plenum barriers</li> <li>- Paint or unfinished to suit substrate</li> <li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li> <li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li> </ul> <b>Glazing:</b> <ul style="list-style-type: none"> <li>- Optional sidelight maximum 457 mm wide, height to match door, film application to comply with GCworkplace and CAN/CSA B651-18</li> <li>- Glazed partitions to allow penetration of natural light are encouraged if they meet other requirements</li> </ul>
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	<b>Doors:</b> <ul style="list-style-type: none"> <li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li> <li>- Glass and/or sliding doors are acceptable if they meet the requirements and provide the best environmental and economic value to the Crown. They must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li> </ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Office function lockset or sliding door pull with equivalent lock
<b>Millwork</b>	N/A
<b>Acoustics</b>	Medium – STC 45
<b>Specialties</b>	N/A
<b>Signage</b>	To suit tenant's signage standard



A5		Study – 3 m <sup>2</sup> / occupant	
MECHANICAL REQUIREMENTS			
Temperature and Humidity	<ul style="list-style-type: none"><li>- Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.</li><li>- Supply and return air diffuser(s)/grille(s)</li></ul>		
Ventilation	<ul style="list-style-type: none"><li>- Comply with ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Return air transfer fan c/w on/off switch for full height partitions.</li></ul>		
Acoustics	<ul style="list-style-type: none"><li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li><li>- Mechanical equipment and components to be selected to support the room noise rating</li></ul>		
Controls	<p>Temperature Controls:                    <input checked="" type="checkbox"/> Dedicated                    <input type="checkbox"/> Zoned</p> <p>Humidity Controls:                    <input checked="" type="checkbox"/> Dedicated                    <input type="checkbox"/> Zoned</p> <p><b>Interior:</b></p> <ul style="list-style-type: none"><li>- Individual thermostat control c/w dedicated terminal unit</li></ul> <p><b>Perimeter (where required):</b></p> <ul style="list-style-type: none"><li>- Individual thermostat control for terminal units and perimeter system (induction units)</li></ul>		
Plumbing	N/A		
Life Safety	<p>Sprinklers:    <input checked="" type="checkbox"/> Wet Type    <input type="checkbox"/> Dry Type                    <input type="checkbox"/> Pre-action    <input type="checkbox"/> Deluge</p> <p>Detectors:    <input checked="" type="checkbox"/> Smoke Detection                    <input type="checkbox"/> Heat Detection</p> <p>All to Base Building Standard</p> <p>Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.</p>		
ELECTRICAL REQUIREMENTS			
Power	2 standard electrical duplex receptacle(s) per occupant (1 circuit per 3 occupants). Include 1-2 USB charging ports per workpoint. For soft seating furniture solutions, provide convenience outlets in nearby floor or wall.		
Emergency/UPS	N/A Room and associated HVAC equipment will operate on normal power only. Room is not expected to function during power outages.		
Lighting	<ul style="list-style-type: none"><li>- Base building lighting with motion sensor</li><li>- Direct/indirect (suspended where suitable) luminaire(s) to suit study function on a separate switch/light control with motion sensor</li></ul>		
Level(s)	Dimmable, with uniform intensity to 500 lux		
Controls	1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- 1 LAN drop with image/voice/data outlets</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		

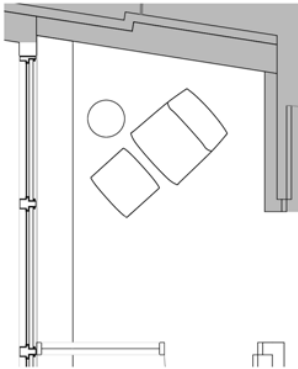
A5		Study – 3 m <sup>2</sup> / occupant	
Multimedia	N/A		
COMPONENTS			
Furniture <i>maximum height of system panels is 1.3 m or 54"</i>	Can be furnished with a variety of workpoint types: typical work surface, soft seating, layout space, etc. Freestanding or systems furniture <b>Option 1:</b> <ul style="list-style-type: none"><li>- Height-adjustable freestanding worksurfaces, 762 mm x 1220 mm</li><li>- Fully adjustable ergonomic task chair, or adjustable ergonomic multi-purpose chair</li><li>- Optional secure storage cabinet</li><li>- Optional central layout table for additional reference material review</li></ul>		
Equipment	<ul style="list-style-type: none"><li>- 1 x 23" monitor on arm for each work desk</li><li>- Task lighting for each desk</li></ul>		
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			

**Option 1****GCworkplace example**

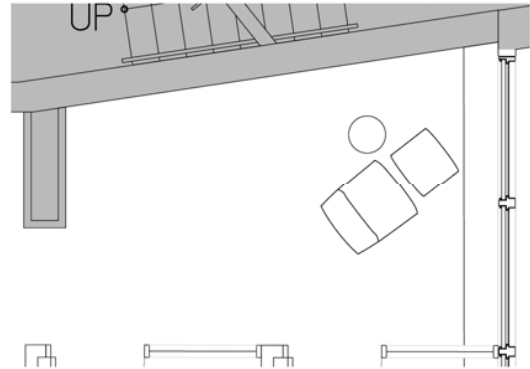
A6 <span style="float: right;">Reflection Point – 5.0 m<sup>2</sup></span>	
<b>Functional Description</b>	A short-term refuge for quiet individual contemplation or rejuvenation with minimal technology support. Medium to High visual privacy. Casual posture.
<b>Space Allocation</b>	Quantity equal to 4% of the population
<b>Area/Dimensions</b>	<b>Provided:</b> 7.0 to 10.5 m <sup>2</sup> (75 to 113 ft <sup>2</sup> ); dimensions vary <b>Fit-up standard:</b> 5.0 m <sup>2</sup> (54 ft <sup>2</sup> ) average
<b>Location</b>	Quiet Zone; remote, isolated corners located near a window with a view.
<b>Occupancy</b>	1 person; not included in occupancy calculation
<b>Time of Use</b>	■ Normal Business Hours   □ 24 / 7
ARCHITECTURAL REQUIREMENTS	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	Locate next to exterior views
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	N/A
<b>Millwork</b>	N/A
<b>Acoustics</b>	Medium acoustic privacy achieved by using remote locations in a quiet zone. Consider acoustic solutions for sound absorption, such as ceiling hung or wall mounted acoustical panels.
<b>Specialties</b>	Consider architectural solutions for defining space and controlling sightlines and acoustics (i.e. suspended panels or other room dividers).
<b>Signage</b>	N/A
MECHANICAL REQUIREMENTS	
<b>Temperature and Humidity</b>	Comply with ANSI/ASHRAE Standard 55- Thermal Environmental Conditions for Human Occupancy.
<b>Ventilation</b>	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality
<b>Acoustics</b>	Provide sound masking system
<b>Controls</b>	Temperature Controls:   □ Dedicated   ■ Zoned Humidity Controls:   □ Dedicated   ■ Zoned Base building open office zone controls to suit tenant layout and orientation.
<b>Plumbing</b>	N/A

A6		Reflection Point – 5.0 m <sup>2</sup>	
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	Optional power and USB charging		
Emergency/UPS	N/A		
Lighting	Relocate Base building lighting to suit fit-up.		
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at worksurface height.		
Controls	Divide open office into zones approximately 225 m <sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.		
BUILDING CONNECTIVITY			
Network	N/A		
Multimedia	N/A		
COMPONENTS			
Furniture	Freestanding furniture. <b>Option 1:</b> Lounge chair - Lounge chair (with or without tablet) with ottoman, or chaise longue - Side table if no tablet  <b>Option 2:</b> Sofa - Sofa - Side or coffee table		
Equipment	N/A		
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			

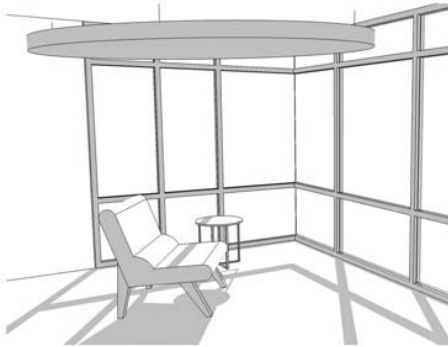
Option 1



Option 1



GCworkplace example

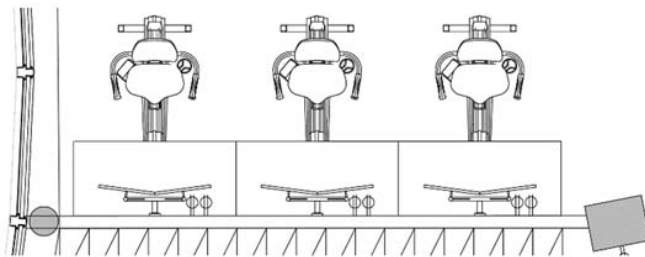


A7 Active Workstation – 5.0 m <sup>2</sup>	
<b>Function</b>	Treadmill or stationary bicycle with integrated worksurface. To permit light physical activity while working. Medium to high visual privacy. Can be enclosed room or semi-private work point. Casual posture.
<b>Space Allocation</b>	Quantity equal to 1% of the population
<b>Area/Dimensions</b>	<b>Provided:</b> 3.5 to 5.0 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 5.0 m <sup>2</sup> average
<b>Location</b>	Transitional or Interactive Zone; away from quiet areas.
<b>Occupancy</b>	1 person; not included in occupancy calculation
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
ARCHITECTURAL REQUIREMENTS	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	Can be open or semi-enclosed. Enclosed room preferred.  <b>Walls:</b> <ul style="list-style-type: none"><li>- Slab to underside of ceiling w/ insulation and plenum barriers, STC 35</li><li>- Paint or unfinished to suit substrate</li><li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li><li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li></ul> <b>Glazing:</b> <ul style="list-style-type: none"><li>- Locate near exterior windows if possible</li><li>- Optional sidelight maximum 457 mm wide, height to match door, film application to comply with GCworkplace and CAN/CSA B651-18</li><li>- Glazed partitions to allow penetration of natural light are encouraged if they meet other requirements</li></ul>
<b>Ceilings</b>	Base building standard – suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	May be open or semi-enclosed, or fully enclosed. If fully enclosed, provide door: <b>Door:</b> <ul style="list-style-type: none"><li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li><li>- Glass and/or sliding doors are acceptable if they meet the requirements and provide the best environmental and economic value to the Crown. They must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li></ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Passage latchset or sliding door pull
<b>Millwork</b>	N/A
<b>Acoustics</b>	Medium High; STC 35. Can be open or semi-enclosed.

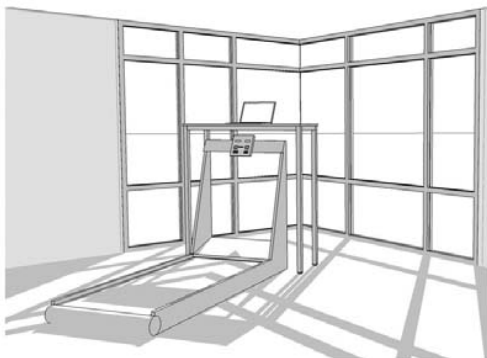
A7		Active Workstation – 5.0 m <sup>2</sup>	
Specialties	N/A		
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	<ul style="list-style-type: none"><li>- Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy</li><li>- Supply and return air elements (if fully enclosed)</li></ul>		
Ventilation	<ul style="list-style-type: none"><li>- Comply with ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Return air transfer fan c/w on/off switch for full height partitions (if fully enclosed)</li></ul>		
Acoustics	If fully enclosed: <ul style="list-style-type: none"><li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li><li>- Mechanical equipment and components to be selected to support the room noise rating</li></ul>		
Controls	Temperature Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Humidity Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned  Base building open office zone controls to suit tenant layout and orientation, typical. If fully enclosed, dedicated controls c/w dedicated terminal unit(s) may be required.		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- 2 standard electrical duplex receptacle(s) at worksurface. Include 2 USB charging ports. Power and USB receptacle to be incorporated in furniture solution.</li><li>- Separate outlet(s) and circuit(s) with adequate power for exercise equipment</li></ul>		
Emergency/UPS	N/A. Fully enclosed: room and associated HVAC equipment will operate on normal power only. Room is not expected to function during power outages.		
Lighting	Relocate Base building lighting to suit tenant layout		
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at worksurface.		
Controls	<ul style="list-style-type: none"><li>- <b>Open office:</b> Divide open office into zones approximately 225 m<sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.</li><li>- <b>Fully enclosed:</b> 1 separate switch/light control and motion sensor</li></ul>		
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- Wireless capability.</li></ul>		

A7		Active Workstation – 5.0 m <sup>2</sup>	
Multimedia	N/A		
COMPONENTS			
Furniture	Option 1: - Active workstation with integrated worktable such as stationary bicycle or treadmill		
Equipment	See Furniture above.		
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			

Open



GCworkplace example



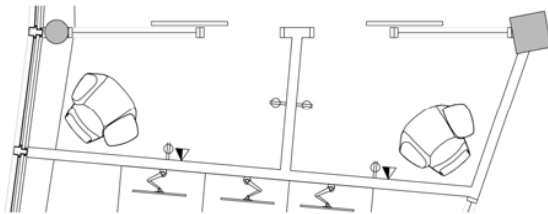


A8 <span style="float: right;">Phone Booth – 5.0 m<sup>2</sup></span>	
<b>Functional Description</b>	Enclosed or semi-enclosed area to make or receive phone calls without disturbing others. May also be used for videoconferencing or computer-based training with audio. Medium to high visual privacy. Formal or casual posture.
<b>Space Allocation</b>	Quantity equal to 6% of the population.
<b>Area/Dimensions</b>	<b>Provided:</b> 4.6 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 5.0 m <sup>2</sup> average
<b>Location</b>	Locate in a Transitional Zone
<b>Occupancy</b>	1 person; not included in occupancy calculation
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
ARCHITECTURAL REQUIREMENTS	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	<b>Walls:</b> <ul style="list-style-type: none"> <li>- Can be enclosed room with sliding door, or semi-private kiosk;</li> <li>- Slab to underside of ceiling w/ insulation and plenum barriers</li> <li>- Paint or prefinished or unfinished to suit substrate</li> <li>- Blocking as required to support shelf or counter.</li> </ul> <b>Glazing:</b> <ul style="list-style-type: none"> <li>- For enclosed rooms, glazed partition on one wall to allow light penetration (with privacy film), film application to comply with CAN/CSA B651-18</li> </ul>
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	<b>Doors:</b> <ul style="list-style-type: none"> <li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li> <li>- Glass sliding doors to meet CAN/CSA B651-18, Fire Codes and Building Codes.</li> </ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Passage latchset or sliding door pull
<b>Millwork</b>	N/A
<b>Acoustics</b>	Medium to high acoustic privacy – STC 45 Provide acoustic treatment, such as ceiling hung or wall mounted acoustical panels, for enclosed rooms to ensure sufficient sound absorption.
<b>Specialties</b>	N/A
<b>Signage</b>	To suit tenant's signage standard. Numbered to enable inclusion in booking system.
MECHANICAL REQUIREMENTS	

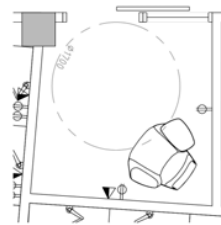
A8 Phone Booth – 5.0 m <sup>2</sup>	
<b>Temperature and Humidity</b>	<ul style="list-style-type: none"> <li>- Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy</li> <li>- Supply and return air elements</li> </ul>
<b>Ventilation</b>	<ul style="list-style-type: none"> <li>- Comply with ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li> <li>- Return air transfer fan c/w on/off switch for full height partitions</li> </ul>
<b>Acoustics</b>	<ul style="list-style-type: none"> <li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li> <li>- Mechanical equipment and components to be selected to support the room noise rating</li> </ul>
<b>Controls</b>	<p>Temperature Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned</p> <p>Humidity Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned</p> <p><b>Interior:</b></p> <ul style="list-style-type: none"> <li>- Individual thermostat control c/w dedicated terminal unit</li> </ul> <p><b>Perimeter (where required):</b></p> <p>Individual thermostat control for terminal units and perimeter system (induction units)</p> <p>If located adjacent to each other, phonebooths are to share one terminal unit and temperature control.</p>
<b>Plumbing</b>	N/A
<b>Life Safety</b>	<p>Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge</p> <p>Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection</p> <p>All to Base Building Standard</p> <p>Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.</p>
<b>ELECTRICAL REQUIREMENTS</b>	
<b>Power</b>	1-2 standard electrical duplex receptacle(s), 1 circuit per 3 booths. Include USB charging ports.
<b>Emergency/UPS</b>	N/A
<b>Lighting</b>	Base building lighting relocated to suit
<b>Level(s)</b>	300 lux. Provide supplementary task lighting to achieve 500 lux at worksurface.
<b>Controls</b>	1 separate switch/light control and motion sensor
<b>BUILDING CONNECTIVITY</b>	
<b>Network</b>	<ul style="list-style-type: none"> <li>- 1 LAN drop with image/voice/data outlets</li> <li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li> </ul>
<b>Multimedia</b>	<ul style="list-style-type: none"> <li>- Optional videoconferencing capabilities</li> </ul>
<b>COMPONENTS</b>	
<b>Furniture</b>	Freestanding furniture.

A8		Phone Booth – 5.0 m <sup>2</sup>
maximum height of system panels is 1.3 m or 54"	<b>Option 1:</b> <ul style="list-style-type: none"> <li>- Lounge chair, optionally with tablet</li> <li>- Side table (if no tablet on chair)</li> </ul> <b>Option 2:</b> <ul style="list-style-type: none"> <li>- Height-adjustable table, 762 mm depth, width to suit room</li> <li>- Adjustable ergonomic multi-purpose chair</li> </ul> <p>Ensure that a portion of phone booths in each area are barrier-free, and mark them as such in the booking system</p>	
Equipment	- Phone, Optional 1x 23" monitor for videoconferencing	
SECURITY REQUIREMENTS		
	Typical Operational Zone	
DRAWING		

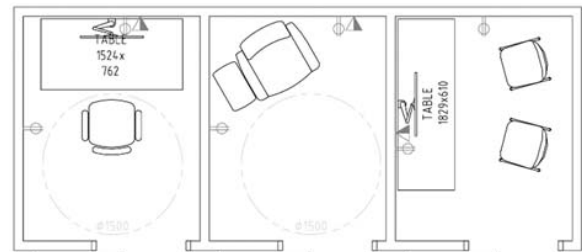
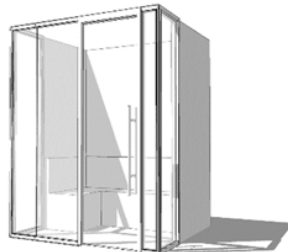
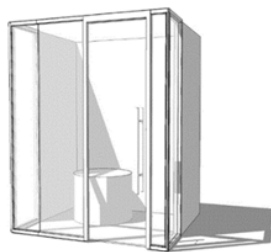
Option 1



Option 1



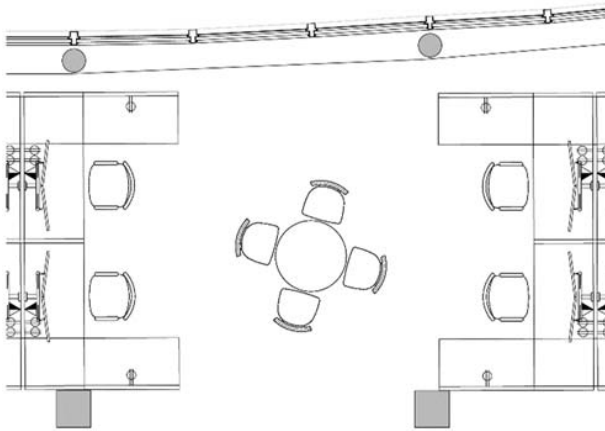
GCworkplace examples



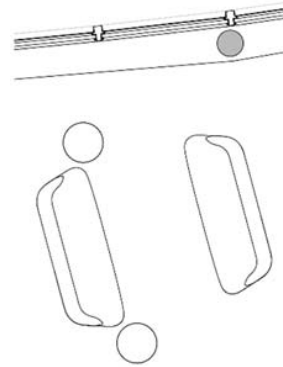
B1		Chat Point – 3.0 m²	
Function	Area for brief impromptu conversations. Low visual privacy. Formal or Casual posture.		
Space Allocation	Quantity equal to 2% of the population.		
Area/Dimensions	Provided: 3.0 m²; dimensions vary Fit-up standard: 3.0 m² average		
Location	Locate in an Interactive or Transitional Zone, typical near a path of travel;		
Occupancy	4 people; calculate occupancy at 25%		
Time of Use	■ Normal Business Hours □ 24 / 7		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Base building carpet tile. Base treatment to suit flooring.		
Walls and Windows	N/A		
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system		
Doors, Frames, Hardware	N/A		
Millwork	N/A		
Acoustics	Low open office environment		
Specialties	N/A		
Signage	N/A		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.		
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality		
Acoustics	Low Provide sound masking system		
Controls	Temperature Controls: □ Dedicated ■ Zoned Humidity Controls: □ Dedicated ■ Zoned Base building open office zone controls to suit tenant layout and orientation.		
Plumbing	N/A		
Life Safety	Sprinklers: ■ Wet Type □ Dry Type □ Pre-action □ Deluge Detectors: ■ Smoke Detection □ Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		

B1		Chat Point – 3.0 m <sup>2</sup>
ELECTRICAL REQUIREMENTS		
Power	Optional power and USB charging	
Emergency/UPS	N/A	
Lighting	Base building lighting system relocated to suit	
Level(s)	300 lux	
Controls	Divide open office into zones approximately 225 m <sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.	
BUILDING CONNECTIVITY		
Network	Provide wireless connectivity	
Multimedia	N/A	
COMPONENTS		
Furniture <i>maximum height of system panels is 1.3 m or 54"</i>	Freestanding furniture. <b>Option 1:</b> table and chairs <ul style="list-style-type: none"><li>- Table for 4 people, with barrier-free base</li><li>- 4 guest chairs</li></ul> <b>Option 2:</b> counter-height table and stools <ul style="list-style-type: none"><li>- Counter-height table for 4 people</li><li>- 4 counter-height stools (with or without back)</li></ul> <b>Option 3:</b> lounge seating (may require more space) <ul style="list-style-type: none"><li>- 2 sofas (2-seat or 3-seat), 1 sectional sofa, or 2-4 tablet lounge chairs</li><li>- Coffee table or 2 side tables</li></ul>	
Equipment	N/A	
SECURITY REQUIREMENTS		
	Typical Operational Zone	
DRAWING		

Option 1, between workstation clusters



Option 3



GCworkplace example



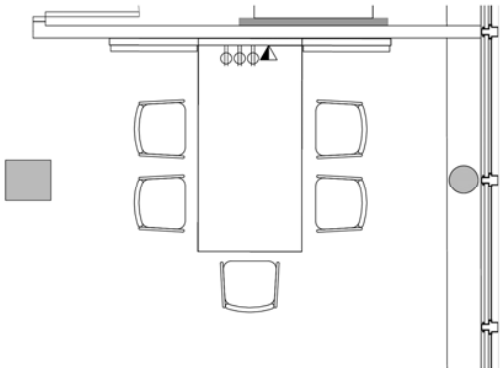
B2		Huddle – 8.0 m <sup>2</sup>
Functional Description	A place to go for quick informal meetings, brainstorming and problem-solving sessions. Low to medium visual privacy. Informal short to mid-length meeting area for 4. Formal or casual posture.	
Space Allocation	Quantity equal to 2.5% of the population	
Area/Dimensions	Provided: 3.4 to 8.2 m <sup>2</sup> ; dimensions vary Fit-up standard: 8.0 m <sup>2</sup> average	
Location	Interactive or Transitional Zone. Can be used as a division between zones.	
Occupancy	4 people; calculate occupancy at 25%	
Time of Use	■ Normal Business Hours □ 24 / 7	
ARCHITECTURAL REQUIREMENTS		
Floors and Base	Base building carpet tile. Base treatment to suit flooring.	
Walls and Windows	Huddles may be open or semi-enclosed by demountable or conventional partitions, or acoustic dividers Walls: <ul style="list-style-type: none"><li>- Optional Partial height w/ insulation, or slab to underside of ceiling w/ insulation</li><li>- Paint or unfinished to suit substrate</li><li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li></ul> Glazing: <ul style="list-style-type: none"><li>- If acoustics permit, glazing to allow penetration of natural light is encouraged</li></ul>	
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system	
Doors, Frames, Hardware	N/A	
Millwork	Optional booth-type construction	
Acoustics	Low to medium acoustic privacy. Consider acoustic solutions for sound absorption, such as ceiling hung or wall mounted acoustical panels	
Specialties	Huddle or booth-type furnishings as available through Supply Agreements.	
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.	
MECHANICAL REQUIREMENTS		
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.	
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality	
Acoustics	Low - Provide sound masking system	

B2		Huddle – 8.0 m <sup>2</sup>	
Controls	Temperature Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Humidity Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Base building open office zone controls to suit tenant layout and orientation.		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- 2-4 standard electrical duplex receptacle(s), readily accessible while seated. Include 2-4 USB charging ports.</li><li>- Additional outlets as required for optional A/V equipment</li></ul>		
Emergency/UPS	N/A		
Lighting	Optional specialty lighting. Relocate Base building lighting to suit tenant layout.		
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at worksurface.		
Controls	<ul style="list-style-type: none"><li>- <b>Specialty lighting:</b> 1 separate switch/light control and motion sensor</li><li>- <b>Open office:</b> Divide open office into zones approximately 225 m<sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.</li></ul>		
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- Wireless presentation capabilities</li><li>- 1 image/voice/data outlet (if required by client)</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		
Multimedia	<ul style="list-style-type: none"><li>- Additional outlets as required for optional A/V equipment</li></ul>		
COMPONENTS			
Furniture  maximum height of system panels is 1.3 m or 54"	Semi-enclosed booth or freestanding furniture solutions <b>Option 1:</b> Media table and chairs <ul style="list-style-type: none"><li>- Table for 4 to 6 (desk or counter height), with space divider (whiteboard can be substituted for monitor if desired)</li><li>- 4 to 6 adjustable ergonomic multi-purpose chairs, or guest chairs, or stool height equivalents</li><li>- Option to semi-enclose with partitions or acoustic dividers</li></ul> <b>Option 2:</b> Pre-built furniture booth <ul style="list-style-type: none"><li>- Banquettes or soft seating for 4 to 6 (can be formal or casual posture)</li><li>- Table for 4 to 6</li></ul>		

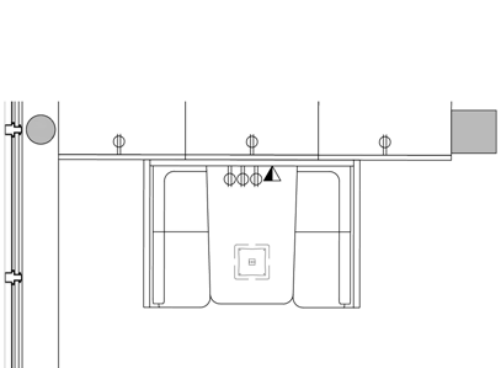


B2		Huddle – 8.0 m <sup>2</sup>	
	<ul style="list-style-type: none"><li>- Acoustic enclosure</li></ul> <b>Option 3:</b> Lounge grouping <ul style="list-style-type: none"><li>- 2 sofas, each seating 2 to 3 people</li><li>- Table for 4 to 6, of height suitable for chosen seating</li><li>- Option to semi-enclose with partitions or acoustic dividers.</li></ul>		
Equipment	Large monitor display c/w mount/stand		
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			

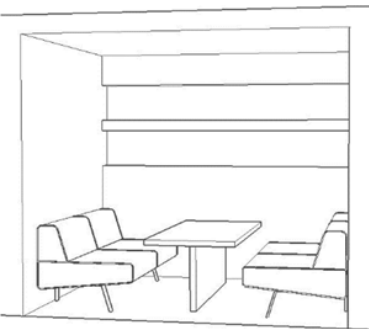
Option 1



Option 2



Option 3

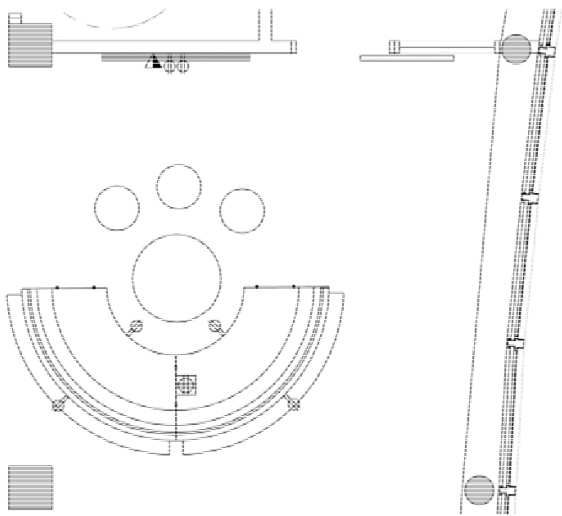


B3		Teaming Area – 15.0 m²	
Function	A grouping of workpoints to encourage sharing and collaboration with various work tools. Informal work area to accommodate team work and idea generation. May include various work surfaces and a media table with display monitor(s) and/or interactive touchscreen, and/or small collaborative area. Include whiteboards or other writing surfaces, media table, or other collaborative tools. Low to medium visual privacy. Formal or casual posture.		
Space Allocation	Quantity equal to 2% of the population		
Area/Dimensions	Provided: 15.0 m²; dimensions vary Fit-up standard: 15.0 m² average		
Location	Active or Transitional Zone		
Occupancy	4-12 people; calculate occupancy at 25%		
Time of Use	■ Normal Business Hours   □ 24 / 7		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Base building carpet tile. Base treatment to suit flooring.		
Walls and Windows	N/A		
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system		
Doors, Frames, Hardware	N/A		
Millwork	N/A		
Acoustics	Low to Medium- Open office environment		
Specialties	N/A		
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.		
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality		
Acoustics	Low to Medium-Provide soundmasking system		
Controls	Temperature Controls:   □ Dedicated   ■ Zoned Humidity Controls:   □ Dedicated   ■ Zoned Base building open office zone controls to suit tenant layout and orientation.		
Plumbing	N/A		

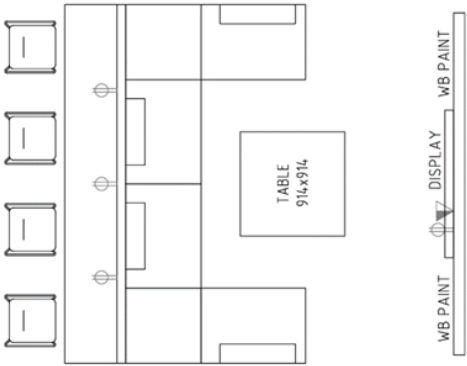
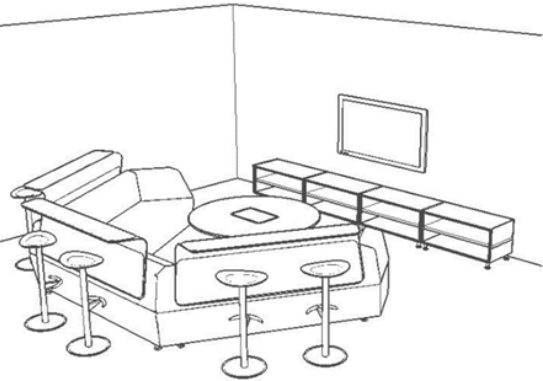
<b>B3</b>		<b>Teaming Area – 15.0 m<sup>2</sup></b>	
<b>Life Safety</b>	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard Building sprinkler, standpipe and hose systems, extinguishers, fire alarm system, all areas (Base Building standard). Sprinkler heads to suit room layout.		
<b>ELECTRICAL REQUIREMENTS</b>			
<b>Power</b>	- Minimum of 3 standard electrical duplex receptacle(s), readily accessible to users - 1 standard electrical duplex dedicated to monitor - Include USB charging ports - Additional outlets as required for A/V equipment		
<b>Emergency/UPS</b>	N/A		
<b>Lighting</b>	Optional specialty lighting. Relocate Base building lighting to suit tenant layout.		
<b>Level(s)</b>	300 lux		
<b>Controls</b>	- <b>Specialty lighting:</b> 1 separate switch/light control and motion sensor - <b>Open office:</b> Divide open office into zones approximately 225 m <sup>2</sup> for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors.		
<b>BUILDING CONNECTIVITY</b>			
<b>Network</b>	- Wireless presentation capabilities - Optional image/voice/data outlet if required by Client. Client to provide actual connectors and jacks, typically RJ45 with multiple jacks		
<b>Multimedia</b>	- N/A		
<b>COMPONENTS</b>			
<b>Furniture</b> <i>maximum height of system panels is 1.3 m or 54"</i>	Freestanding furniture. <b>Option 1:</b> - Freestanding semi-circular high back bench furniture with integrated shelf - High stools - Round coffee table - Ottomans - Optional storage		
<b>Equipment</b>	Large monitor (option for interactive monitor / smart board), whiteboard or writable wall surface.		
<b>SECURITY REQUIREMENTS</b>			
	Typical Operational Zone		

<i>B3</i>	Teaming Area – 15.0 m <sup>2</sup>
DRAWING	

Option 1



GCworkplace examples

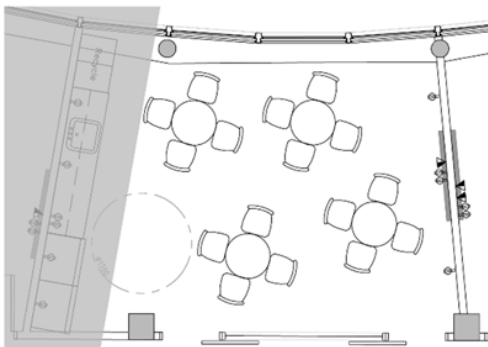


B4		Lounge – 20.0 m²	
Functional Description	Open area with furniture to accommodate dining and/or social interaction and informal work. Casual posture.		
Space Allocation	Quantity equal to 1% of the population.		
Area/Dimensions	Provided: 16.6 to 20.0 m² dimensions vary Fit-up standard: 20.0 m² average		
Location	Locate in an Interactive Zone; often adjacent to Kitchenettes		
Occupancy	10+ people; calculate occupancy at 25%		
Time of Use	■ Normal Business Hours □ 24 / 7		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Resilient sheet or tile flooring. Base treatment to suit flooring.		
Walls and Windows	Locate near exterior windows if possible.  Walls: <ul style="list-style-type: none"><li>- Slab to underside of ceiling w/ insulation and plenum barriers</li><li>- Paint or unfinished to suit substrate</li><li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li><li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li></ul> Glazing: <ul style="list-style-type: none"><li>- Locate near exterior windows if possible</li><li>- Optional sidelight maximum 457 mm wide, height to match door, film application to comply with GCworkplace and CAN/CSA B651-18</li><li>- Glazed partitions to allow penetration of natural light are encouraged if they meet other requirements</li></ul>		
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system		
Doors, Frames, Hardware	May be open or semi-enclosed, but entrance doors are not normally provided. Optional doors provided on quiet floors on Option 3: Doors: <ul style="list-style-type: none"><li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li><li>- Glass and/or sliding doors are acceptable if they meet the requirements and provide the best environmental and economic value to the Crown. They must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li></ul> Frames: Pressed Steel, paint finish Hardware: Passage latchset or sliding door pull		
Millwork	N/A		
Acoustics	Low privacy; open office environment		

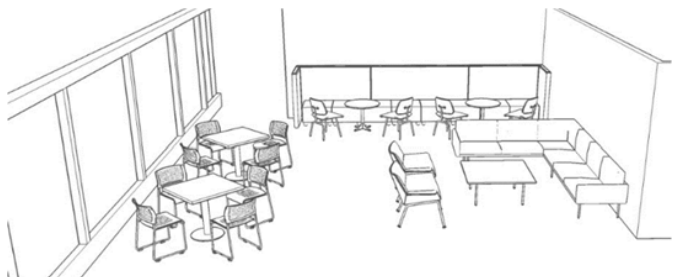
B4		Lounge – 20.0 m²	
Specialties	Consider architectural solutions for defining space and controlling sightlines and acoustics (i.e. suspended panels or other room dividers).		
Signage	To suit tenant’s signage standard		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.		
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality		
Acoustics	Low privacy; Provide soundmasking system		
Controls	Temperature Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Humidity Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Base building open office zone controls to suit tenant layout and orientation. typical. If fully enclosed, dedicated controls are required.		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	- Minimum of 4 standard duplex receptacle(s) (on 2 circuits). Include USB charging ports. - 1 standard duplex dedicated to monitor		
Emergency/UPS	N/A. Area/room and associated HVAC equipment will operate on normal power only. Room is not expected to function during power outages.		
Lighting	Optional specialty lighting. Base building lighting relocated to suit.		
Level(s)	150 lux		
Controls	- <b>Specialty lighting:</b> 1 separate switch/light control and motion sensor - <b>Open office:</b> Divide open office into zones approximately 225 m² for controls. Locate controls on permanent corridor walls or columns or provide microprocessor control with motion sensors. - <b>Fully enclosed:</b> 1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			

B4		Lounge – 20.0 m <sup>2</sup>
Network	<ul style="list-style-type: none"><li>- Wireless presentation capabilities</li><li>- Optional 1 image/voice/data outlet if required by client.</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>	
Multimedia	N/A	
COMPONENTS		
Furniture <i>maximum height of system panels is 1.3 m or 54"</i>	<p>Freestanding furniture.</p> <p><b>Provide a mix of seating styles. Options include:</b></p> <ul style="list-style-type: none"><li>- Small tables for 2-4, with stacking chairs or stools according to table height</li><li>- Large table for 6+, with stacking chairs or stools according to table height</li><li>- Booth-style seating for 4-6, with option to semi-enclose</li><li>- Long banquette with small tables and stacking chairs on the opposite side</li><li>- Lounge area with sofa(s), mobile lounge chairs, and coffee or side tables. Consider sectional lounge systems that are easily reconfigured.</li><li>- Counter with stools or stacking chairs according to height</li></ul> <p>Provide a collection of soft seating, small tables, and chairs.</p>	
Equipment	Large monitor	
SECURITY REQUIREMENTS		
	Typical Operational Zone	
DRAWING		

Quiet floor example



GCworkplace example

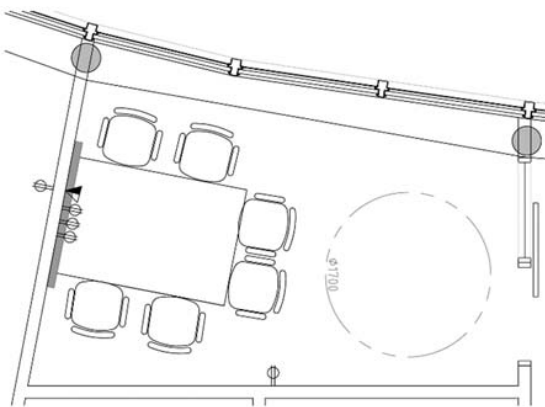
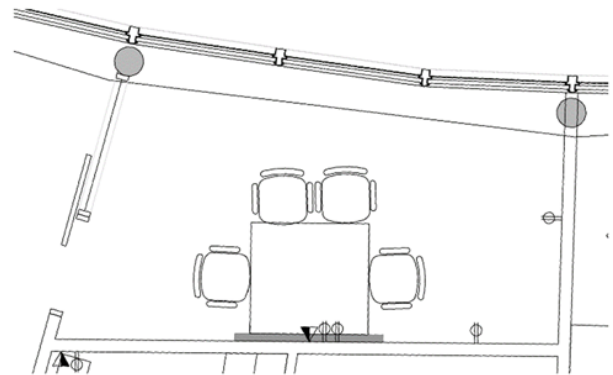


B5		Work Room – 15.0 m²	
Functional Description	Enclosed room for short-term or mid-term group work or meetings. Medium to high visual privacy. Formal or casual posture.		
Space Allocation	Quantity equal to 3.8% of the population.		
Area/Dimensions	Provided: 12.3 to 15.6 m²; dimensions vary Fit-up standard: 15.0 m² average		
Location	Transitional Zone, near workstations for easy access by teams		
Occupancy	4-6 people; calculate occupancy at 50%		
Time of Use	■ Normal Business Hours □ 24 / 7		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Base building carpet tile. Base treatment to suit flooring.		
Walls and Windows	Walls: <ul style="list-style-type: none"><li>- Paint or unfinished or prefinished to suit substrate. Writable surface on minimum of 1 wall.</li><li>- Enclosed room with demountable partitions and sliding door</li><li>- Slab to underside of ceiling w/ insulation and plenum barrier</li><li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li></ul> Glazing: <ul style="list-style-type: none"><li>- Glazed partition on one wall to allow light penetration (with privacy film); film application to comply with CAN/CSA B651-18</li></ul>		
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system		
Doors, Frames, Hardware	Doors: <ul style="list-style-type: none"><li>- Glass and/or sliding doors must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li><li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li></ul> Frames: Pressed Steel, paint finish Hardware: Passage latchset or sliding door pull		
Millwork	N/A		
Acoustics	Medium – STC 35		
Specialties	N/A		
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55- Thermal Environmental Conditions for Human Occupancy. Extra cooling unit and extra ventilation to meet ventilation demand c/w controls and CO2 monitoring, if required.		



B5		Work Room – 15.0 m <sup>2</sup>	
Ventilation	<ul style="list-style-type: none"><li>- Comply with ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Supply and return air elements</li><li>- Return air transfer fan c/w on/off switch for full height partitions</li></ul>		
Acoustics	<ul style="list-style-type: none"><li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li><li>- Mechanical equipment and components to be selected to support the room noise rating</li></ul>		
Controls	Temperature Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned Humidity Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned  Dedicated thermostat control c/w dedicated terminal unit.		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- Minimum of 2 standard electrical duplex receptacle(s) (2 circuits). Include USB charging ports.</li><li>- 1 standard duplex dedicated to monitor</li><li>- Additional outlets as required for optional A/V equipment</li></ul>		
Emergency/UPS	N/A. Room and associated HVAC equipment will operate on normal power only. Room is not expected to function during power outages.		
Lighting	Base building lighting relocated to suit, with motion sensor		
Level(s)	Dimmable, with uniform intensity to 500 lux		
Controls	1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- Wireless presentation capabilities. Optional VOIP, teleconferencing, and/or video conferencing capabilities.</li><li>- Optional 1 image/voice/data outlet. Additional as required for equipment.</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		
Multimedia	N/A		
COMPONENTS			
Furniture  maximum height of system panels is 1.3 m or 54"	Freestanding furniture <b>Option 1:</b> <ul style="list-style-type: none"><li>- Media table with display monitor, and 4-6 chairs according to room capacity</li><li>- Chairs may be adjustable ergonomic multi-purpose chairs, fully adjustable ergonomic task chairs, or guest chairs, according to intended occupancy duration.</li><li>- High tables with stools may also be used</li></ul>		

<b>B5</b>		<b>Work Room – 15.0 m<sup>2</sup></b>
	<b>Option 2:</b> <ul style="list-style-type: none"> <li>- Lounge seating for 4-6, according to room capacity</li> <li>- Coffee and side tables</li> </ul>	
<b>Equipment</b>	<ul style="list-style-type: none"> <li>- Audiovisual: large monitor (option for interactive monitor / smart board)</li> <li>- Phone (optional), whiteboard (optional, if no writable surface)</li> </ul>	
<b>SECURITY REQUIREMENTS</b>		
	Typical Operational Zone	
<b>DRAWING</b>		

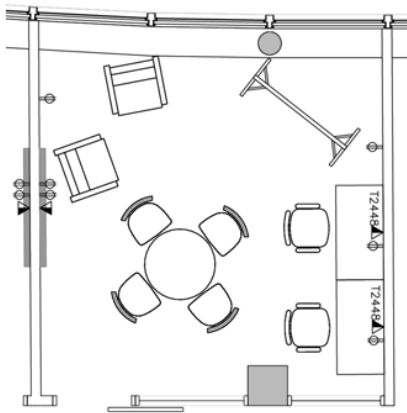
**Option 1****Option 1****GCworkplace example**

B6		Project Room – 20.0 m <sup>2</sup>	
Functional Description	Project rooms provide enclosed spaces for collaborative work, meetings, and presentations. Medium to high visual privacy. Formal or casual posture		
Space Allocation	Enclosed room for longer term project teams or groups to assemble. Wireless presentation capabilities. Quantity equal to 1.8% of the population		
Area/Dimensions	Provided: 17.5 to 24.0 m <sup>2</sup> ; dimensions vary Fit-up standard: 20.0 m <sup>2</sup> average		
Location	Interactive or Transitional Zone, near workstations for easy access by teams		
Occupancy	6 people; calculate occupancy at 50%		
Time of Use	■ Normal Business Hours □ 24 / 7		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Base building carpet tile. Base treatment to suit flooring.		
Walls and Windows	Walls: <ul style="list-style-type: none"><li>- Paint or prefinished or unfinished to suit substrate. Writable surface on minimum of 1 wall if no whiteboard provided.</li><li>- Enclosed room with demountable partitions and sliding door</li><li>- Slab to underside of ceiling w/ insulation and plenum barriers</li><li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li></ul> Glazing: <ul style="list-style-type: none"><li>- Glazed partition on one wall to allow light penetration (with privacy film), film application to comply with CAN/CSA B651-18</li></ul>		
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system		
Doors, Frames, Hardware	Doors: <ul style="list-style-type: none"><li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li><li>- Glass and/or sliding doors are acceptable if they meet the requirements and provide the best environmental and economic value to the Crown. They must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li></ul> Frames: Pressed Steel, paint finish Hardware: Passage latchset or sliding door pull		
Millwork	N/A		
Acoustics	Medium Acoustic Privacy – STC 35		
Specialties	N/A		
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			

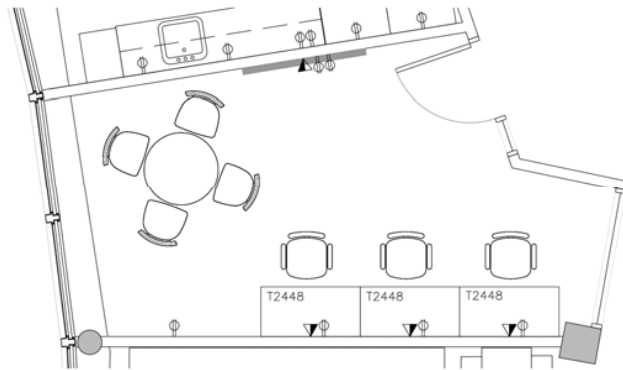
B6		Project Room – 20.0 m²	
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy. Extra cooling unit and extra ventilation to meet ventilation demand c/w controls and CO <sub>2</sub> monitoring, if required.		
Ventilation	<ul style="list-style-type: none"><li>- ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Supply and return air diffuser(s)/grille(s).</li><li>- Return air transfer fan c/w on/off switch for full height partitions.</li></ul>		
Acoustics	<ul style="list-style-type: none"><li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li><li>- Mechanical equipment and components to be selected to support the room noise rating</li></ul>		
Controls	Temperature Controls: <div><input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned</div> Humidity Controls: <div><input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned</div> <ul style="list-style-type: none"><li>- Dedicated thermostat control c/w dedicated terminal unit.</li></ul>		
Plumbing	N/A		
Life Safety	Sprinklers: <div><input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge</div> Detectors: <div><input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection</div> All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- Minimum 4 standard electrical duplex receptacle(s) (2 circuits). Include USB charging ports.</li><li>- 1 standard electrical duplex receptacle dedicated to monitor</li><li>- Additional outlets as required for optional A/V equipment</li></ul>		
Emergency/UPS	N/A. Room and associated HVAC equipment will operate on normal power only. Room is not expected to function during power outages.		
Lighting	<ul style="list-style-type: none"><li>- Base building lighting relocated to suit, with motion sensor</li></ul>		
Level(s)	Dimmable, with uniform intensity to 500 lux		
Controls	1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- Wireless presentation capabilities. Optional VOIP, teleconferencing, and/or video conferencing capabilities.</li><li>- 1 image/voice/data outlet per workstation (if required by client), plus additional as required for equipment</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		
Multimedia	<ul style="list-style-type: none"><li>- Cable matrix</li><li>- Outlets as required for teleconferencing and videoconferencing capabilities</li><li>- As required for other miscellaneous tenant A/V equipment such as ceiling mounted projectors, cameras and speakers</li></ul>		

B6		Project Room – 20.0 m <sup>2</sup>
COMPONENTS		
<b>Furniture</b> <i>maximum height of system panels is 1.3 m or 54"</i>	Freestanding furniture. <b>Option 1:</b> <ul style="list-style-type: none"><li>- Two 1220 x 610 mm work tables</li><li>- Freestanding whiteboard</li><li>- 915 mm round meeting table and guest chairs</li><li>- Two lounge chairs</li></ul> <b>Option 2:</b> <ul style="list-style-type: none"><li>- Three 1220 x 610 mm work tables</li><li>- 1 wall mounted whiteboard</li><li>- 915 mm round meeting table and guest chairs</li></ul>	
<b>Equipment</b>	<ul style="list-style-type: none"><li>- Audiovisual: large monitor (option for interactive monitor / smart board), or projector c/w automatic projection screen with switch</li><li>- Optional whiteboard and/or tackboard</li><li>- Optional task lighting</li><li>- Phone</li><li>- Optional computer monitors on monitor arms for work tables</li></ul>	
SECURITY REQUIREMENTS		
	Typical Operational Zone	
DRAWING		

Option 1



Option 2



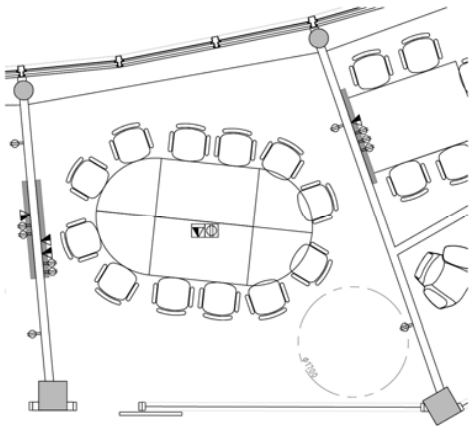
B7 Medium Meeting Room – 30.0 m <sup>2</sup>	
<b>Functional Description</b>	Enclosed room for short to mid-term team work or meetings. Meeting rooms provide enclosed spaces for meetings, presentations, and collaborative work. Medium to high visual privacy. Allow for comfortable circulation space and room for a presenter to function comfortably at one end. Formal or casual posture.
<b>Space Allocation</b>	Quantity equal to 1.8% of the population
<b>Area/Dimensions</b>	<b>Provided:</b> 28.5 to 30.7 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 30.0 m <sup>2</sup> average
<b>Location</b>	Transitional or Interactive Zone. Near main corridor, near elevator, washrooms and visitor coat closet.
<b>Occupancy</b>	12 people; calculate occupancy at 50%
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
ARCHITECTURAL REQUIREMENTS	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	<b>Walls:</b> <ul style="list-style-type: none"> <li>- Slab to underside of ceiling w/ insulation and plenum barriers</li> <li>- Paint or unfinished to suit substrate</li> <li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li> <li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li> </ul> <b>Glazing:</b> <ul style="list-style-type: none"> <li>- Optional sidelight maximum 457 mm wide, height to match door, film application to comply with GCworkplace and CAN/CSA B651-18</li> <li>- Glazed partitions to allow penetration of natural light are encouraged if they meet other requirements</li> </ul>
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	<b>Doors:</b> <ul style="list-style-type: none"> <li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li> <li>- Glass and/or sliding doors are acceptable if they meet the requirements and provide the best environmental and economic value to the Crown. They must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li> </ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Passage latchset or sliding door pull
<b>Millwork</b>	N/A
<b>Acoustics</b>	Medium Acoustic privacy – STC 45
<b>Specialties</b>	N/A

B7		Medium Meeting Room – 30.0 m <sup>2</sup>	
Signage	To suit tenant’s signage standard. Numbered to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	<ul style="list-style-type: none"><li>- Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.</li><li>- Extra cooling unit and extra ventilation to meet ventilation demand c/w controls and CO2 monitoring, if required</li></ul>		
Ventilation	<ul style="list-style-type: none"><li>- ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Supply and return air diffuser(s)/grille(s)</li><li>- Return air transfer fan c/w on/off switch for full height partitions</li></ul>		
Acoustics	<ul style="list-style-type: none"><li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li><li>- Mechanical equipment and components to be selected to support the room noise rating</li></ul>		
Controls	Temperature Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned Humidity Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned Dedicated thermostat control c/w dedicated terminal unit		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- 4 standard electrical duplex receptacle(s) (2 circuits)</li><li>- 1 standard electrical duplex dedicated to monitor</li><li>- 1 floor-mounted electrical duplex receptacle (via under carpet track)</li><li>- Include USB charging ports on meeting table and in presenter’s zone</li><li>- Additional outlets as required for optional A/V equipment</li></ul>		
Emergency/UPS	N/A. Room and associated HVAC equipment will operate on normal power only. Room is not expected to function during power outages.		
Lighting	<ul style="list-style-type: none"><li>- Base building lighting with motion sensor</li><li>- Direct/indirect (suspended where suitable) luminaire(s) to suit meeting table function, on a separate switch/light control with motion sensor</li><li>- Dimmable perimeter/accent lighting to support presentation, with motion sensor</li><li>- Optional system to illuminate video conference participant faces at tables</li></ul>		
Level(s)	Dimmable multi levels with uniform intensity to 500 lux		
Controls	Occupancy sensor. Multi-level dimming system with preset scenes, interfaced with A/V control system.		

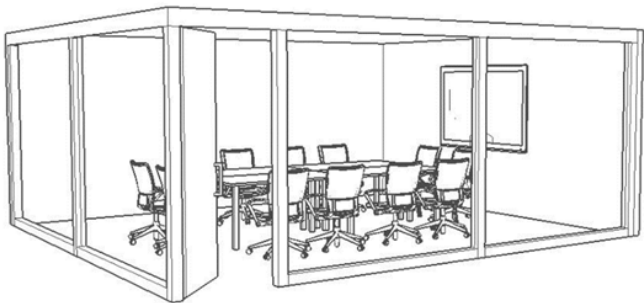
B7		Medium Meeting Room – 30.0 m <sup>2</sup>	
BUILDING CONNECTIVITY			
Network	<ul style="list-style-type: none"><li>- Wireless presentation capabilities. Optional VOIP, teleconferencing and/or videoconferencing capabilities.</li><li>- 2 image/voice/data outlet(s) plus additional as required</li><li>- 1 floor mounted image/voice/data outlet via under carpet track</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		
Multimedia	<ul style="list-style-type: none"><li>- Outlets for teleconferencing and videoconferencing capabilities, cable matrix.</li><li>- As required for other miscellaneous tenant A/V equipment such as ceiling mounted projectors, cameras and speakers</li></ul>		
COMPONENTS			
Furniture <i>maximum height of system panels is 1.3 m or 54"</i>	<p>Freestanding furniture.</p> <p><b>Option 1:</b> Formal posture</p> <ul style="list-style-type: none"><li>- Meeting table for 12, composed of mobile tables with ganging hardware. Option for flip-top tables.</li><li>- Adjustable ergonomic multi-purpose chairs for 12</li><li>- Optional storage credenza and/or armoire</li></ul> <p><b>Option 2:</b> Casual posture</p> <ul style="list-style-type: none"><li>- Modular tables to permit room configuration.</li><li>- Adjustable ergonomic multi-purpose chairs for 12</li><li>- Optional storage credenza and/or armoire</li></ul>		
Equipment	<ul style="list-style-type: none"><li>- Audiovisual: speakers, large monitor (option for interactive monitor / smart board), or projector c/w retractable motorized projection screen with switch</li><li>- Optional teleconferencing equipment</li><li>- Optional videoconferencing equipment</li><li>- Optional whiteboard and/or tackboard</li></ul>		
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			



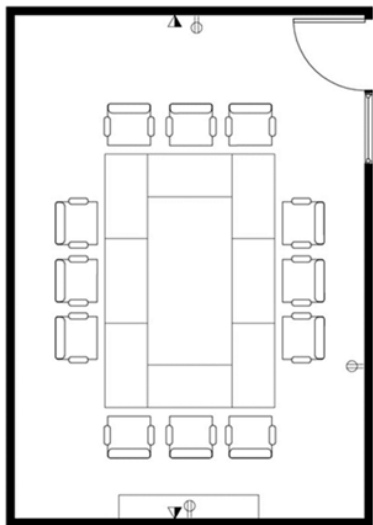
Option 1



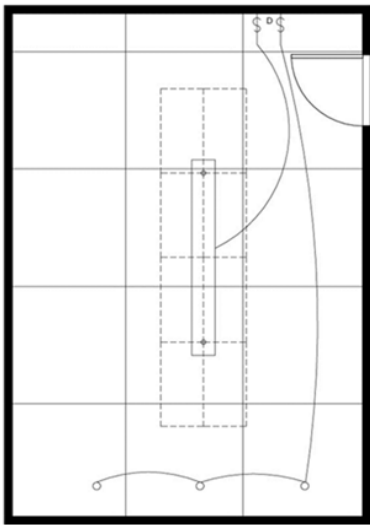
GCworkplace example 3D



GCworkplace example floor plan



GCworkplace reflected ceiling plan



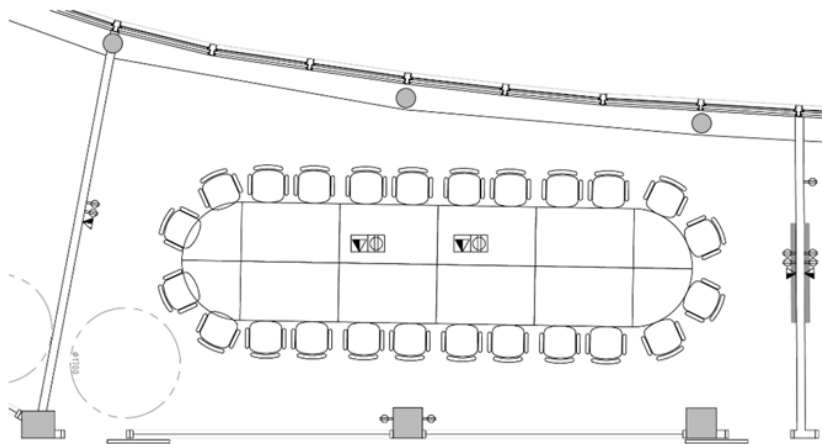
B8 Large Meeting Room – 60.0 m <sup>2</sup>	
<b>Functional Description</b>	Enclosed room for large formal meetings and presentations. Meeting rooms provide enclosed spaces for meetings, presentations, and collaborative work. Medium to high visual privacy. Provide with 2 doors and divide by a retractable wall so that it can be split into 2 medium meeting rooms. When the wall is retracted, the room accommodates a meeting table (comprised of modular, mobile tables), chairs for 20+ people, and presenter's equipment and materials. Allow for comfortable circulation space, and room for a presenter to function comfortably at two ends. Formal posture.
<b>Space Allocation</b>	Quantity equal to 0.8% of the population.
<b>Area/Dimensions</b>	<b>Provided:</b> 56.9 to 58.7 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 60.0 m <sup>2</sup> average
<b>Location</b>	Transitional or Interactive Zone. Near main corridor, near elevator, washrooms and visitor coat closet.
<b>Occupancy</b>	20+ people; calculate occupancy at 50%
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
<b>ARCHITECTURAL REQUIREMENTS</b>	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	<b>Walls:</b> <ul style="list-style-type: none"> <li>- Slab to underside of ceiling w/ insulation and plenum barriers</li> <li>- Paint or unfinished to suit substrate</li> <li>- Blocking as required to support A/V equipment, whiteboards, and tackboards</li> <li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li> <li>- Retractable partition</li> </ul> <b>Glazing:</b> <ul style="list-style-type: none"> <li>- Optional sidelight maximum 457 mm wide, height to match door, film application to comply with GCworkplace and CAN/CSA B651-18</li> <li>- Glazed partitions to allow penetration of natural light are encouraged if they meet other requirements</li> </ul>
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	<b>Doors:</b> <ul style="list-style-type: none"> <li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel optional.</li> <li>- Glass and/or sliding doors are acceptable if they meet the requirements and provide the best environmental and economic value to the Crown. They must meet CAN/CSA B651-18, Fire Codes, and Building Codes.</li> </ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Passage latchset or sliding door pull
<b>Millwork</b>	N/A

B8		Large Meeting Room – 60.0 m²	
Acoustics	Medium – STC 45, including retractable partition.		
Specialties	Retractable partition/ moveable wall		
Signage	2 sets of signage to suit tenant’s signage standard. Numbered with 2 room numbers (e.g. 111A and 111B) to enable inclusion in booking system.		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy. Extra cooling unit and extra ventilation to meet ventilation demand c/w controls and CO₂ monitoring, if required.		
Ventilation	<ul style="list-style-type: none"><li>- ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Supply and return air diffuser(s)/grille(s).</li><li>- Return air transfer fan c/w on/off switch for full height partitions.</li></ul>		
Acoustics	<ul style="list-style-type: none"><li>- Acoustically lined air transfer duct for full height partitions, to meet STC rating of wall</li><li>- Mechanical equipment and components to be selected to support the room noise rating</li></ul>		
Controls	Temperature Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned Humidity Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned  Dedicated thermostat control c/w dedicated terminal unit.		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- 4 standard electrical duplex receptacle(s) (2 circuits), located to have 2 per side when room is split</li><li>- 1 standard electrical duplex dedicated to monitor</li><li>- 2 floor-mounted electrical duplex receptacle(s), 1 per side</li><li>- Include USB charging ports on meeting table and in presenter’s zones</li><li>- Additional outlets as required for optional A/V equipment</li></ul>		
Emergency/UPS	N/A. Room and associated HVAC equipment will operate on normal power only. Room is not expected to function during power outages.		

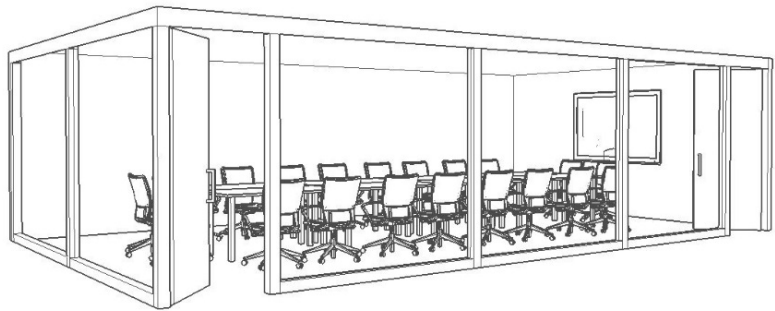
B8		Large Meeting Room – 60.0 m <sup>2</sup>	
Lighting		<ul style="list-style-type: none"><li>- Relocate Base building lighting to suit tenant layout.</li><li>- Direct/indirect (suspended where suitable) luminaire(s) to suit meeting table function, on a separate switch/light control with motion sensor</li><li>- Dimmable perimeter/accent lighting to support presentation, with motion sensor</li><li>- System shall be upgraded for video conferencing function to illuminate participant faces at tables</li></ul>	
Level(s)		Dimmable multi-level controls with uniform intensity to 500 lux	
Controls		Multi-level dimming system with preset scenes, interfaced with A/V control system. Occupancy sensor	
BUILDING CONNECTIVITY			
Network		<ul style="list-style-type: none"><li>- Wireless presentation, VOIP, teleconferencing, and videoconferencing capabilities.</li><li>- 2 standard image/voice/data outlet(s), 1 per side</li><li>- 2 standard floor-mounted image/voice/data outlet(s) via under carpet track, 1 per side</li><li>- Additional outlets as required for optional A/V equipment</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>	
Multimedia		<ul style="list-style-type: none"><li>- Microphone system</li><li>- As required to serve A/V equipment such as ceiling mounted projectors, cameras and speakers.</li></ul>	
COMPONENTS			
Furniture	<i>maximum height of system panels is 1.3 m or 54"</i>	<p>Freestanding furniture.</p> <p><b>Option 1:</b> Formal posture</p> <ul style="list-style-type: none"><li>- Meeting table for 20, composed of mobile tables with ganging hardware. Option for flip-top tables.</li><li>- Adjustable ergonomic multi-purpose chairs for 20</li><li>- Stacking or nesting guest chairs, quantity to suit room</li><li>- Optional lectern (freestanding or tabletop model)</li><li>- Optional 1-2 storage credenza(s)</li><li>- Optional 1-2 storage armoire(s)</li></ul> <p>Fit up such that several seats (on each side) and the presenter’s zone are barrier-free. Consider marking rooms best suited to barrier-free users as such in the booking system.</p>	
Equipment		<ul style="list-style-type: none"><li>- Main audiovisual for side 2: microphone system, speakers, extra-large display (option for interactive monitor / smart board), or projector c/w retractable motorized projection screen with switch</li><li>- Secondary audiovisual for side 2: speakers, large or extra-large display (option for interactive monitor / smart board), or projector c/w retractable motorized projection screen with switch</li><li>- Additional displays are permitted</li><li>- Teleconferencing equipment (optionally 2 sets)</li><li>- Videoconferencing equipment (optionally 2 sets)</li><li>- Optional whiteboard(s) and/or tackboard(s)</li></ul>	

<i>B8</i>		Large Meeting Room – 60.0 m²	
SECURITY REQUIREMENTS			
	Operational Zone		
DRAWING			

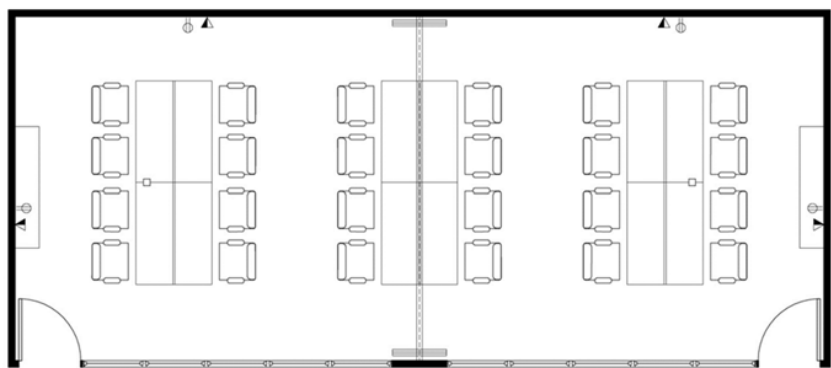
Option 1



GCworkplace example 1



GCworkplace example 2

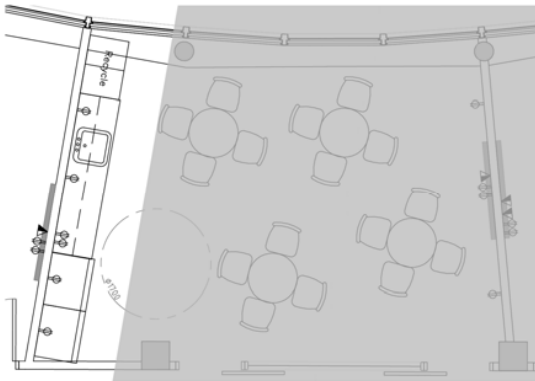
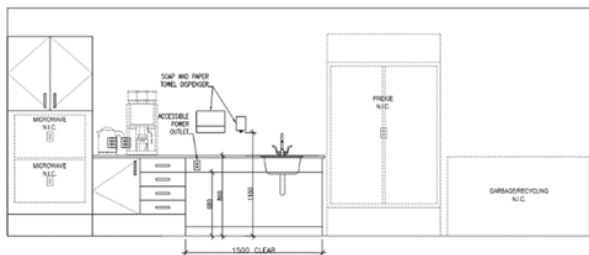


<b>B9 Kitchenette – 15.0 m<sup>2</sup></b>	
<b>Functional Description</b>	Kitchen facilities for use by employees for food storage and preparation. Casual posture.
<b>Space Allocation</b>	Area accommodates average storage requirements, recycling center and trash as well as space for Tenant equipment. Assigned by population on the full floor:  <b>50-150 occupants:</b> 15.0 m <sup>2</sup> , 3.5 to 5 m of millwork, 1-2 refrigerator(s), recycling centre.
<b>Area/Dimensions</b>	<b>Provided:</b> 12.5 to 15.0 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> see Space Allocation above
<b>Location</b>	Interactive Zone; on main corridor; colocated with Lounge area for dining. Ensure visual separation from workstations.
<b>Occupancy</b>	Not included in occupancy calculation
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
<b>ARCHITECTURAL REQUIREMENTS</b>	
<b>Floors and Base</b>	Resilient sheet or tile. Base treatment to suit flooring.
<b>Walls and Windows</b>	<b>Walls:</b> <ul style="list-style-type: none"> <li>- Slab to underside of ceiling w/ insulated cavity</li> <li>- Paint finish. Ceramic tile backsplash behind sink.</li> <li>- Reinforcement to support cabinetry, A/V equipment, whiteboards, and tackboards</li> <li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li> </ul> <b>Glazing:</b> <ul style="list-style-type: none"> <li>- Optional sidelight maximum 457 mm wide, height to match door, film application to comply with GCworkplace and CAN/CSA B651-18</li> <li>- Glazed partitions to allow penetration of natural light are encouraged if they meet other requirements</li> </ul>
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	May be open or semi-enclosed, but entrance doors are not normally provided
<b>Millwork</b>	Custom grade construction or modular units (at comparable cost). Standard finish for countertop. Engineered products and local millwork products may be considered for vertical surfaces or as substrates, if available at comparable cost. Local millwork products include but are not limited to: stain or paint grade. No added Urea Formaldehyde Medium Density Fiberboard (MDF), No Added Urea Formaldehyde particleboard, composite.
<b>Acoustics</b>	Open or semi enclosed; low acoustic privacy
<b>Specialties</b>	N/A
<b>Signage</b>	Digital, to suit tenant's signage standard

B9		Kitchenette – 15.0 m²	
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.		
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality Provide kitchen exhaust fan to with local switch. Exhaust shall not return to the base building air system but can be exhausted to exterior through a heat recovery system.		
Acoustics	Low. Provide soundmasking system.		
Controls	Temperature Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned Humidity Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned  Base building open office zone controls to suit tenant layout and orientation. typical. If fully enclosed, dedicated controls are required.		
Plumbing	Hot water, cold water, drain and vent piping for kitchen sink.		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- Standard dedicated duplex receptacle(s) to suit quantity of refrigerators and microwaves</li><li>- Standard split circuit duplex receptacle(s) for other appliances, to suit client requirements</li><li>- Additional electrical power as required for kitchen exhaust fan and controls.</li><li>- Special electrical outlets may be required for vending machines.</li></ul>		
Emergency/UPS	N/A		
Lighting	Relocate Base building lighting to suit tenant layout. Provide under cabinet linear task lighting.		
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at counter surface.		
Controls	Motion sensor. One separate switch /light control for under cabinet lighting.		
BUILDING CONNECTIVITY			
Network	Provide wireless capability		
Multimedia	N/A		
COMPONENTS			
Furniture	<ul style="list-style-type: none"><li>- Freestanding furniture.</li><li>- Recycling/waste center to have 4 separate compartments divided</li></ul>		



<b>B9</b>		<b>Kitchenette – 15.0 m<sup>2</sup></b>	
		- Recycling/waste bins to be accessible from the front of unit with doors	
<b>Equipment</b>		- Refrigerators as detailed under Space Allocation above - 1+ microwave(s) - Toaster, kettle, coffee machine	
<b>SECURITY REQUIREMENTS</b>			
		Typical Operational Zone	
<b>DRAWING</b>			

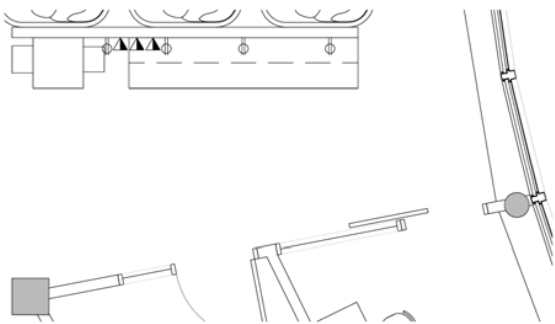
**Provided****GCworkplace example**

B10		Equipment Area – 5.0 m <sup>2</sup>
Function	Business Centre with office supplies. Functions can include: supply storage, mail drop off/pick up, using multi-functional devices (high speed printers, scanner, fax, copier machines), shredding, paper recycling, collating, and document binding and assembly. Low visual privacy.	
Space Allocation	One Equipment area for every 25-50 target population (or approximately 500 m <sup>2</sup> of floor area). Quantity equal to 1.8% of the population. Minimum of one that is enclosed or semi-enclosed per floor, with supply storage and a collating surface.	
Area/Dimensions	<b>Provided:</b> 6.1 to 11.4 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 5.0 m <sup>2</sup> average	
Location	Transitional or Interactive Zone. Near main corridor with distance from open office workstations. Evenly distributed with one near meeting rooms.	
Occupancy	Not included in occupancy calculations	
Time of Use	Normal office hours in short spans of time (not full time)	
ARCHITECTURAL REQUIREMENTS		
Floors and Base	Resilient sheet, tile or base building carpet tile. Base treatment to suit flooring.	
Walls and Windows	Typically semi-enclosed to reduce noise.  <b>Walls:</b> <ul style="list-style-type: none"><li>- Slab to underside of ceiling, insulated cavity, nominally STC 35</li><li>- Paint or unfinished to suit substrate</li><li>- Blocking as required to support cabinetry, whiteboards, and tackboards</li><li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li></ul> <b>Glazing:</b> not recommended	
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system	
Doors, Frames, Hardware	May be open or semi-enclosed but entrance doors are not provided	
Millwork	Millwork for upper and lower cabinets with adjustable shelving and drawers. Custom grade construction or modular units (at comparable cost). Standard finish for countertop. Engineered products and local millwork products may be considered for vertical surfaces or as substrates for, if available at comparable cost. Local millwork products include but are not limited to: stain or paint grade plywood, No added Urea Formaldehyde Medium Density Fiberboard (MDF), No Added Urea Formaldehyde particleboard, composite.	
Acoustics	Low Open office environment	
Specialties	N/A	
Signage	To suit tenant’s signage standard	

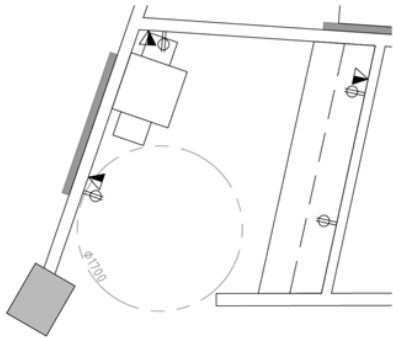
B10		Equipment Area – 5.0 m²	
MECHANICAL REQUIREMENTS			
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.		
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality.		
Acoustics	Low – Provide Soundmasking system		
Controls	Temperature Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Humidity Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Base building open office zone controls to suit tenant layout and orientation. Typical.		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	<ul style="list-style-type: none"><li>- 4 standard electrical duplex receptacle(s) (3 circuits)</li><li>- Additional electrical power may be required to suit equipment</li></ul>		
Emergency/UPS	N/A		
Lighting	Relocate Base building lighting to suit tenant layout		
Level(s)	300 lux. Provide supplementary task lighting to achieve 500 lux at counter and machine work surface.		
Controls	1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			
Cable Management Network	<ul style="list-style-type: none"><li>- 3 image/voice/data outlet(s)</li><li>- Additional outlets as required to suit equipment</li><li>- Client to provide actual connectors and jacks, typically RJ45 with multiple jacks</li></ul>		
Multimedia	N/A		
COMPONENTS			
Furniture	N/A		

<b>B10</b>		<b>Equipment Area – 5.0 m²</b>	
<b>Equipment</b>	<ul style="list-style-type: none"><li>- Multi-functional devices such as MFD printer, MFP printer (GCSi)</li><li>- Optional separate scanner, fax, printer</li><li>- Optional plotter</li><li>- Freestanding shredder</li><li>- Freestanding large recycle bin</li><li>- Cork wall notice board with trim</li><li>- Optional Mail unit (freestanding furniture or built-in)</li></ul>		
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			

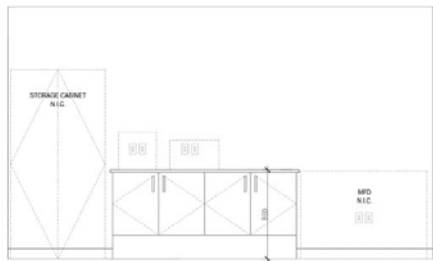
Open



Semi-enclosed



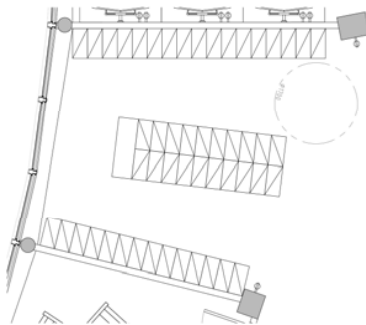
GCworkplace example



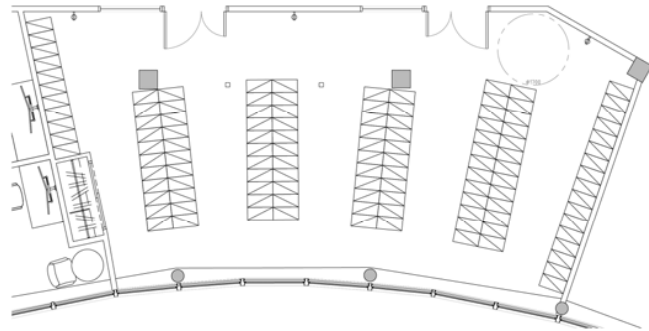
B11		Locker Area – 0.5 m² / FTE
Function	Individual storage lockers in a centralized area, with coat closet(s) and/or visitor lockers. May be assigned or unassigned. Storage options to accommodate winter clothing. Low visual privacy.	
Space Allocation	Quantity of lockers equal to the target population, plus additional lockers and/or closet space for visitors. Per floor, 1.5 m² of visitor closet space per nominally 100 persons.	
Area/Dimensions	<b>Provided:</b> 0.5 to 0.9 m² / occupant ; dimensions vary <b>Fit-up standard:</b> 0.5 m² average	
Location	Transitional Zone or Interactive Zone; near main corridor, elevators and meeting rooms	
Occupancy	Not included in occupancy calculation	
Time of Use	■ Normal Business Hours □ 24 / 7	
ARCHITECTURAL REQUIREMENTS		
Floors and Base	Resilient sheet, tile or base building carpet tile. Base treatment to suit flooring.	
Walls and Windows	May be open or semi-enclosed  <b>Walls:</b> <ul style="list-style-type: none"><li>- Slab to underside of ceiling gypsum board assembly to nominally STC 35</li><li>- Paint or unfinished to suit substrate</li><li>- Blocking as required to support closet rods and shelves</li><li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li></ul> <b>Glazing:</b> Optional	
Ceilings	Base building standard –suspended lay in acoustical ceiling tile in grid system	
Doors, Frames, Hardware	N/A	
Millwork	Closet rod and 300 mm deep painted shelf. Provide for barrier-free rods and shelves.	
Acoustics	Low	
Specialties	Provide a variety of locker types and sizes for different worker types with integrated programmable locks.	
Signage	To suit tenant’s signage standard. Room signage and locker numbers.	
MECHANICAL REQUIREMENTS		
Temperature and Humidity	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.	
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality	
Acoustics	Low. Provide sound masking system	

B11		Locker Area – 0.5 m² / FTE	
Controls	Temperature Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Humidity Controls: <input type="checkbox"/> Dedicated <input checked="" type="checkbox"/> Zoned Base building open office zone controls to suit tenant layout and orientation.		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	1 standard electrical duplex receptacle(s) per 15 m² for cleaning equipment		
Emergency/UPS	N/A		
Lighting	Relocate Base building lighting to suit tenant layout		
Level(s)	300 lux		
Controls	<ul style="list-style-type: none"><li>- <b>Semi-enclosed:</b> 1 separate switch/light control and motion sensor</li><li>- <b>Open office:</b> divided into zones approximately 225 m² for controls. Controls should be located on core area walls, on permanent corridor walls or on columns or microprocessor control with motion sensors.</li></ul>		
BUILDING CONNECTIVITY			
Cable Management Network	Provide wireless connectivity		
Multimedia	N/A		
COMPONENTS			
Furniture	<ul style="list-style-type: none"><li>- Lockers in a variety of types and sizes to suit worker types. Full height, stacked. Combination locks that can be set by each user preferred.</li><li>- Benches</li></ul>		
Equipment	n/a		
SECURITY REQUIREMENTS			
	Typical Operational Zone		
DRAWING			

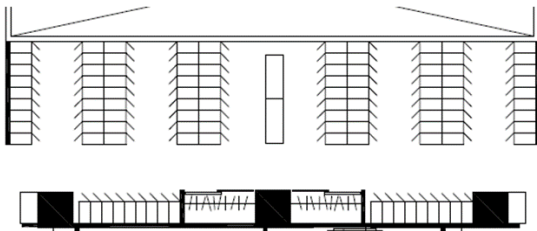
**Semi-enclosed**



**Quiet floor**



**GCworkplace example**



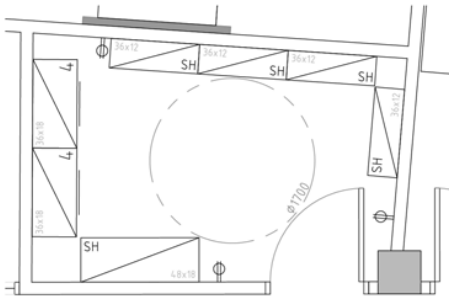
<i>B12</i> <b>Storage Room – 10.0 m<sup>2</sup></b>	
<b>Functional Description</b>	Optional storage room as identified to meet specific client storage requirements for bulk items, references, resources, files etc. with limited security requirements. May require structural ability to support floor loading for fixed and mobile shelving.
<b>Space Allocation</b>	Quantity equal to 0.5% of the population.
<b>Area/Dimensions</b>	<b>Provided:</b> 9.2 to 13.0 m <sup>2</sup> ; dimensions vary <b>Fit-up standard:</b> 10.0 m <sup>2</sup> average
<b>Location</b>	Main corridor
<b>Occupancy</b>	Not included in occupancy calculations
<b>Time of Use</b>	■ Normal Business Hours □ 24 / 7
<b>ARCHITECTURAL REQUIREMENTS</b>	
<b>Floors and Base</b>	Base building carpet tile. Base treatment to suit flooring. Built up floor as required and provide ramp transition to support mobile shelving running tracks if mobile storage systems are required.
<b>Walls and Windows</b>	<b>Walls:</b> <ul style="list-style-type: none"> <li>- Slab to underside of ceiling w/ insulation and plenum barriers</li> <li>- Paint or unfinished to suit substrate</li> <li>- Demountable partitions are acceptable if they meet requirements and provide the best environmental and economic value to the Crown</li> </ul> <b>Glazing:</b> not recommended
<b>Ceilings</b>	Base building standard –suspended lay in acoustical ceiling tile in grid system
<b>Doors, Frames, Hardware</b>	<b>Doors:</b> <ul style="list-style-type: none"> <li>- SCW, wood veneer, natural (stain) or paint finish, 965 mm wide by min. 2135 mm high. Vision panel of clear tempered glazing with optional glazing film.</li> <li>- Doors must meet CAN/CSA B651-18, Fire Codes, and Building Codes</li> </ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Storage room function lockset
<b>Millwork</b>	N/A
<b>Acoustics</b>	Low STC 35
<b>Specialties</b>	May include mobile high-density shelving
<b>Signage</b>	To suit tenant's signage standard
<b>MECHANICAL REQUIREMENTS</b>	
<b>Temperature and Humidity</b>	Comply with ANSI/ASHRAE Standard 55 - Thermal Environmental Conditions for Human Occupancy.



B12		Storage Room – 10.0 m <sup>2</sup>	
Ventilation	<ul style="list-style-type: none"><li>- ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality</li><li>- Supply and return air elements.</li><li>- Return air transfer fan c/w on/off switch for full height partitions</li></ul>		
Acoustics	Low STC 35		
Controls	Temperature Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned Humidity Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned  <b>Interior:</b> <ul style="list-style-type: none"><li>- Individual thermostat control c/w dedicated terminal unit</li></ul> <b>Perimeter (where required):</b> Individual thermostat control for terminal units and perimeter system (induction units)		
Plumbing	N/A		
Life Safety	Sprinklers: <input checked="" type="checkbox"/> Wet Type <input type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input type="checkbox"/> Heat Detection All to Base Building Standard  Building sprinkler, standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	3 standard electrical duplex receptacle(s) (2 circuits). Connections for electrically assisted mobile shelving system.		
Emergency/UPS	N/A		
Lighting	Relocate Base building lighting to suit tenant layout.		
Level(s)	300 lux		
Controls	1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			
Cable Management Network	Provide wireless capability.		
Multimedia	N/A		
COMPONENTS			
Furniture	<ul style="list-style-type: none"><li>- Shelving and/or secure filing cabinets</li><li>- Optional high-density mobile shelving</li></ul>		
Equipment	N/A		
SECURITY REQUIREMENTS			

<i>B12</i>	<b>Storage Room – 10.0 m<sup>2</sup></b>
	Secure or Operational Zone. May require monitoring or intrusion detection depending on monetary value or security level of contents
DRAWING	

Provided

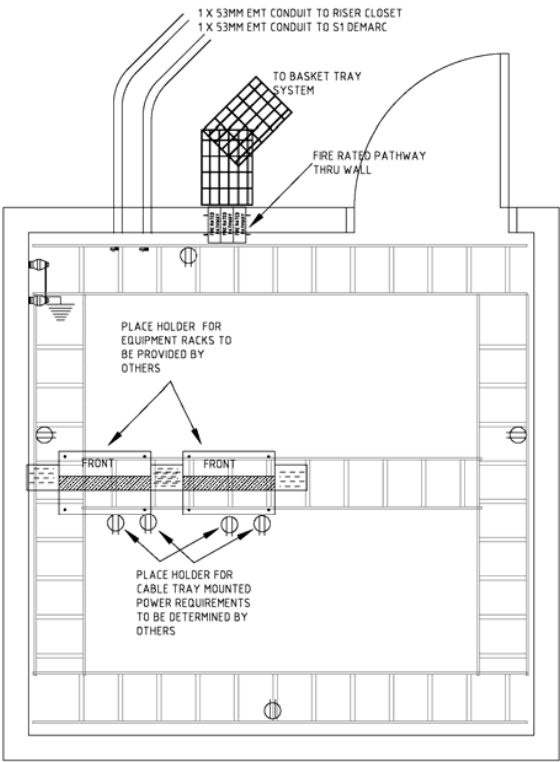


B13		Telecom Room – 10.0 m <sup>2</sup>	
Functional Description	Built and serviced room for the provision of telecommunications for tenant services. Houses main riser or connection to main riser, equipment racks, panels and switchgear. Design to be reviewed and approved by Shared Services Canada		
Space Allocation	Quantity 1 per floor preferably centralized and stacked.		
Area/Dimensions	<b>Provided:</b> 6.8 m <sup>2</sup> (proposed new room in building core) <b>Fit-up standard:</b> 10 m <sup>2</sup> average; must have minimum 3 m x 3 m clear interior space		
Location	Central within or near the core area, stacked and adjacent to primary corridor		
Occupancy	Not included in occupancy calculations		
Time of Use	Normal office hours. Equipment must be capable of operating 24/7.		
ARCHITECTURAL REQUIREMENTS			
Floors and Base	Static dissipative resilient flooring. Rubber base.		
Walls and Windows	<b>Walls:</b> <ul style="list-style-type: none"><li>- Full height slab to slab construction</li><li>- Apply 2.4 m high 19 mm thick plywood backer board painted with 2 coats nonconductive white fire-retardant paint to interior face of all walls</li><li>- All joints screw and nail holes are to be caulked and / or covered</li><li>- Walls shall be left clear for mounting of communication equipment</li></ul> <b>Glazing:</b> not permitted		
Ceilings	No ceiling. Provide free open plenum space. Paint underside of slab white.		
Doors, Frames, Hardware	<b>Doors:</b> <ul style="list-style-type: none"><li>- Hollow metal, paint finish, 965 mm wide by min. 2135 mm high</li><li>- Door to swing out of room to permit maximum use of room and wall space</li><li>- Doors must meet CAN/CSA B651-18, Fire Codes, and Building Codes</li></ul> <b>Frames:</b> Pressed Steel, paint finish <b>Hardware:</b> Storage room function lockset		
Millwork	Backer boards as noted above under wall description		
Acoustics	Medium STC 35		
Specialties	Suspended Cable trays and equipment racks		
Signage	To suit tenant’s signage standard		
MECHANICAL REQUIREMENTS			
Temperature and Humidity	TR to have a climate control system with an individual control to meet environmental performance requirements, such as temperature, relative humidity and heat dissipation, as stated in the BICSI telecommunications distribution methods manual, Proper size and type of cooling unit to be established by engineer based on input from LAN/WAN service lines.		

B13		Telecom Room – 10.0 m <sup>2</sup>	
Ventilation	ASHRAE 62-2013 Ventilation for Acceptable Indoor Air Quality. Requires 24/7 ventilation/ cooling.		
Acoustics	N/A		
Controls	Temperature Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned Humidity Controls: <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Zoned  Individual thermostat control c/w dedicated terminal unit		
Plumbing	N/A		
Life Safety	Sprinklers: <input type="checkbox"/> Wet Type <input checked="" type="checkbox"/> Dry Type <input type="checkbox"/> Pre-action <input type="checkbox"/> Deluge Detectors: <input checked="" type="checkbox"/> Smoke Detection <input checked="" type="checkbox"/> Heat Detection Building standpipe and hose systems, extinguishers, fire alarm systems, all areas (Base Building standard). Sprinkler heads to suit room layout.		
ELECTRICAL REQUIREMENTS			
Power	15 amp, 120 volt duplex powered receptacles on dedicated circuits mounted at 150 mm AFF and spaced at 1.8 meters around the perimeter walls  Additional power for equipment racks as required.  100 mm wide by 6 mm thick predrilled electro tin plated copper telecommunications main grounding bus bar (TGB), mounted on insulated supports. Length to be determined based on the extent of bonding and grounding of equipment and support structures. Bus bar to be complete with NEMA bolt hole sizing and spacing for two-hole connectors. Locate bus in the proximity of the service entrance ducts.		
Emergency/UPS	Yes		
Lighting	Relocate Base building lighting to suit tenant layout.		
Level(s)	500 lux		
Controls	1 separate switch/light control and motion sensor		
BUILDING CONNECTIVITY			
Cable Management Network	<ul style="list-style-type: none"><li>- Two 53 EMT conduits for Riser and Demarcation point</li><li>- 300 mm wide ladder type cable tray system around perimeter of room and above equipment racks. Bond to the TGB.</li></ul>		
Multimedia	To be determined by tenant and Shared Services Canada		
COMPONENTS			
Furniture	N/A		

<b>B13</b>		<b>Telecom Room – 10.0 m²</b>	
<b>Equipment</b>	Telecommunications switches, panels and rack mounted devices provided by Shared Services Canada to suit tenant requirements		
SECURITY REQUIREMENTS			
	Secure Operational Zone. Access controlled. Office Lock set function.		
DRAWING			

Example



## 4 Planning and Design Guidelines

### 4.1 Federal Tenant Fit-Up Standards

PSPC is committed to providing safe, healthy and productive workplaces, within a framework that provides for the consistent, equitable and efficient use of space. Government of Canada GCworkplace Fit-up Standards have been developed with these goals in mind. The standards have evolved over time with prevailing industry trends in work place accommodation and design, and technology improvements that provide mobility and reduced equipment sizes.

The GCworkplace calculators target a maximum density of 12 m<sup>2</sup> per person and an unassigned seating planning model.

Federal tenant fit-up standards are intended to

- Achieve cost-effective and timely delivery of accommodation and accommodation services,
- Clearly define accountabilities,
- Improve understanding of PSPC's real property provision i.e. "bundle of goods";
- Ensure equity and consistency in federal accommodation, (common look and feel),
- Incorporate the fundamental aspects of environmental sustainability and supportive work environments, and
- Demonstrate value to Canadian citizens through improved management of federal accommodation.

In addition to office accommodation, fit-up standards also apply, in spirit and intent, to special purpose space (SPS); however, it is understood that these spaces have special requirements. Their design is based on functional requirements which are defined by existing special purpose space information, workflows and occupant capacity requirements and technical performance requirements which are documented in unit space data sheets in client specific functional programs.

This report uses GCworkplace accommodation standards and identifies locations most suitable within the building for General office and Special Purpose space. See Division 3 Design Concept Section 3.1 Vertical Stacking for the proposed locations.

#### **Funding Accountabilities**

The Context for this report is a GCworkplace fit-up for a yet to be determined client in a fully rehabilitated classified heritage building. As long-term leases are an encouraged sustainability goal it is assumed that the new fit-up would be occupied for a period of 15 years.

The GCworkplace fit-up standards define the funding accountabilities between PSPC and the tenant department. Most federal government departments are non-reimbursing tenants in PSPC custodial space. Exceptions apply for special purpose space. The Base building provisions are generally funded by PSPC and are clearly documented in the GCworkplace Fit-up Standards dated March 2019.

## 4.2 General Office Space

The general office space will be fit up in the context of the building rehabilitation that will be designed to meet both heritage and sustainability goals for the building. Accordingly, base building decisions may impact interior fit-up options and decisions.

The GCworkplace Fit-up Standards describes general office space as including those areas required to accommodate workers individually or collaboratively with their required shared support space.

- Unassigned individual workspaces include workpoints like workstations; touchdown stations, focus pods, focus rooms, studies, reflection points, phone booths and active workstations.
- Collaborative spaces include chat points, huddles, teaming areas, lounges work rooms, project rooms and meeting rooms.
- Shared support spaces include Lockers, equipment areas, kitchenettes, shared storage and tenant telecom rooms. Custom individual workpoints can be provided to meet unique requirements for individuals with special needs and a duty to accommodate

The 2019 GCworkplace Workbook provides space allocation formulae based on organizational profiles. It proposes distributions of types of work settings based on the organizational profile selected, namely Autonomous, Balanced and Interactive. These may be modified somewhat provided the area allocation envelope of 12 m<sup>2</sup> per person is not exceeded. The functional programming activities under this new model must include determining the most appropriate profile for the given organization. PSPC has just launched on GCpedia design consultation/ online survey tools for the information gathering required to determine the appropriate profile or a variation on any one to suit a specific population. This survey focuses on types, duration and location of worker activities and the technological tools to support their work.

This report uses the balanced profile in the GCworkplace workbook as recommended by Workplace Solutions assuming that it will be the most applicable to the widest range of federal clients. In addition, an autonomous profile is illustrated in Appendix A based on the April 2018 version of the GC workplace workbook.

The GCworkplace Fit-up Standards also describe the “bundle of goods” provided by PSPC in various funding accountability scenarios.

The application of these fit-up standards assumes that the fit-up will have state of the art technological support permitting full mobility of workers and access to online document storage.

The general office space up will include

- Base building carpet; resilient sheet or tile in kitchenette and shared equipment areas
- Paint or unfinished to suit substrate
- Base building lighting with separate switching in closed and semi-enclosed spaces
- Individual thermostat control c/w dedicated terminal unit (VAV box, fan coil unit) in all enclosed spaces
- Base building lighting in open areas.
- Workstation panel, complete with integrated power distribution systems. Panels, if selected that meet the requirements of CAN/CGSB-44.229 and the Purchase Description for Interconnecting Panels and Supported Components published by the Acquisitions Branch,
- Maximum height of panels, 1320 mm to 1,370 mm (52” to 54”).
- All panels to be fabric upholstered, with fabric manufactured from recycled or other sustainably sourced materials. Frosted glass panel upper elements may be used to provide for more light transference and openness.
- Electrical power module duplex or triplex. (1 per workpoints),
- Cat 6 cable 1 RJ45 multi-media connector (voice/video/data) will provide for 3 connections in one termination device.

*General Office Support Space*

General office support space is assigned in proportion to the population of workers accommodated in a floor plate as set out in the GCworkplace Fit-up standards (GCWP FUS). This is a standard endorsed and mandated through Treasury Board for all government organizations acquiring new accommodations. It includes planning formulae for typical general office support spaces allocated by population and floor. The spaces include small, medium and large meeting rooms, equipment areas, kitchenettes, and telecom and other storage or dedicate support spaces required to suit a client's specific requirements

*Special Purpose Space*

Special purpose space is a non-standard or "non-recurring" space (area not typically found in all offices) which is required by a department to accommodate activities that are unique and essential to the delivery of departmental programs. This area is not normally required by all departments.

However, a department may have a recurring requirement for a specific special purpose space in locations across the country. For example: extensive mail room and processing space in all Revenue Canada Taxation Centres, public service areas for HRDC Human Resources Centres, Weather Service Centres for Environment Canada. Some SPS is located in facilities categorized "highest and best" office (e.g. Conference Centre at Place du Portage IV, judicial hearing rooms for the Tax Court at Centennial Towers). Other SPS are accommodated in special purpose facilities designed and fitted up for its intended use (e.g. laboratory, off-site warehouse). Special Purpose Spaces may include, but are not limited to, the following: laboratory, medical centre or clinic, processing space, off-site warehouse, very large central file storage, trade shop, central mail processing centre, weather station and judicial hearing room.

Special Purpose space, depending on its type and operational requirements, and in accordance with the Special Purpose Space Guidelines, can be in below grade in basement space. The basement space in 1500 Bronson once accommodated a cafeteria. Larger spaces such as departmental boardrooms, large scale conferencing, auditorium, or training facilities are ideally located where uninterrupted structural spans exist to limit obstruction of sight lines. The design of the 6<sup>th</sup> floor southwest wing provides some uninterrupted space.



### 4.3 Tenant Fit-Up Guidelines and Requirements

#### *General Requirements*

The fit-up must comply with all applicable laws, acts, regulations, and codes whether federal, provincial, municipal or regional, including, but not limited to, the most recent editions of

1. The National Building Code of Canada (NBC)
2. The National Fire Protection Association (of Canada) NFPA as referenced in the NBC
3. Canada Labour Code - Part II (Labour Code)
4. Canada Occupational Safety and Health Regulations (COSHR)
5. Canadian Environmental Protection Act.
6. Federal Identity Program
7. Applicable municipal by laws
8. Codes referenced in other sections of this Division

Unless otherwise indicated by the contents of this Division, the planning and design standards will further be in accordance with the

1. PSPC authored Government of Canada Fit-up Standards GCworkplace Technical Reference Manual dated March 2019
2. Canadian Standards Association's Accessible Design for the Built Environment B651-2018
3. ISO 9241, Ergonomic requirements for office work with visual display terminals (VDTs) – Part 11: Guidance on usability
4. TBS Fire Protection Standard

It is PSPC policy that all building projects be submitted for building permit, therefore the Ontario Building Code (OBC) is applied.

The OBC is based on the National Building Code which constitutes the model code nationally. However, the OBC contains variations from the NBC and where such variances occur, the federal government direction is to adhere to the more restrictive requirement except where compliance with the OBC would contravene the NBC. Where differences exist between the two codes and neither can be identified as the more stringent then, the provisions of the NBC to prevail.

Accordingly, any general office tenant fit-up project would usually be subject to review by:

1. Centre of Expertise –PSPC which is the Technical Authority for federally owned and occupied buildings.
2. City of Ottawa – Building Branch which is the municipal technical authority for plan reviews and permit applications.

The OBC was amended on 1 January 2015 to provide for increased clear door opening widths from 850 mm to 860 mm. As these requirements are now more stringent than the NBC, they have been applied on federal government fit-up projects. Typical door widths are increased to 965 mm wide from the more standard 915 mm to comply with the clear opening width requirements of 860 mm.

As a federal institution PSPC is mandated to use the TBASRP (Treasury Board Accessibility Standard for Real Property) and CSA B651 is the minimum requirement for accessibility. The crown in any fit-up will want to comply with OBC in Ontario to obtain a Construction permit and to respect the good neighbour policy. The OBC requirement continues to be more stringent than the newer CSA B651 (2018) in some respects, for example accessible water closet stall size. The CSA B651 – 2018 is more stringent in some respects such as the clearance required outside an accessible water closet stall. The presence of original washrooms in the wing ends with access from exit stairs presents some code challenges that require careful consideration and balance with accessibility requirements, health and safety and egress requirements and heritage considerations.

The federal government recommends working closely with provincial and municipal institutions to avoid any kind of conflict related to the issuance and payment of permits.

#### *Interior Wall Construction*

Typical interior partitions will be constructed based upon acoustic and security performance requirements. Where acoustic performance requirements are low, modular demountable wall systems, designed for disassembly, should be considered to ease future organizational change, to reduce duration of demolition and construction time and to reduce quantity of materials sent to landfill; As noted in the fit-up standards *“These systems need to be reusable and flexible (e.g., capacity to modify one element with minimal disruption to the rest of the wall system). Such systems to be considered as an option for partitions when they can meet client program requirements and provide the best environmental and economic value to the Crown.”* Use of wall protection such as chair rails or corner guards, should be limited to high traffic areas. Wall types will be in accordance with the GCworkplace fit-up standards as follows and modified only as required by the tenant’s Threat and Risk Assessment (TRA) and Security Design Brief (SDB) Requirements. The selection and application of wall types will be confirmed during the tenant’s design process. (STC) in the context below means Sound Transmission Class.

#### WALL TYPE 1- STC 45

**Description:** slab to underside of ceiling with insulation and plenum barriers (enhanced speech privacy, approximates STC 45).

**Application:** Legal Counsel, Labour Relations, Focus rooms that may be used for conversations and meetings, typical meeting and quiet rooms and similar functions.

#### WALL TYPE 2- STC 52

**Description:** slab to slab construction with insulation (approximates STC 52).

**Application:** rooms requiring secure speech privacy as determined by a Threat and Risk Assessment (TRA) and a Security Design Brief (SDB)

Secure Fax rooms also require slab to slab construction.

#### WALL TYPE 3- STC 35

**Description:** slab to underside of ceiling with insulation (standard speech privacy approximates STC 35).

**Application:** shared equipment areas, kitchenettes and similar functions.

#### WALL TYPE 4- SECURE SSR

**Description:** slab to slab construction with insulation and metal mesh or other security barrier compliant with RCMP guideline for Secure Room SR1. This may apply to demising walls separating tenants from each other tenants where they share a floor area. Fire rating and/or acoustic performance requirements may apply as identified by the DSO in a Security Design Brief.

**Application:** Secure work room or Secure Storage room.

WALL TYPE 6: SECURE WALL (SKIF) to CSE standards. Wall types and construction and inspection requirements as defined by RCMP and CSE. Consultation with RCMP and CSE is required to obtain prescriptive or performance requirements.

**Application:** Secure Discussion Area, SKIF.

#### *Door Hardware*

All hardware will meet accessibility requirements and should therefore be mortise lock with lever-type handle on entry doors. Typical doors and hardware will be provided based upon client requirements during the ‘Design Development’ stage.

*Interior Finishes*

Given the federal government general office use of the building, and the intended long duration occupancy by the crown, finishes should be selected to comply with the Fit-up Standards: Technical Reference Manual. Interior finishes are to be selected for their durability, low maintenance, recyclability, low embodied energy and low toxicity. Standard materials are of a mid-range quality and selected to attain sustainable design goals including and provide best value for money based on a fifteen-year life-cycle cost analysis. Exceptions to these recommendations below are noted in Special Purpose Space Unit Space Data Sheets where required. All finishes are to be selected as part of the conservation plan to be developed during the design stage for this Classified Designated Heritage Building.

**DURABILITY AND RECYCLABILITY**

Durable materials will reduce cost associated with maintenance and the amount of materials that will end up in a landfill. It is recommended that the fit-up achieve LEED CI Silver. As such, materials with a high recycled content and ones that are easily recycled are preferred.

**LOW EMBODIED ENERGY**

Materials that are produced within 500 km of Ottawa are preferred for this fit-up to contribute towards achieving LEED CI Silver.

**TYPICAL COLOUR**

Light colours are recommended to achieve higher light reflectance values. Middle tones in video conferencing facilities which are more suitable for visibility. Accent colours should be used to assist with wayfinding and to cue quiet or collaborative zones. Strong contrasts between vertical and horizontal surfaces will assist the visually impaired with spatial navigation.

**TYPICAL MILLWORK**

According to Government of Canada Workplace 2.0 Fit-up Standards, standard plastic laminate is to be selected for countertops. Alternatives such as engineered wood products and local wood millwork products may be considered for vertical surfaces or a substrate for plastic laminate if available at a comparable cost. Local wood millwork products include: stain or paint grade solid wood, no Added Urea Formaldehyde Medium Density Fiberboard (MDF), no Added Urea Formaldehyde particleboard, composite wood and wood veneer. To ensure environmental sustainability, and to achieve LEED CI Silver, sourcing wood from sustainably managed forests such as those under the Forest Stewardship Council International (FSC International) should be considered where available.

**TYPICAL WALL FINISHES**

Use paint with low levels of volatile organic compounds (VOC's). Limit use of wallcoverings, to high traffic areas.

**TYPICAL FLOOR FINISH**

Base building carpet tile with high recycled content should be used typically. Use static dissipative resilient tiles within Telecommunications (IT) rooms. Modifications to base building floor finishes to enhance way finding in major circulation paths (carpet inserts) to a maximum 10% of floor area. Carpet selection should be checked against most current version of PSPC Specifications for carpet selection.

**OTHER FLOOR FINISHES**

Resilient flooring, safety flooring, epoxy or ceramic tile is used for public or high-traffic areas. Resilient flooring may also be used in kitchenettes and storage areas. Painted concrete is suitable in service or storage areas. Depending on the base building and tenant fit-up vision to achieve sustainability targets, sealed, stained or painted concrete may be used in other areas as well in collaboration with the tenant occupant.

**WALL BASE**

Treatment selected will suit the floor finish used.

**TYPICAL CEILING FINISHES**

Typically, ceilings may be finished with acoustic tile as per base building decisions. Gypsum bulkheads are to be used as required to suit mechanical design or other site conditions.

## 4.4 Telecommunication Design Guidelines

### *General*

This report provides the references required to broadly guide the telecommunications planning of fit-up space for typical federal accommodations. These must be further developed and managed in consultation with Shared Services Canada.

### *Design Guidelines Coordination*

Coordinate these guidelines with all other applicable code regulations and policies. No portion of this guide should be interpreted to supersede the provisions of applicable building codes or design criteria. Where other criteria mandate more stringent requirements, the provisions of those criteria will be followed.

The recommended IT infrastructure may not conflict with the *Commercial Building Standard for Telecommunications Pathways and Spaces*, TIA 569-B, or the *Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications*, Joint Standard ANSI-J-STD-607-A-2002 (607-A).

### *Design Guidelines*

All general office, workstation and support space communications and data fit-ups to be consistent with the Government of Canada GCworkplace Design Standards. The following are the minimum communications/data requirements as referenced in GCworkplace Design Standards.

### *Telecommunications Reference Standards*

The reference standards relevant to this project are:

1. PSPC Telecommunications Standards <https://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/bi-rp/tech/telecommunications/normes-standard-eng.html>
2. Commercial Building Standard for Telecommunications Pathways and spaces, TIA/EIA 569 B plus addenda
3. Commercial Building Grounding (Earthing) and Bonding requirements for Telecommunications, Joint Standard ANSI J 607 A 2002 (607-A)
4. Generic Specification for Office Building, Telecommunications Spaces, Pathways and Grounding System, PSPC
5. Chapter A4.1 Telecommunications Infrastructure from Government of Canada GCworkplace Fit-up Standards: Technical Reference Manual
6. Building Industry Consulting Service International (BICSI) Telecommunications Distribution Methods Manual
7. Treasury Board Information Technology Standards – various including TBITS 6.9 Telecommunications Wiring Systems in Government -owned and Leased Buildings, <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=15746>

### *Communication/Data Systems Standards*

1. Communication systems infrastructure consisting of duct banks, fittings, pull boxes, cable trays, conduits, power supplies and grounding will comply with the following Codes and Standards.
  - Commercial Building Standard for Telecommunications Pathways and spaces, TIA/EIA 569 B plus addenda
  - Ontario Electrical Safety Authority.
  - See also Telecommunications, Security Infrastructure requirements in Section 4.7 Electrical Standards and Requirements.

2. Conduits for CATV cable television and security/CCTV systems will be provided throughout the fit-up as required by the tenant. Termination points and location of devices will be identified by the tenant's Accommodations Management staff project representatives.
3. Shared Services Canada has typically advised that new installations have CAT6 cable typically for secure systems. Federal tenants will also require Wi-Fi capability throughout their office accommodations to provide the mobility required to fully utilize all the GCworkplace fit-up features. The federal tenants must identify its secure network requirements.
4. The GCworkplace standards provide for
  1. Individual workstations 1 image/voice/data/outlet if required by client
  2. And to focus rooms 1 image/voice/data outlet if required by client
  3. And to studies 1 image/voice/data outlet per seat if required by client
  4. And to phone booths 1 image/voice/data outlet
  5. And to workrooms 1 image/voice/data outlet if required by client
  6. And to project rooms 1 image/voice/data outlet per workstation if required by client
  7. And to medium meeting rooms 3 image/voice/data outlets, including 1 floor mounted
  8. And to large meeting rooms 4 image/voice/data outlets, including 2 floor mounted
  9. And to equipment areas 3 image/voice/data outlets(Note: client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)

#### *Federal Tenant Requirements*

Federal tenants typically require Information Technology infrastructure and capability to support a fully modern workplace. They need to be provided with access to Wi-Fi, WebEx, RDIMS or GCdocs, Electronic Signature process and VPN to staff and consultants to permit mobile work.

#### *Government of Canada Secure Infrastructure GCSI Initiative*

The Government of Canada Secure Infrastructure (GCSI) initiative is underway at Shared Services Canada. There may be a requirement to separate networks for tenants that require access to the GCSI.

#### 4.5 Security Standards and Requirements

The Treasury Board of Canada Secretariat's Policy on Government Security applies to all departments and agencies. Appendix C Mandatory Procedures for Physical Security Control of the Directive on Security Management states as follows:

***"C.2.2 Physical security requirements and practices: Define, document and maintain departmental physical security requirements and practices:***

*C.2.2.1 For all departmental materiel, materiel held in trust by the department, and other movable assets that support government programs, services and activities, including IT assets, controlled goods, heritage assets, communications security (COMSEC) material, acquisition cards, travel cards, cash, negotiable instruments and any other valuable or sensitive assets:*

*C.2.2.1.1 Assign a security category to assets commensurate with the degree of injury that could reasonably be expected as a result of their compromise, and group, where appropriate, assets of equivalent sensitivity (see Appendix J: Standard on Security Categorization);*

*C.2.2.1.2 Identify and assess threats to which assets are exposed; and*

*C.2.2.1.3 Define and document requirements for ensuring the protection of assets under the custody or control of the department throughout their life cycle, commensurate with potential impacts of a compromise and identified threats, and in accordance with applicable legislation, policies, contracts, agreements and memoranda of understanding;"*

The following Security Reference Standards lists the reference guidelines and requirements for federal government projects.

##### *Security Reference Standards – Treasury Board Secretariat*

Security policy and operational standards that govern are prepared by the Treasury Board Secretariat. Physical protection standards for areas requiring elevated safeguarding are provided by the RCMP. Secure communications requirements are governed by the Communications Security Establishment Canada (CSEC). Typical federal office building security requirements and guidelines are provided by PSPC.

Policy on Government Security, July 1, 2019.

<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=16578>

Directive on Security Management, Issued July 1, 2019

<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32611>

##### *Security Reference Standards – RCMP*

The Federal tenant project team will need to contact their own internal Departmental Security Office to prepare a project Security Design Brief and to obtain information and approvals for planning and implementation of security program requirements. They will be guided in the preparation of the Security Design Brief by Guide G1-005- Preparation of Physical Security Briefs (01/2000).

The Government Security Policy mandates the RCMP to provide advice and guidance to departments on

- Physical protection of government documents, assets and facilities, including facilities design.
- Physical security equipment, systems, procedures and countermeasures.
- Application of physical access controls, media disposal and system monitoring.

Accordingly, the RCMP have prepared an RCMP Security Policy: A Handbook.

Below are RCMP Guide documents which provide appropriate physical protection safeguards and solutions for specific vulnerabilities and threats. These Guidelines and link so Policy Instruments can be found at the following URL

<http://www.rcmp-grc.gc.ca/physec-secmat/pubs/index-eng.htm>. Items in light grey text may have been rescinded and are no longer referenced at the above link to RCMP Guidelines.

Guide G1-001- Security Equipment Guide 08/1998

Guide G1-002- Security Lighting (08/1987)

Guide G1-003- Glazing, Issued April 2000

Guide G1-004- Construction of a Special Discussion Area (08/1998)

Guide G1-005- Preparation of Physical Security Briefs (01/2000)

Guide G1-006- Identification Cards / Access Badges, Revised July 2006

Guide G1-008- Guideline for Guard Services (04/20001)

Guide G1-009- Transport and Transmittal of Protected and Classified Information, Revised Dec. 2006

Guide G1-011- Overhead Door Specifications (09/1987)

Guide G1-012- Suspended Ceiling Systems (09/1987)

Guide G1-013 Security Control Centre Space Requirements, Issued Sept. 2006

Guide G1-014- Exterior Fixed Ladder Specification (08/1987)

Guide G1-015- Entry Controls for Overhead Doors (12/1981)

Guide G1-016- Master Key Systems (12/1981)

Guide G1-017- Hardware (02/1985)

Guide G1-018- Doors and Frames (03/1995)

Guide G1-019- Vaults (03/1985)

Guide G1-024 Control of Access, Revised August 2004

Guide G1-025 Protection Detection and Response, Issued December 2004

Guide G1-026 Guide to the Application of Physical Security Zones, Issued Sept. 2005

Guide G1-027 Guide on Tenant and Custodian Department's Physical Security Responsibilities

Guide G1-028 Security Use of Mobile Shelving, Issued September 2005

Guide G1-029 Secure Storage Rooms, Revised April 2006,

Notice: RCMP guide G1-029 Secure Rooms has been replaced by two new companion guides: G13-01 Secure Storage Room Guide and G13-02 Secure Demising Wall Guide

Guide G1-031 Physical Protection of Computer Servers, Issued March 2008

Guide G13-01- Secure Storage Room Guide (07/2013)

<http://www.rcmp-grc.gc.ca/physec-secmat/pubs/g13-01-eng.html>

Guide G13-02- Secure Demising Wall Guide (07/2013)

<http://www.rcmp-grc.gc.ca/physec-secmat/pubs/g13-02-eng.html>



*General Building Security Requirements*

The following security requirements have been identified through the review of other program documents for federal government department occupants. These must be reviewed and expanded upon by the Departmental Security Branch to prepare a security design brief for the project.

- Building access points to be kept to a minimum; a primary public entrance to the building, a primary staff entrance to the building from the parking area, garage doors and man doors to the loading bay and vehicle bays as programmed and existing.
- Other building exits as required by code to be alarmed and provided with interior panic hardware only for evacuation purposes, no exterior hardware.
- Requirement for a Commissionaire's security desk and a security control centre with monitoring equipment is provided off the main public entrance.
- Card-readers, locksets and alarm contacts to be provided as identified in Sections 3.3.1 through 3.3.7 inclusive.

The security recommendations noted above and identified in Sections 3.3.1 through 3.3.7 inclusive will need to be verified and expanded upon through the preparation of a site-specific Threat Risk Assessment and Security Design Brief to be prepared by Departmental Security Officer. These documents will also

- Identify the level of reinforcement and/or hardening that may be required for all or part of the program areas.
- Determine additional surveillance and monitoring requirements.

#### 4.6 Mechanical Standards and Requirements

The following are the minimum mechanical requirements for a GCworkplace compliant fit-up.

##### *Fire Protection*

- 1 Fire protection systems to be designed in accordance with the most current edition of the following:
  - 1 National Fire Code and Ontario Building Code
  - 2 National Fire Protection Association
  - 3 Treasury Board Guidelines
- 2 Single interlock, dry pipe pre-action sprinkler systems to be provided in server/computer rooms.

##### *Plumbing*

- .1 Plumbing systems to be designed in accordance with the most current edition of the following:
  - .1 National Building Code and Ontario Building Code
  - .2 CSA Standards
- .2 Tenant plumbing fixtures to be water efficient type. The following technologies to be incorporated where applicable; ultra-low flush and/or dual flush water closets; ultra-low flush urinals; low flow faucets and showers, grey water recycling for flushing,
- .3 Tenant plumbing fixtures requiring domestic hot water (i.e.: kitchen sinks) to be connected to the base building domestic hot water system.
- .4 A fuel oil storage and delivery system may need to be provided to supply new tenant emergency/back-up generators if required. The system might consist of fuel oil storage tanks, filtration, duplex pump and controller set for each tenant generator. The capacity of storage tanks for each tenant generator to be sized for a run time to be defined by the client tenant.

##### *HVAC*

#### 1. General

The HVAC systems to be designed in accordance with the following codes, standards and guidelines:

- 1 National Building Code and Ontario Building Code
- 2 Model National Energy Code for Buildings
- 3 ASHRAE Standard 52.2-2017, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size
- 4 ASHRAE Standard 55-2017, Thermal Environmental Conditions for Human Occupancy
- 5 ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality,
- 6 ASHRAE Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings
- 7 Government of Canada, GCworkplace April 2019.
- 8 PSPC -MD 15000- 2012 Mechanical and Environmental Standards for Office Buildings
- 9 PSPC -MD15161- Control of Legionella in Mechanical Systems.
- 10 PSPC -Technical Reference for Office Building Design

#### 2 Thermal Comfort Requirements

- 1 Unless noted otherwise, all spaces to be conditioned to meet the requirements of the National Building Code, ASHRAE Standard 55-2017 and as noted below. The building systems to maintain 21°C at the 2.5% winter design conditions as specified by the National Building Code and a minimum 20% relative humidity while

- providing the minimum ventilation rate defined below. The building systems to maintain 24°C at the 2.5% summer design conditions as specified by the National Building Code and a maximum 60% relative humidity, while providing the minimum ventilation rate defined below.
- 2 During unoccupied periods, the space temperature may deviate from the requirements of the National Building Code and ASHRAE Standard 55-2017 for energy conservation purposes.
- 3 Base Building Air Handling Systems
    - 1 Outdoor air ventilation to be provided during occupied periods in accordance with ASHRAE Standard 62.1-2016. The defined minimum ventilation rates for a typical office space environment are 2.5 L/s per person plus 0.3 L/s per square meter of office floor space.
    - 2 Air handling systems to have enough capacity to provide the ventilation rates as defined above during heating and cooling design day conditions and still meet the thermal comfort requirement defined above.
    - 3 Supply air to be uniformly distributed to the occupied zone to maintain adequate temperature and ventilation while maintaining air motion at velocities between 0.05 and 0.15 m/s.
    - 4 Air handling systems to have the capability of introducing 100% outdoor air when outdoor conditions are appropriate.
    - 5 Air handling systems to have building pressurization control capabilities via the building automation system.
  - 4 Base Building Heating and Cooling Systems
    - 1 In addition to the above noted Thermal Comfort Requirements, systems to be zoned in respect to exposure (perimeter zones not to exceed 4.5 m in depth).
    - 2 Systems to have the capability to modulate capacity to match load.
    - 3 Systems to be capable of intermittent operation during unoccupied hours.
  - 5 Base Building Automation System
    - 1 Building automation system to be modified to suit tenant requirements with networked application specific controllers for monitoring and control of field devices where available.
    - 2 Unless noted otherwise, each thermal zone and enclosed space to have dedicated temperature control.
  - 6 Mechanical Noise
    - 1 Background sound quality to meet the following criteria:
      - 20-25 RC(N) – teleconference rooms
      - 25-30 RC(N) – classrooms, executive offices
      - 30-35 RC(N) – boardrooms, conference rooms, private offices, libraries
      - 35-40 RC(N) – open office
      - 40-45 RC(N) – office corridors and lobbies, laboratories, computer rooms
  - 7 Testing, Adjusting and Balancing
    - 1 All air and water systems to be adjusted and balanced to within 5% of design.
  - 8 Tenant Supplemental Cooling Systems
    1. Typical floor Telecom rooms TR to be provided with continuous 24/7 cooling through a separate stand-alone system, connected to the building's or tenants' emergency or standby generator may be required.
    2. Additional Special Purpose Spaces may require 24/7 back-up supplementary/ dedicated cooling to be identified by the client occupant(s).

## 4.7 Electrical Standards and Requirements

### *General*

- 1 The building must comply with all applicable laws, acts, regulations, and codes whether federal, provincial, territorial, municipal or regional, including, but not limited to:
  - 1 CSA Standards
  - 2 ULC Standards
  - 3 OBC and NBC – latest edition
  - 4 Fire Code
  - 5 Elevator Code
  - 6 NFPA
  - 7 Government of Canada GCworkplace Fit-up Standard April 2019
  - 8 Canada Labour Code, Occupational Health and Safety Act
  - 9 PSPC Technical Reference for Office Building Design
- 2 The electrical installation will be designed and implemented to provide the highest levels of safety to personnel, ease of service and maintenance, flexibility, reliability and high efficiency.
- 3 To maximize cost economies and to minimize operating expenses, the following electrical features to be implemented and maintained:
  - 1 Safety to personnel during operation and maintenance;
  - 2 Ease of maintenance for equipment maintained by non-specialized personnel;
  - 3 Flexibility and reliability of electrical services;
  - 4 Proper coordination of all elements of the system as to
    - 1 Insulation levels,
    - 2 Interrupting capacities,
    - 3 Protective relaying,
    - 4 Mechanical strength.
  - 5 Energy conservation with respect to systems and equipment and their operation.
- 4 Systems and equipment to be CSA approved.
- 5 Fire alarm stations, wall switches, other control and operating mechanisms and receptacles to be installed at heights in accordance with CSA B651- (R2018), Accessible Design for the Built Environment.

### *Power Distribution*

- 1 New 600V feeders from the main service entrance switchboards to be in conduit, RW-90 copper.
- 2 New step-down transformers to be K-13 rated with copper windings.
- 4 All wiring to be copper, minimum #12 AWG.
- 5 Surge protection devices (SPD) to be provided at new distribution panels.
- 6 Motor starters and disconnect switches to be provided to suit mechanical equipment loads. Variable speed drives to be provided as required by the mechanical trades, to be installed by the electrical trades.
- 7 Single conductor feeders are not allowed to minimize EMI effects.
- 8 New branch panels to have copper busses c/w bolt on breakers.
- 9 Transformers to conform to CSA C802.2-12 (R2017), Minimum Efficiency Values for Dry-Type Transformers, where the transformer falls within the scope of the standard.
- 10 Power distribution grid boxes to be provided throughout the floor spaces as required to meet GCworkplace April 2019

*Emergency Power*

- 1 A tenant-owned generator system may need to be provided to supply back-up power for client systems such as information technology or security systems. A generator system c/w fuel storage or gas piping, distribution and transfer switches may be required sized to suit the tenant's requirements.
- 2 New automatic transfer switches to include external maintenance bypass, in-phase monitor, digital display and over lapping neutral.
- 3 New generators to meet Ministry of Environment Noise and Emissions criteria.

*Lighting*

- 1 Lighting to be energy efficient type to meet sustainability targets outlined in Appendix B.
- 2 Illumination levels to meet Canadian Occupational Health and Safety Regulations. This is expected to be achieved through a combination of base building lighting supplemented by tenant supplied task lighting for close work.
- 3 Any new tenant supplied lighting is recommended to be LED to align with project sustainability targets.
  - 1 Each luminaire to be rated for a minimum operational life of 50,000 hours utilizing a maximum ambient temperature of (25°C).
  - 2 Light Emitting Diodes tested under LM-80 standards for a minimum 12,000 hours.
  - 3 Colour Rendering Index (CRI) of 80 at a minimum.
  - 4 Rated lumen maintenance at 70% lumen output for 50,000 hours.
  - 5 Electronic drivers
    - 1 Comply with UL 1310 Class 2 requirements for dry and damp locations.
    - 2 Rated for 50,000 hours of life or greater, unless otherwise noted,
    - 3 Sound rating: Class A,
    - 4 Total Harmonic Distortion Rating: 20 percent or less,
    - 5 Current Crest Factor: 1.5 or less,
    - 6 0-10V dimming standard, unless otherwise indicated.
- 4 Exit and emergency lighting to be provided to meet requirements of the National Building Code.
- 5 Exit Lighting
  - 1 Self-illuminated, extruded aluminum, graphic running man exit signs to be provided at all points of egress, and as per O.B.C., connected to base building life safety generators.
- 6 Lighting controls to include
  - 1 Connection to existing base building controls is applicable.
  - 2 Occupancy sensors throughout.
  - 3 Daylight harvesting sensors (photocells) to dim perimeter fixtures adjacent to windows.

*Fire Alarm System*

- 1 Fire alarm audible devices to be installed throughout to provide alarm signals in accordance with the Building Code.
- 2 Strobe lights to be provided in areas with high ambient noise levels, where workstations for hearing impaired workers are identified, and in public corridors.
- 3 Fire detectors to be provided as required as well as in service rooms.
- 4 The system to meet CAN/ULC standards and be to Ontario Building Code requirements.

*Telecommunications, Security Infrastructure*

1. Telecom service entrance duct banks will be provided from the point of entry, into the building directly to the Telecom Entry Rooms.
2. Provision of one Telecommunications Room per every 1000 m<sup>2</sup> of usable area on each floor, located near the centre of the area served, with no wall adjacent to space that is accessible to the public, is the typical standard.
3. Zone conduits (EMT) will be provided from each Communication Room to zones on the typical floor in accordance with TIA/EIA-569B plus addenda.
4. Telecommunications Rooms
  - 1 General
    - 1 An infrastructure of telecommunications rooms meeting the requirements of TIA-569-B to be provided. These rooms to be dedicated to the telecommunications function and to not contain equipment used for electrical distribution serving other spaces. A location in the core of the building is proposed such that it is not included in the tenant fit-up area allocation.
  - 2 Main Terminal/Equipment and Entrance Rooms
    - 1 A separate power feeder serving these rooms to be provided and terminated in its own electrical panel within the room. The panels to be fed from the tenant back-up generator if required by the tenant. Cable tray and receptacles to be provided as specified in TIA-569-B.
  - 3 Telecommunications Rooms
    - 1 For telecommunications equipment, a minimum of two (2) 20A, 120V duplex receptacles to be provided, each with a dedicated 20A circuit. These outlets to be fed from the tenant back-up generator if required by the tenant. Cable tray and additional convenience outlets to be provided as specified in TIA-569-B.
- 2 Horizontal Telecommunication Raceway System
  - 1 (EMT) zone conduit systems to be provided as required to meet the requirements of TIA-569-B for conduits at each Telecommunications Room (TR).
- 3 Backbone Raceway System
  - 1 If there is a separate entrance room, trade size 4 (103) conduit(s) (EMT) from the entrance room to the telecommunications (MT/ER) to be provided. One (1) conduit for every 5,000 m<sup>2</sup> of usable floor space in the building plus two (2) spare to be provided. Conduits or tray to meet the requirements of TIA-569-B.
  - 2 Unless the MT/ER is located directly under TR, cable tray or Trade Size 4 (103) conduits linking MT/ER to TR or TR stacks to be provided. If TRs are stacked vertically, provide (100 mm) (4") sleeves between TRs. As

required by TIA-569-B, the quantity of conduits or sleeves to be one (1) for every 5,000 m<sup>2</sup> served by the backbone system plus two (2) spare for a minimum of three (3).

- 3 Trade size 4 (103) conduits to be used for any jogs where the TRs are not stacked vertically. The quantity of conduits to be as specified above.

#### 4 Grounding

- 1 Provide a 250 MCM copper ground conductor from the building service entrance ground to a ground bar in the main telecommunications room. Extend from this point in a star configuration to each remote telecommunication room or server/LAN room with a 4/0 copper conductor to ground bar in each room. Provide #6 AWG conductor from room ground bar to each individual piece of equipment in the room.
  - 2 Provide grounding of raised floors as per Code.
- 5 The raceway/pathway system to terminate in the main communications rooms permitting connection to off-site networks.
  - 6 The main communications room to be connected to all satellite rooms via raceway/ pathway system consisting of cable trays, empty conduits and vertical sleeving system.
  - 7 All empty conduits forming part of the communications raceway/pathway system to be c/w pull string.
  - 8 All cable trays forming part of the communications raceway/pathway system will be aluminum ladder type or wire basket type, grounded.
  - 9 Provide raceway system to suit security system requirements.

#### *Uninterruptible Power System*

- 1 Small individual UPS's may be provided by the Client for UPS loads located in the Telecommunication Rooms.
- 2 The UPS loads and requirements are to be identified by the future tenant

## Appendix A – Related Projects

### Other Related Projects

1500 Bronson is located within the Confederation Heights campus. Most buildings of the campus were constructed between 1958 and 1962. The following is a high-level description of status of each of the key projects planned for Confederation Heights:

#### 875 Heron Road

This campus comprises the eleven (11) storey Taxation Data Centre and the five (5) storey Taxation Headquarters. Both assets are nearing the end of their useful and effective lives and a project has been developed for its complete rehabilitation and modernization. Project approvals are currently being sought.

#### Sir Charles Tupper Building

At its opening in 1960, the Sir Charles Tupper Building was the largest public building in Canada. The building has a Gross Floor area of 31,283 m<sup>2</sup>. Even though the building is partially occupied by HC, PWGSC and CBSA and may be used as a swing space for other tenants, PWGSC is planning to dispose of this asset.

#### Sir Leonard Tilley (SLTB)

##### *SLTB - A, B and D-Wings*

The Sir Leonard Tilley Building (SLTB) is located at 719 Heron Road and was built by the Crown between 1958 and 1961. It is in Confederation Heights at the intersection of Riverside Drive and Heron Road, on a triangular shaped property. The original “L” shaped A and B-Wings have 4 and 5 storeys, plus basements. The purpose of the wings was to accommodate NCR Communications Facilities. The D-wing was built in 1984, and it acts as the main entrance for the complex. The D-wing is only one storey and it has a basement. It is attached directly to the B-Wing and is shaped like an octagon. The A and B-Wings were completely vacated by CSE in January 2016 and were decommissioned, so they are not in any condition to accept new tenants.

The Sir Leonard Tilley Building’s A, B and D-Wings (SLTB ABD) at 719 Heron Road are now completely vacated. The last tenant, Communication Security Establishment Canada (CSEC), vacated the A and B-Wings in a phased approach from 2014 to 2016. In April 2017, the Feasibility Report was completed and recommended the demolition of the A, B and D-Wings. This recommendation is supported by DG PAM.

##### *SLTB - C Wing*

Sir Leonard Tilley Building C-wing (completed in 1992) is a five-storey structure with a full basement and is connected to wings A and B with a single storey link. It is in an overall good building condition with recent investments in the mechanical and electrical systems.

This project deals with only one of the multi-wing complex (C-Wing) located within the Sir Leonard Tilley Building. The entirety of the Sir Leonard Tilley Building consists of four interconnected wings. The “L-shaped” A and B-Wings, the C-Wing and D-Wing.

While significant investments have been made within the C-Wing in recent years, the roof has reached the end of its usable life (25 years old). To facilitate the necessary program, a roof replacement, upgrade of the roof structure (i.e. raising the roof structure by 2 feet and upgrade of the building seismic structure resistance standards is required.

In addition to the improvements necessary for the C-Wing roof and seismic structures, a new entrance lobby must be constructed to facilitate new programmatic demands that are to be held at the C-Wing. An entrance lobby must be constructed for the C-Wing to allow it to function as a standalone building; given that the current method of entry into the C-Wing is through the A and B-Wings and both A and B-Wings are slated for demolition.



**SLTB - Annex E**

The Annex E (Tilley Building) is a Crown owned asset located within the Confederation Heights node on the corner of Riverside and Heron Roads. The property, a 2 storey low rise, was formerly occupied by Communications and Security Establishment before it vacated to other OGD space in 2015. Due to the high security nature of the former department's mandate, this building has been very well maintained and has continuously undergone work to keep it in top operating condition. The building's Property and Facilities Manager (PFM) has supported the building's status and several site visits with clients have taken place.

The purpose of this project is to fit-up Annex E as a Workplace 2.0 replacement space on behalf of Environment and Climate Change Canada (ECCC)'s Ice Services program of the Meteorological Services of Canada (MSC). The project is completed and fully occupied.

**SLTB - Annex F**

Annex F is a temporary modular building, which was installed adjacent to 1500 Bronson in 2005 as more tenant space was needed in the main buildings. During that time, major landscaping was carried out and a stone wall was built around the perimeter of the 1500 Bronson Avenue site.

The projects main objectives are to create a PSPC Portfolio Activity Based Workplace Generic Swing Space at Sir John Tilley Building, Annex F (1500 Bronson Av.) on two (2) vacant floors, for a total of 1,812 m<sup>2</sup>u / 2,289 m<sup>2</sup>r. Annex F will be retained in the PSPC portfolio for a minimum of 5-year term. Based on SAS a maximum of 137 FTEs will be accommodated at this location.

The project will involve minimal construction/de-construction as the space will be used as-is as much as possible. The furniture design will incorporate ABW furniture. Funding has been requested for this project but has not been confirmed to date.

**Insurance Building**

The Insurance Building is located at 770 Heron Road, Ottawa, Ontario within the Confederation Heights Campus. It shares its site with two other federal buildings on a 64,603 m<sup>2</sup> (15.96 acre) site. The site area specific to the Insurance Building is therefore not available but the estimated land requirement, based on gross building area, would be 11,372<sup>1</sup> m<sup>2</sup> (2.81 acres).

The Insurance Building is a two-story class C office building constructed circa 1960. The building is a steel framed, reinforced concrete floor structure which has two storeys plus a full basement and a one storey wing.

The Insurance Building became fully vacant in 2014 when the sole tenant, Communications Security Establishment Canada (CSEC), relocated to new Headquarters.

A 2016 Asset Management Plan (AMP) concluded that the investments to up-grade this asset to a Work Place 2.0 standard, along with seismic works required, would be greater than the actual cost of the Asset. Given the asset had already been identified by Owner investor for disposal in the next 5 to 10 years, OI determined that an earlier disposal would be the best approach along with demolition as the next course of action. OI has tasked the Confed Heights Project Delivery Line to plan and implement the demolition of 770 Heron road, which is underway.

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<sup>1</sup> As per the October 4, 2011 Appraisal Report prepared by the Altus Group.

## Appendix B –Base Building Sustainability Scope of Work.

The base building will be undergoing a rehabilitation that includes heritage conservation efforts and sustainability targets that will impact decisions and options regarding the interior fit-up. The features of the rehabilitation option selected for implementation are described below:

- Complies with Technical Reference for Office Building Design, 2017 (TRFOBD);
- Complies with commitments identified in Real Property Sustainability Framework, 2015 (RPSF);
- Meet/certify to **LEED V4 Platinum** or equivalent;
- Reduces carbon emissions to as much as possible, excluding the use of carbon offsets and without compromising the heritage qualities of the open site. Provides for clean on-site geothermal energy generation to partially offset the GHG emitted related to the energy consumed by the building;
- Is carbon neutral ready
- Achieves an energy performance that exceeds the National Energy Code for Buildings, 2011 (NECB) baseline building performance by **51%**; and
- Reduces GHG emissions by **88%** compared to 2005-2006 emissions.
  - Estimated GHG emissions 85 tons, which is a reduction of 602

To achieve the above noted objectives, including reductions of GHG and energy consumption, as well as, supporting indoor environmental quality, occupant comfort, improved localized storm water management to support ecosystem health, optimal performance for waste and water, this option incorporates all the design features assessed in Option B. It includes improvements to the thermal performance of the building envelope, and geothermal energy. This option includes numerous sustainable design features as follows:

### Site

- Existing parking is reworked to reduce the overall number of spots by 40% as compared to zoning requirement.
- Site and building lighting would be designed to avoid light trespass to neighboring sites.
- Erosion and sedimentation control plans would be put in place prior to the start of construction to reduce the pollution related to construction activities.
- The Storm water management would be designed to avoid sending runoff to the municipal systems. Storm water would be stored, filtered and locally reintroduced to recharge the local water table.
- Introduce planting to provide shade to minimize the potential of a heat island over the parking.
- Reduce the heat island over the building with the installation of a combination of vegetated and high albedo roofs. The vegetated roof has the added benefit of stimulating biodiversity. The vegetated roof would be installed on the lower roof. The high albedo roof would be installed on the roof canopy.
- Reduced parking permits integration of snow stockpiling areas avoiding efficiency losses that currently occur in winter. Controlling the location of snow stockpiling allows for proper mitigation measures to be implemented minimizing the environmental impact of snow stockpiling.

### Water

- The landscaping would be designed to use native, drought resistant plants. No irrigation except for use in the planting establishment period and in extreme drought conditions will reduce the potable water consumed locally and reduce the energy consumed to purify water at the treatment facility.
- High efficiency low flow fixtures will be installed through the building to reduce potable water consumption by 50%.

- A storm water harvesting system would be installed to provide grey water which would be used within the building for waste conveyance
- A building water metering system would be installed to monitor the domestic water consumption as per the NPS.

**Envelope**

- Based on an assessment and energy modeling and the high exterior wall to useable area ratio, there is benefit to improving the thermal performance of the exterior envelope.
- Existing effective thermal resistance values are estimated at R14 for walls and R20 for the roof. The upgraded thermal performance will be R30 for walls and R50 for the roof to exceed NECB 2011.
- Existing building envelope thermal resistance value of the walls will be improved through removal of stone, and metal wall cladding and the installation of insulation and details to resolve thermal bridging issues. This will also permit concealed integration of seismic upgrades.
- The roofing systems will be replaced with a green roof and a thermal resistance value of R50.
- The existing window to wall ratio is high at nominally 42%. Window replacement is essential to achieve improved thermal performance of the exterior envelope. Replace existing windows with a high-performance triple glazed system with thermally-broken framing and low-e coatings to improve the thermal resistance of the windows and to reduce the amount of heat transfer across the glazing. Design to replicate the look of the original windows with a combination of fixed and operable units.
- Improved air tightness will be achieved with proper sealing of junctions between different systems and materials to prevent air leakage through the envelope to improve the systems thermal resistance.

**Lighting**

- The existing lighting (end of service life) will be replaced with LED lighting in fixtures selected to be compatible with the heritage character of the building, tied to motion and daylight sensors, which dramatically reduce the amount of energy consumed. Dimmable fixtures with daylight sensors will reduce the amount of light provided by the fixture and the amount of energy consumed. Adding controls to limit their light activation to when a space is occupied further enhances the efficiency of the system.
- Lighting systems metering tied to Smart building helps building operators to understand where energy loads are being used, which allows for better control and offers opportunities for reduction.

**Heating, Ventilation and Cooling**

- Carbon dioxide sensors are provided to ensure an optimal level of indoor air quality is provided to the building occupants.
- Economizer mode on dampers controlling fresh air intake.
- More efficient motors (end of service life) will provide reduction in energy consumption.
- Given low ceiling heights, the most feasible and energy efficient solution is the replacement of perimeter ventilation/heating/cooling induction units with high efficiency units. The heating and cooling energy is mainly provided by water through a new 4 pipe distribution network.
- Fresh air will be provided by a dedicated fresh air treatment system, which will be equipped with an Energy Recovery System (enthalpy wheel) to recover heat from the exhaust air (75%). The general and sanitary exhausts will need to be centralized and combined for this purpose. A separate Ventilation riser will feed enclosed areas.
- Hot and chilled water networks will be Variable Flow with variable speed pumps and Two-way Valves. The piping will be low velocity for improved distribution energy efficiency.

- Variable speed fans provide an opportunity to reduce energy consumption when demand is less.

**Materials**

- Low VOC, high recycled content, locally manufactured products will be used as part of the project.
- Product selection will favour products that have environmentally, economically, and socially preferable life-cycle impacts and that demonstrate impact reduction below industry average for global warming potential, ozone layer depletion, acidification of land or water sources, eutrophication, and formation of tropospheric ozone and depletion of non-renewable resources.
- Product selection will also favour products that meet responsible extraction criteria such as; extended producer responsibility, bio-based materials, FSC wood products, products that include salvaged, refurbished, or reused products as well as post and pre consumer recycled content.
- Waste management strategies will be put in place to divert 75% of construction waste of at least 4 streams from landfills

**Indoor Environmental Quality**

- Pollution control at source to reduce, eliminates, or prevent pollution at the construction site and the building when completed.
- Protection of construction workers through provision of Indoor air quality management plan.
- Air flush and testing is to be done at the end of construction and prior to occupancy in order to remove or reduce pollutants (VOCs and other particulate matter) within the building. Air flushing forces air through a building to improve indoor air quality for building occupants.
- With the narrow floor plate and high window ratio, daylight levels and views can be exceptional. To maximize this building asset to the health and well-being of the occupants, it will be critical to limit the number of closed office or meeting areas to the interior zones of the building. As this is consistent with the GCworkplace fit-up standards, this should be achievable.

**Energy**

Several strategies are employed to reduce the overall energy consumption of the building.

- The thermal resistance of the envelope is increased. Existing thermal bridging is eliminated.
- A substantially more efficient induction mechanical system is introduced.
- A heat recovery strategy with recovery chillers for the winter months is introduced.
- The existing lighting is replaced by LED lighting tied to daylight harvesting sensors.
- Provide for solar domestic hot water pre-heating.
- Provide geothermal heat exchange.
- With the above strategies, the energy modeling suggests a reduction of 51% over the NECB 2011 baseline building.
- Associated with the energy reduction is a decrease in GHG emissions. The modeling suggests a reduction of 88% as compared to the emission of the building in 2005.

**Operations and Maintenance**

- Basic commissioning of systems is the process of verifying near the end of construction that all subsystems for mechanical (HVAC), plumbing, electrical, fire/life safety, lighting, controls, etc. are functions as designed.
- Enhanced commission of the systems and the building envelope.

- A third-party Commissioning Authority will develop the commissioning plan, provide feedback on the design and construction and oversee the commissioning of the systems and the envelope.
- The commissioning plan will elaborate a monitoring approach and identify monitoring point in the water and energy consuming systems.
- Life Cycle Assessment (LCA) is a technique to assess environmental impacts associated with all the stages of a product's life from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling. LCA aids in product and material selection for the project.



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**End of Amendment 008**