



## RETURN BIDS TO:

## RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions -  
TPSGC

11 Laurier St. / 11 rue Laurier

Place du Portage, Phase III

Core 0B2 / Noyau 0B2

Gatineau, Québec K1A 0S5

Bid Fax: (819) 997-9776

## 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  
REQUIREMENT

### Vendor/Firm Name and Address

Raison sociale et adresse du  
fournisseur/de l'entrepreneur

### Issuing Office - Bureau de distribution

Consultant Services Division/Division des services  
d'experts-conseils  
L'Esplanade Laurier  
4th floor, East Tower  
140 O'Connor Street  
Ottawa  
Ontario  
K1A 0S5

<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> 001
<b>Client Reference No. - N° de référence du client</b> 20193032	<b>Date</b> 2019-09-18
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$FE-174-77705	
<b>File No. - N° de dossier</b> fe174.EJ078-193032	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2019-10-23</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Bismonte, Tatiana	<b>Buyer Id - Id de l'acheteur</b> fe174
<b>Telephone No. - N° de téléphone</b> (819) 664-3528 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> PWGSC 1500 Bronson Ave. Ottawa, Ontario Canada	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

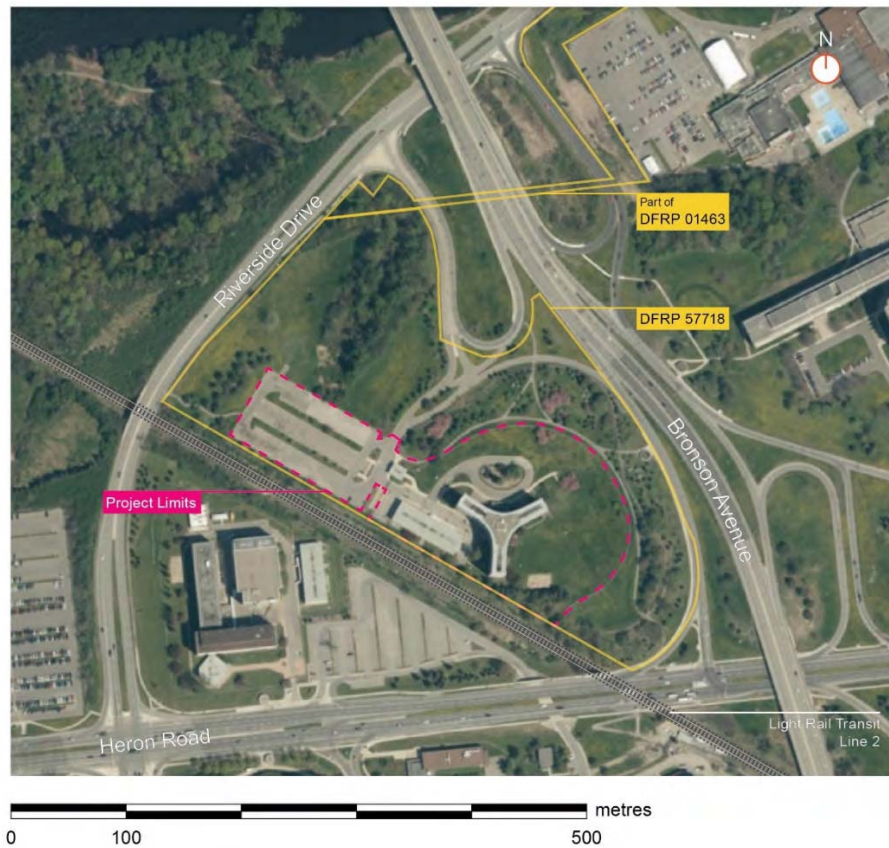


**The following change in the Request for Proposal document is effective immediately.  
This amendment will form part of the contract documents.**

## **A) Project Brief**

PD 3.2, Site

**DELETE the following:**



*Figure 4: 1500 Bronson; located North of Heron Road and West of Bronson Avenue. (Source: Google Maps)*



**REPLACE with:**



*Figure 4: 1500 Bronson; located North of Heron Road and West of Bronson Avenue. (Source: Google Maps), Revision #1*

## **B) Project Brief**

### **PD 5.2.2 Functional Requirements**

#### **ADD the following:**

The General Fit-Up Requirements document is very general and does not include mechanical, electrical, Building Components (fixtures, furnishings and equipment), or Building Connectivity (Information Technology, Multi-Media and Integrated Security Systems [IT/MM/ISS]). Consultant should develop these requirements as part of preparing the detailed functional program to be used for the fit-up design.



### **C) Project Brief**

PD 5.2.15.6 BCC Connectivity Inclusions and Exclusions

**DELETE the following:**

2. Cabling

**REPLACE WITH:**

2. Conduit and Cabling

### **D) Project Brief**

PD 6.1 Available to all Proponents (Upon Request)

**DELETE the following:**

5. PWGSC Real Property Sustainable Development and Environmental Strategy 2018

<https://www.tpsgc-pwgsc.gc.ca/rapports-reports/smdd-dsds/index-eng.html>

**REPLACE WITH:**

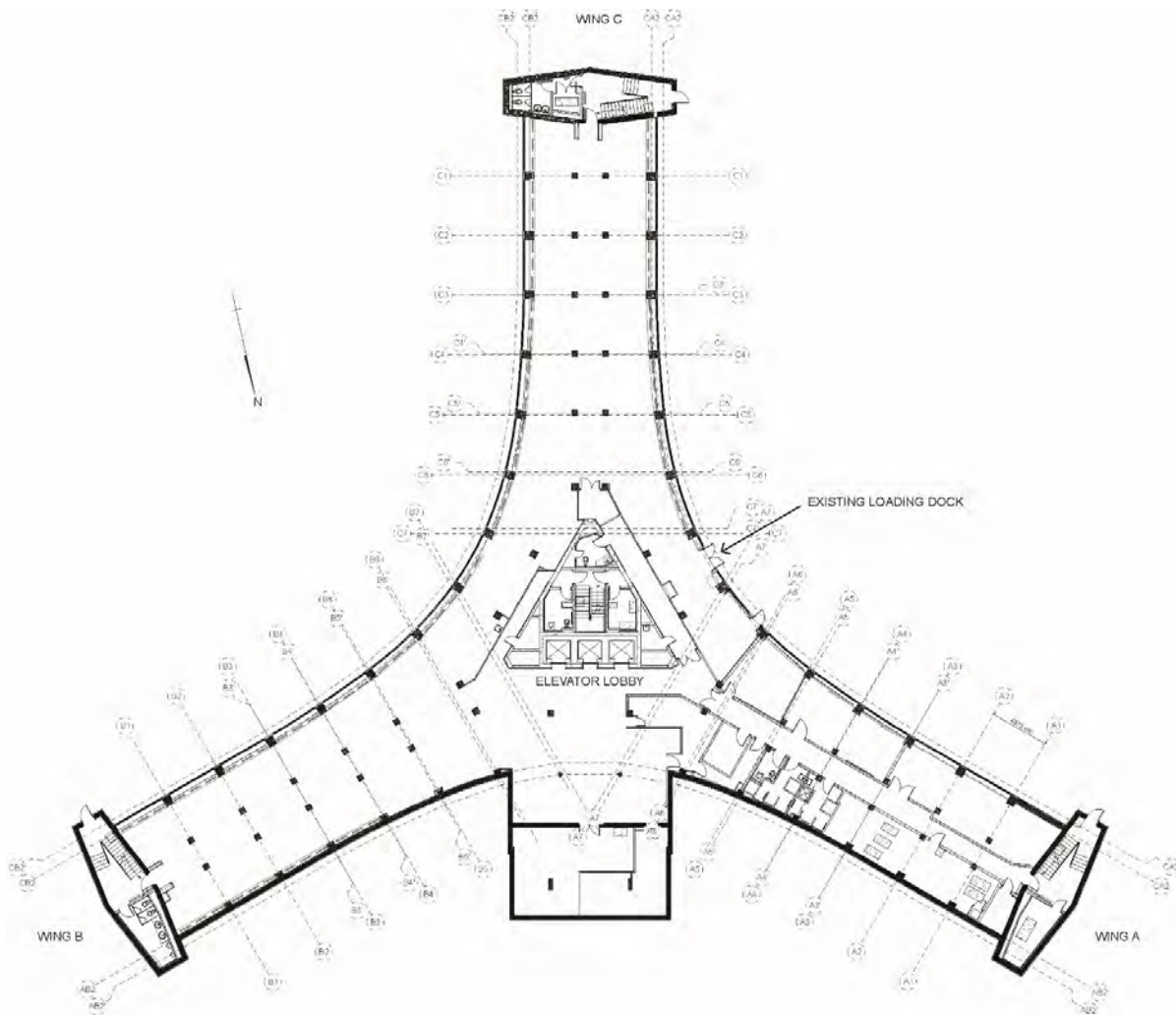
5. Federal Sustainable Development Strategy 2019-2022

<https://www.fsds-sfdd.ca/index.html#/en/goals/>



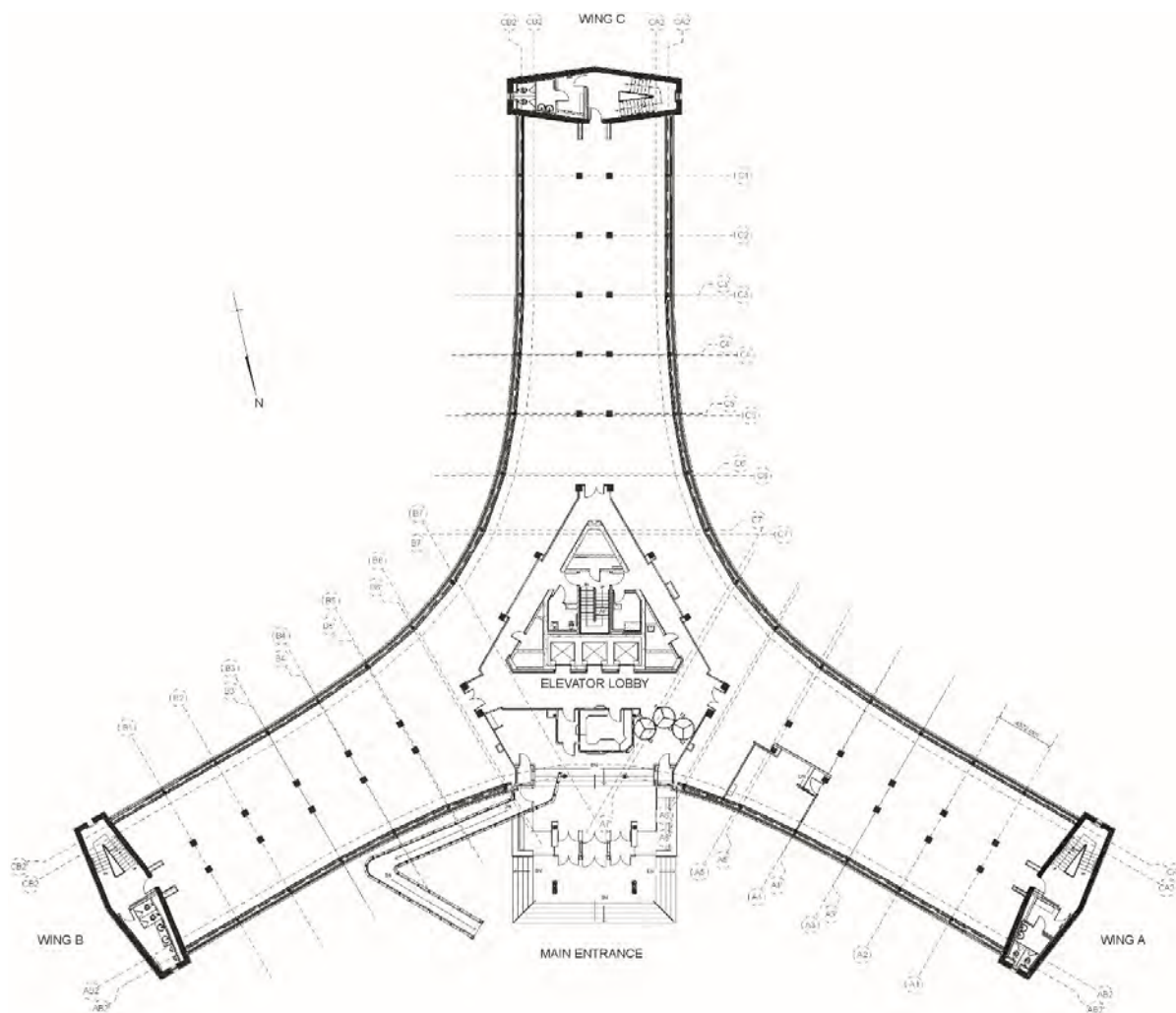
## E) ANNEX A BUILDING FLOOR PLANS

ADD the following:



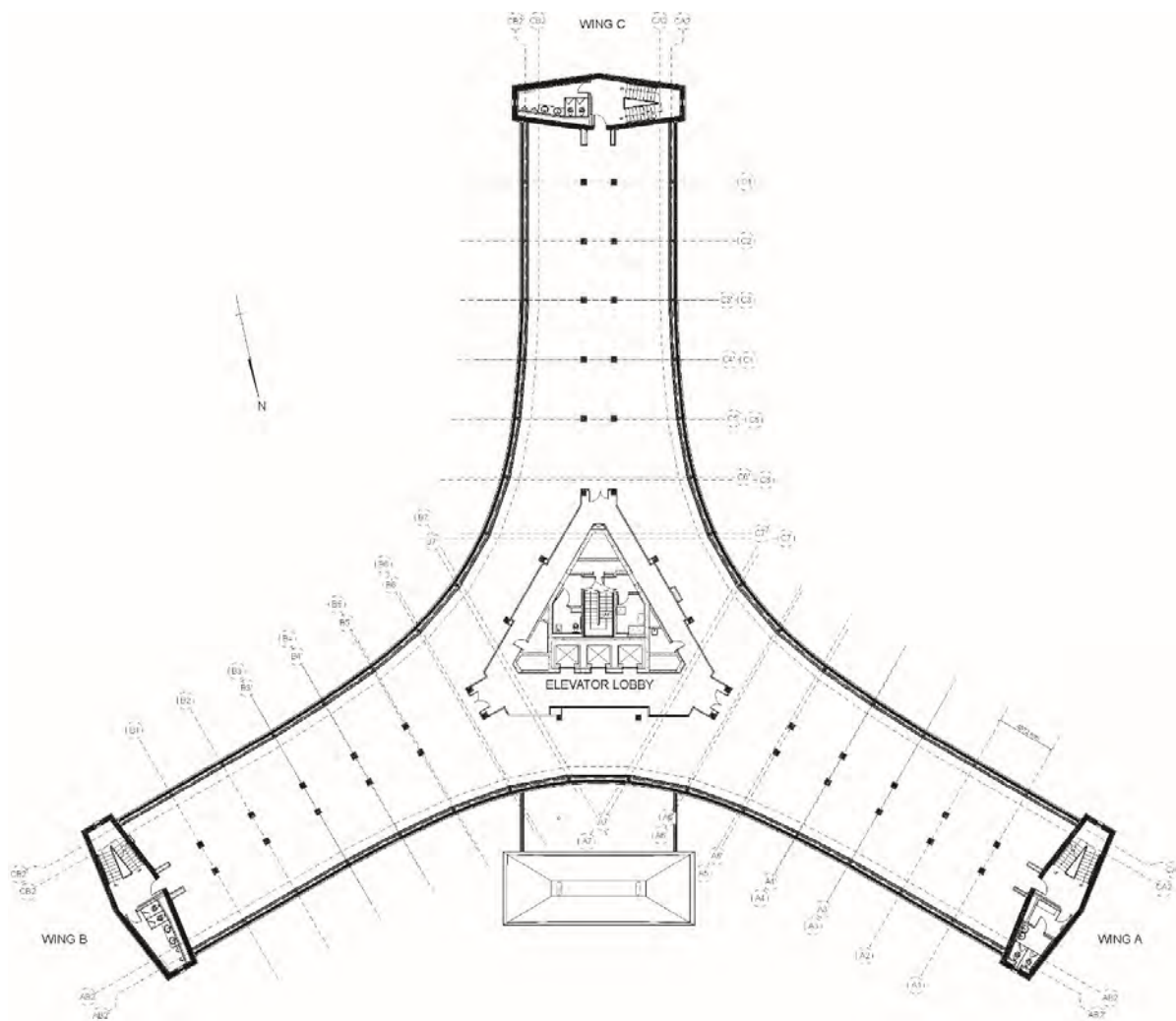
Ground Floor Plan, typically referred as “basement” for this building. Not to Scale.  
[Source: DWG from BIM]





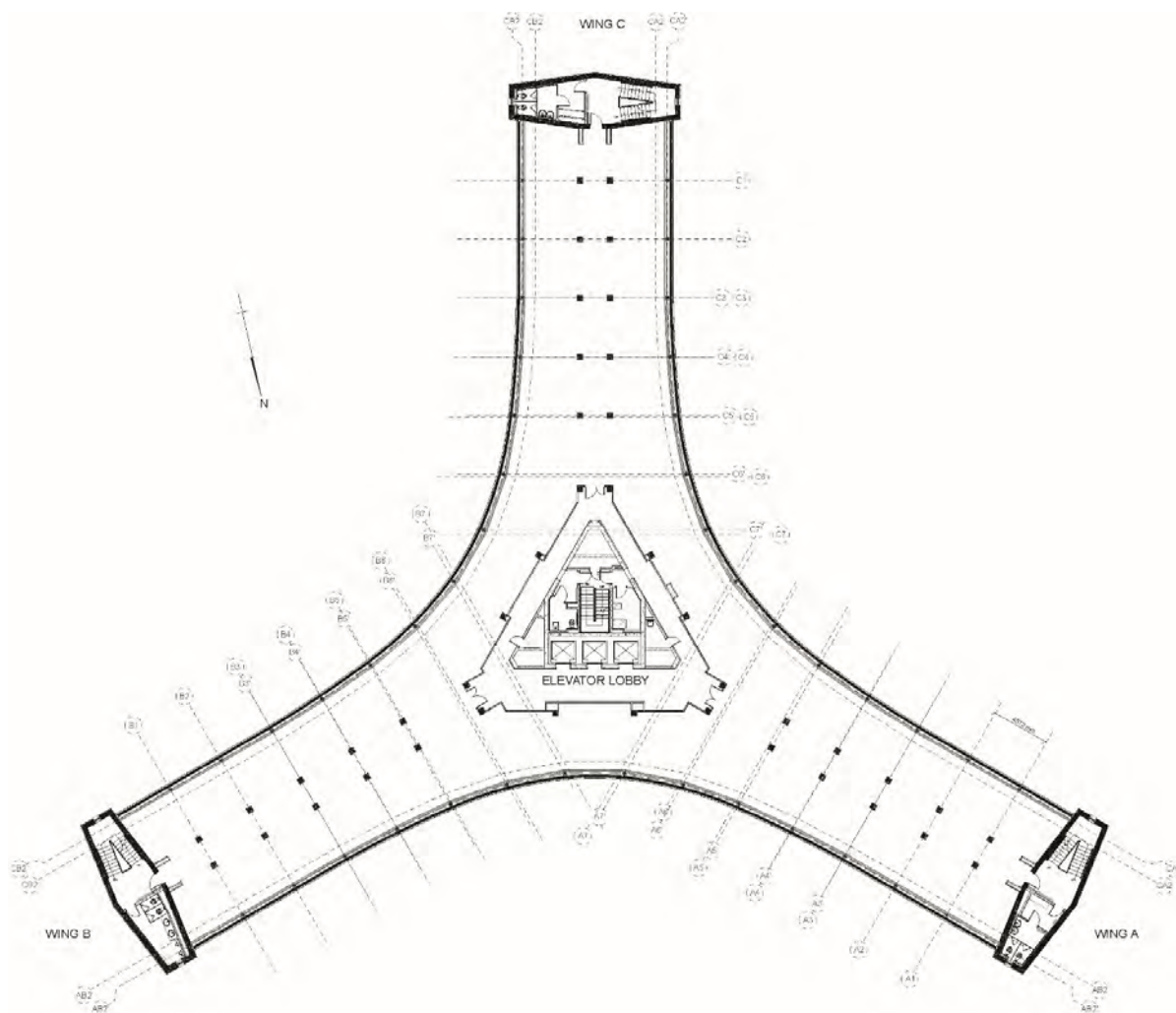
First Floor Plan. Not to Scale. [Source: DWG from BIM]





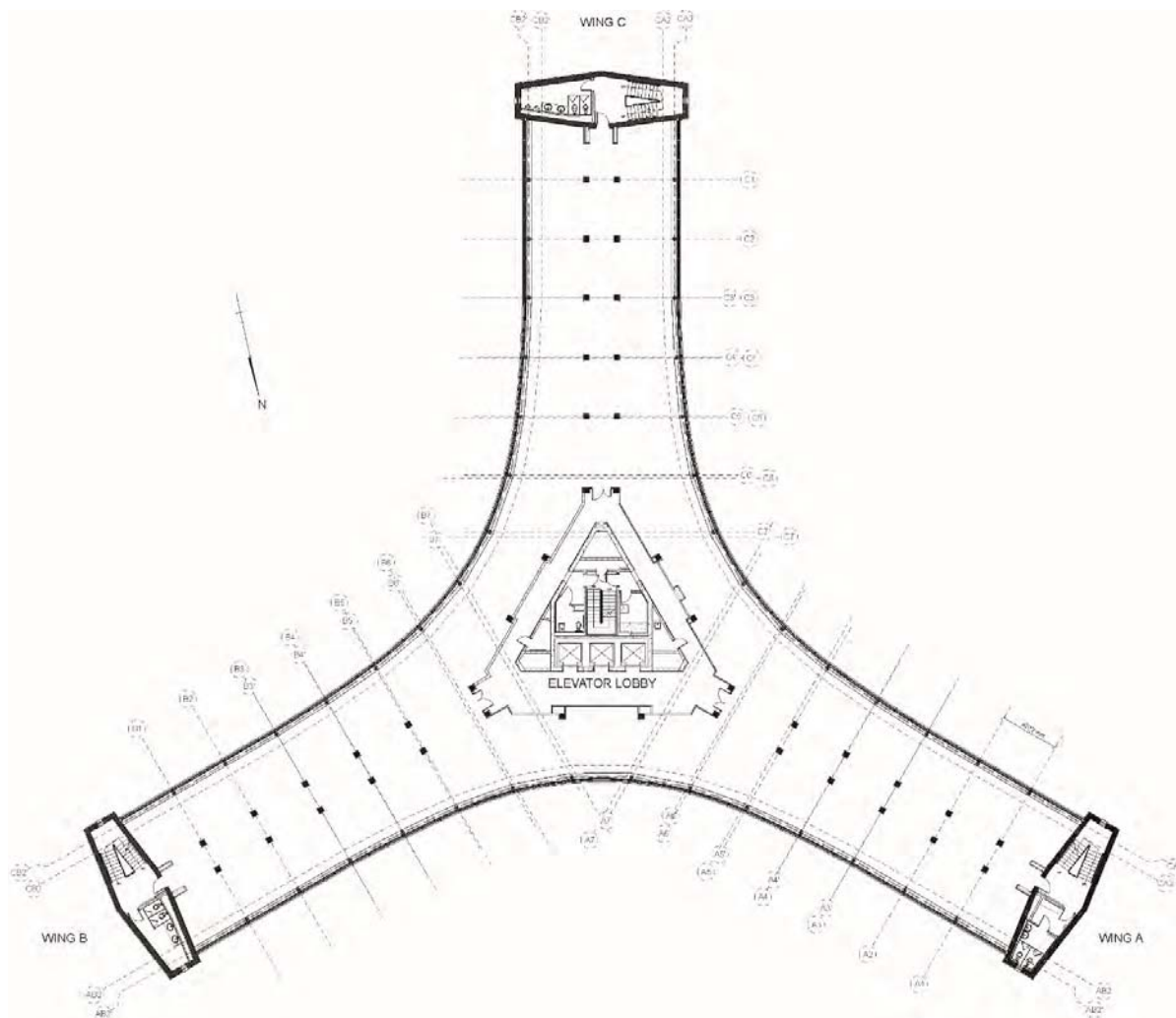
Second Floor Plan. Not to Scale. [Source: DWG from BIM]





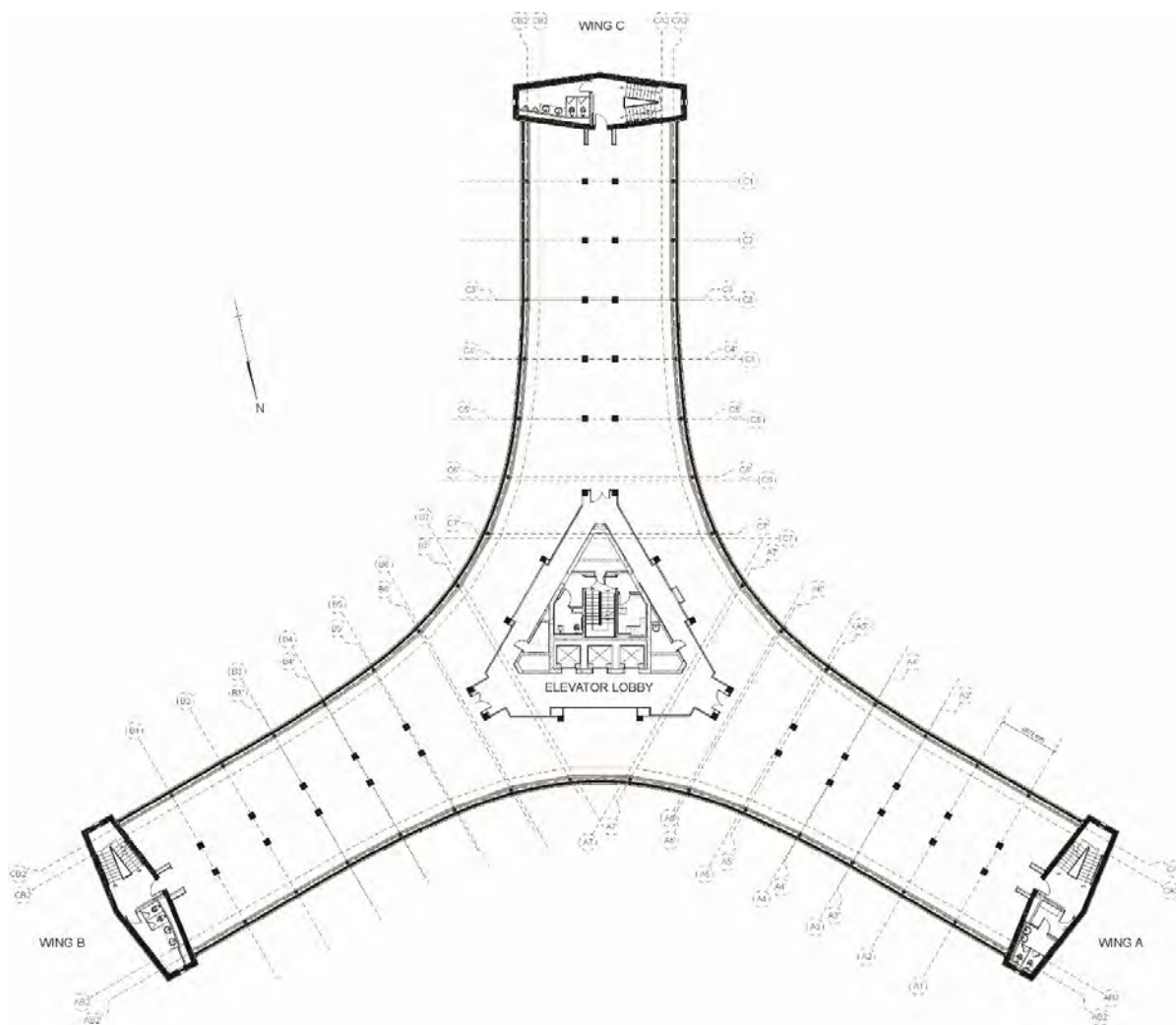
Third Floor Plan. Not to Scale. [Source: DWG from BIM]





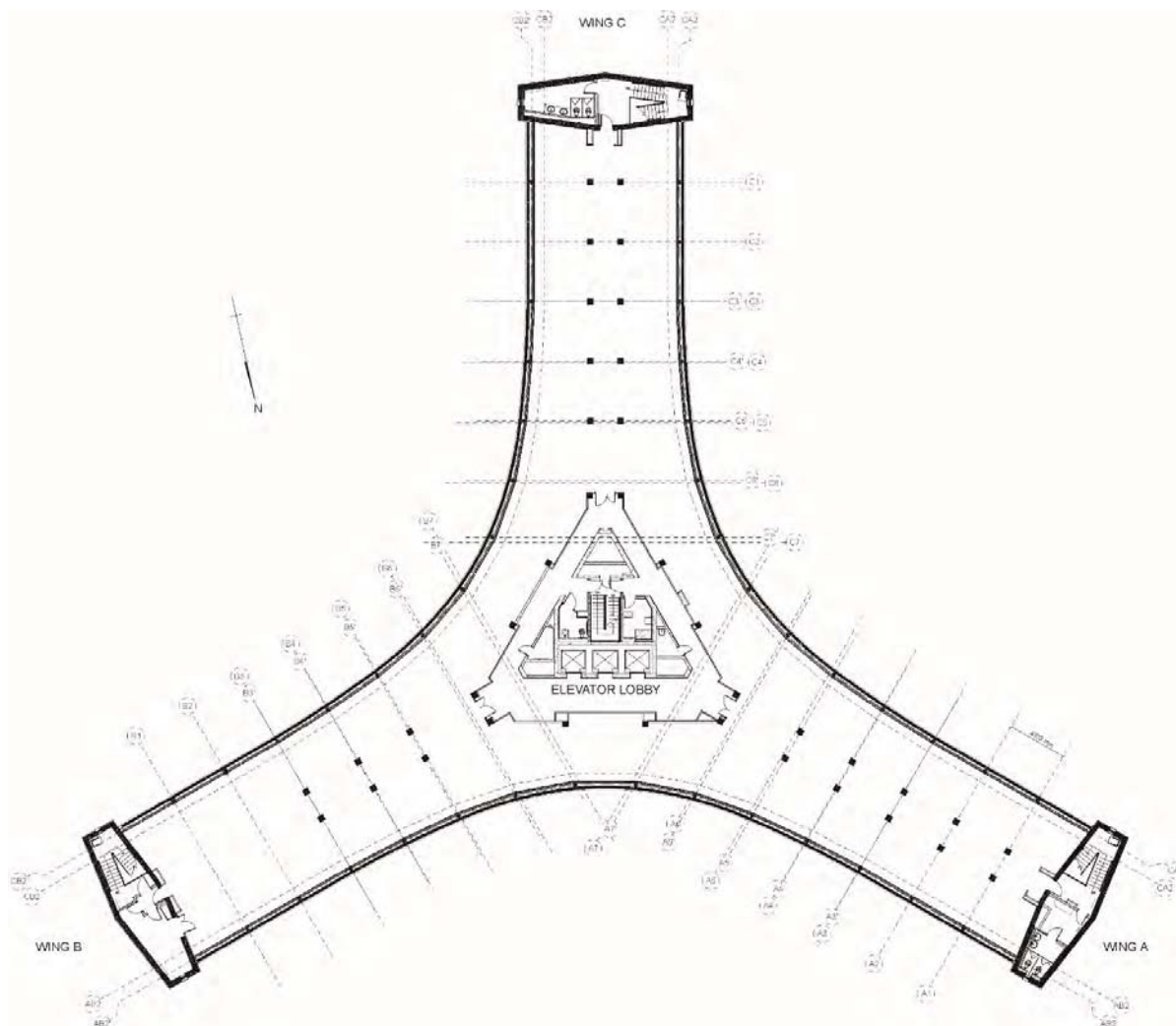
Fourth Floor Plan. Not to Scale. [Source: DWG from BIM]





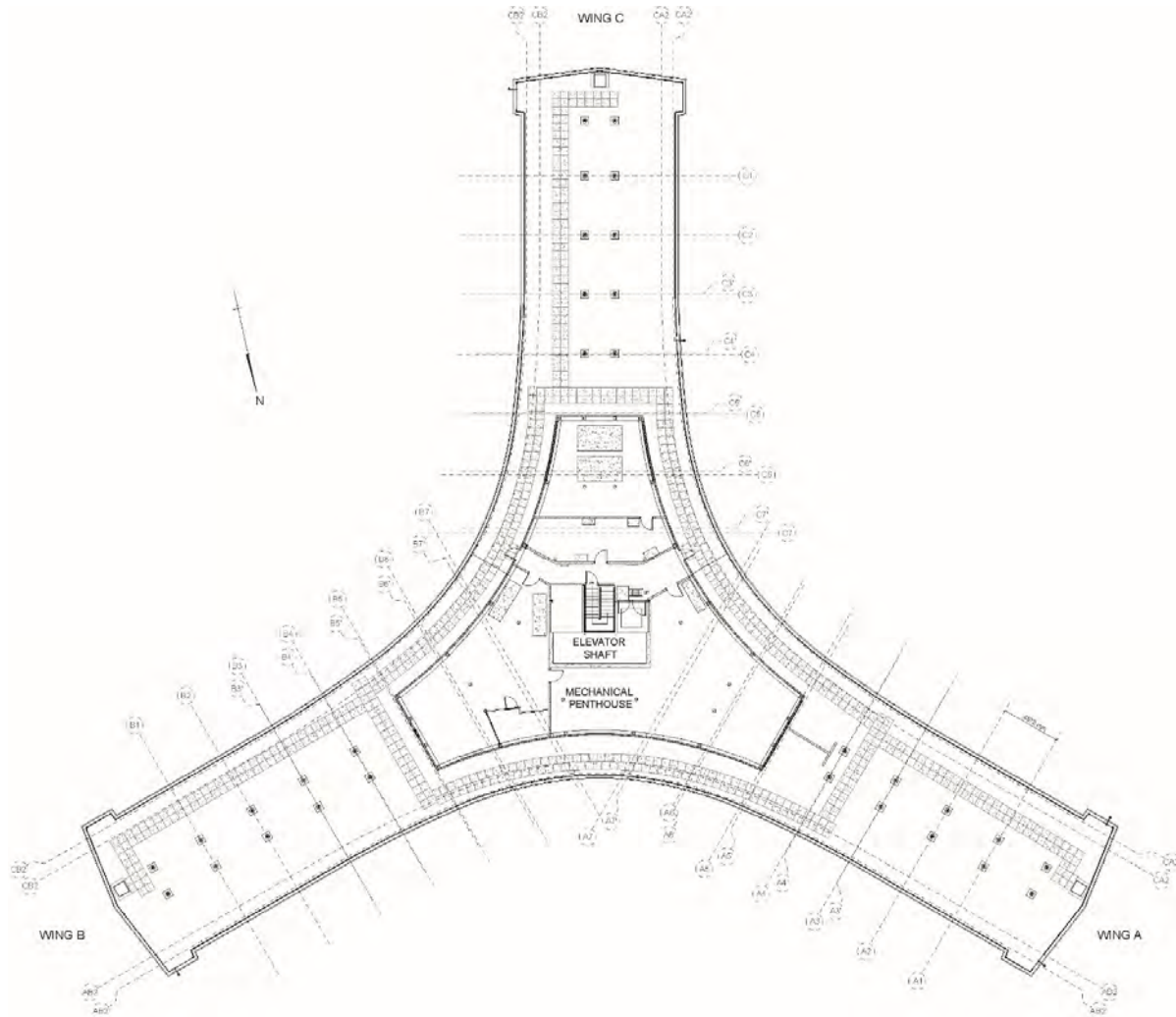
Fifth Floor Plan. Not to Scale. [Source: DWG from BIM]





Sixth Floor Plan. Not to Scale. [Source: DWG from BIM]





Penthouse Floor Plan. Not to Scale. [Source: DWG from BIM]



Solicitation No. - N° de l'invitation  
EJ078-193032/A  
Client Ref. No. - N° de réf. du client  
20193032

Amd. No. - N° de la modif.  
001  
File No. - N° du dossier  
fe174,EJ078-193032/A

Buyer ID - Id de l'acheteur  
fe174  
CCC No./N° CCC - FMS No./N° VME

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## **G) ANNEX E: PWGSC REAL PROPERTY SUSTAINABILITY FRAMEWORK**

**ADD the following:**





Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

Canada



# PWGSC

## Real Property Sustainability Framework

April 1, 2015



Public Works and Government Services Canada  
Real Property Branch

[www.pwgsc-tpsgc.gc.ca](http://www.pwgsc-tpsgc.gc.ca)



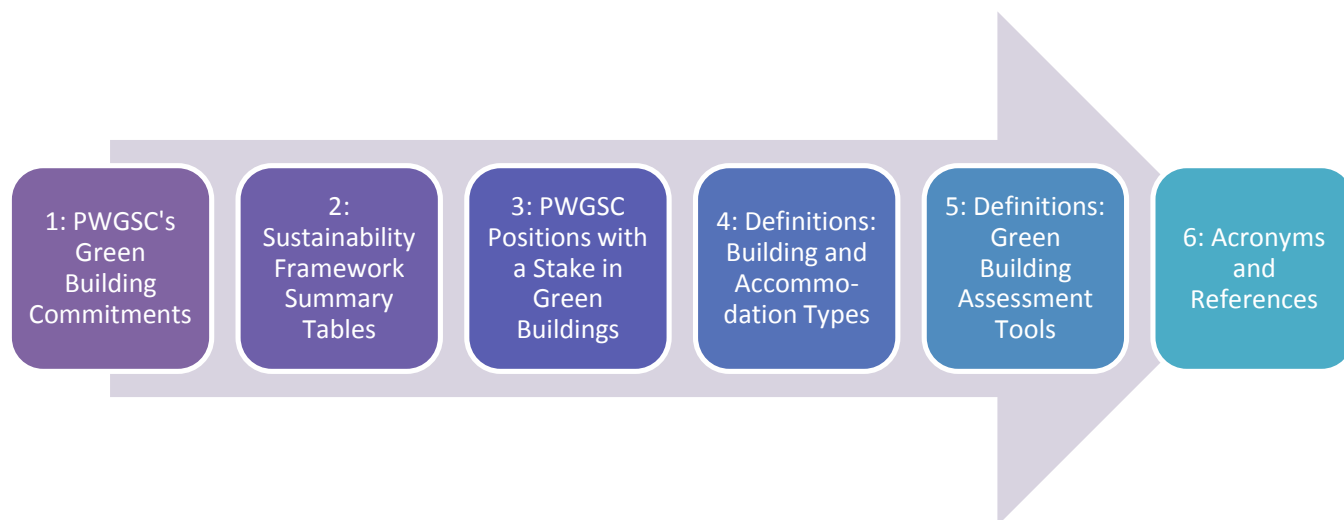
# Introduction

The Government of Canada is committed to minimizing the environmental footprint of the more than 28,000 buildings it owns or leases across Canada. Public Works and Government Services Canada (PWGSC) provides accommodation to parliamentarians and more than 272,000 public servants in 1733 locations across Canada. As one of the largest custodians of federal real property and as a leader in sustainable buildings, PWGSC is committed to minimizing the environmental impact of the accommodations it provides to federal employees through the management and delivery of the department's programs and activities.

The purpose of this **Real Property Sustainability Framework** is to present PWGSC's commitments and approaches for reducing the environmental footprint of its buildings. This framework integrates and summarizes PWGSC's diverse green building commitments. The following documents encompass the scope of PWGSC's commitments: *Planning for a Sustainable Future: A Federal Sustainable Development Strategy for Canada* (FSDS), departmental Sustainable Development Strategies (SDS), departmental business plans, departmental Reports on Plans and Priorities (RPP), and the Real Property Branch (RPB) Sustainable Buildings Policy. This framework applies to all real property assets under custodianship of PWGSC, whether they are managed by the department or by a contractor under a RP-n contract.

PWGSC has also adopted a number of green building best practices, such as incorporating Green Leases into business operations, promoting an integrated design approach, fostering the use of sustainable materials, and establishing environmental performance benchmarks. Additional details for these and other best practices are provided for staff in the *Green Building Implementation Guide* (refer to Section 6 for a link to this document).

This Real Property Sustainability Framework is simple to navigate. The key sections of the framework include:





# 1. PWGSC's Green Building Commitments

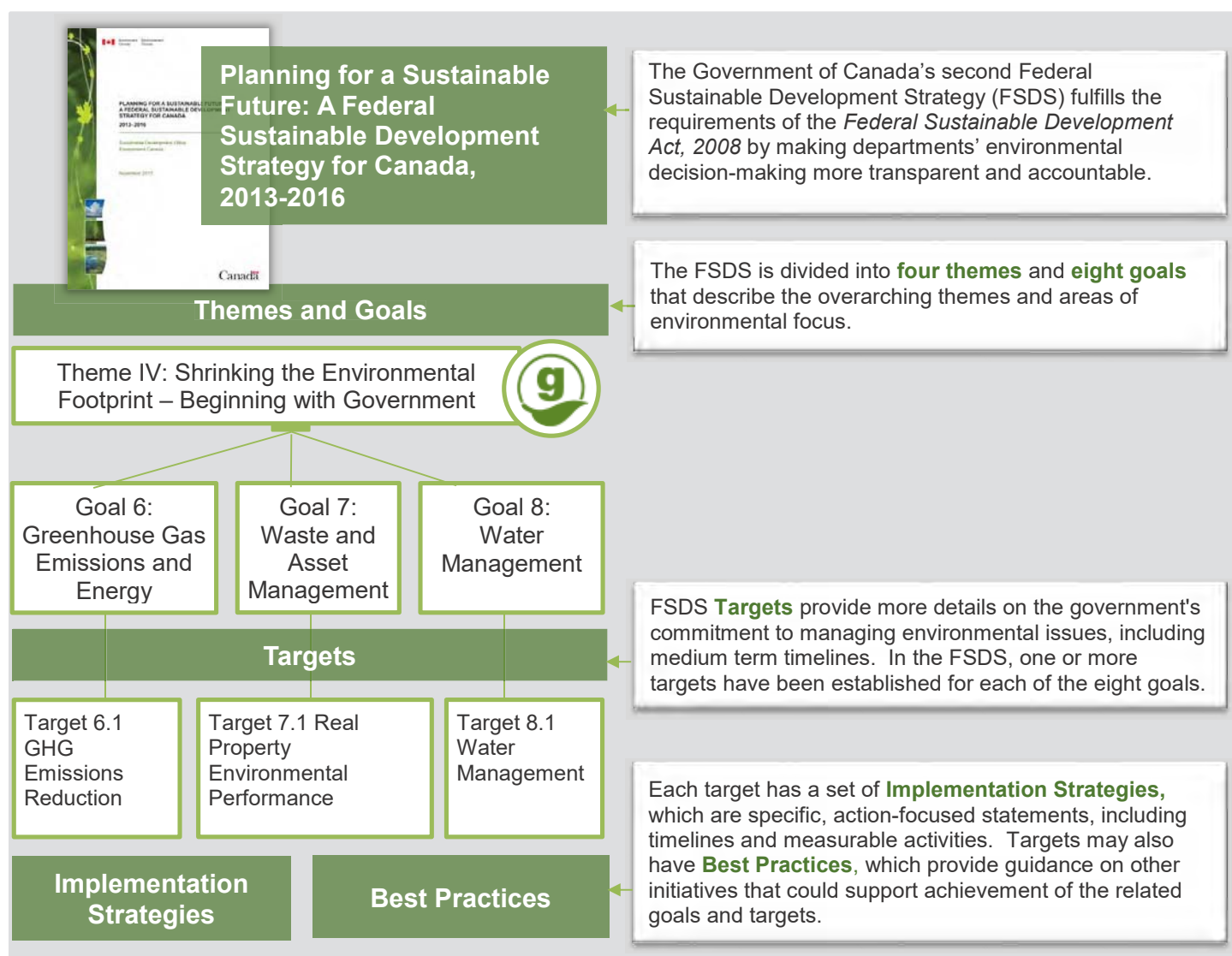


Figure 1: Overview of FSDS

**Spotlight on Green Buildings:** As illustrated in Figure 1, the fourth theme in the current FSDS establishes specific goals and targets aimed at “Shrinking the Environmental Footprint – Beginning with Government”, including a focus on green buildings. The FSDS requires that departments and agencies manage their real property in an environmentally responsible manner, consistent with the definition and basic principle of sustainable development. Such commitments are to be reflected in a Real Property Sustainability Framework.

In response, PWGSC's Real Property Branch has identified the Implementation Strategies and Best Practices (Table 1) most relevant to its operations, based on its past experience, its commitments, and its expectations for the future operations of the department. Specifically, the Branch has committed to several FSDS Implementation Strategies and Best Practices that will help achieve Targets 6.1 (GHG Emissions Reduction), 7.1 (Real Property) and 8.1 (Water). All of these commitments are presented in Table 1 of the department's framework.



**Table 1: Green Building Commitments relevant to FSDS Targets 6, 7 and 8<sup>1</sup>**

**FSDS Target 6.1: GHG Emissions Reduction.** *The Government of Canada will reduce greenhouse gas emissions from its buildings and fleets by 17% below 2005 levels by 2020.*

The Real Property Branch, on behalf of PWGSC, has committed to reducing its greenhouse gas (GHG) emissions from its buildings and fleet of vehicles by 17% below 2005 by March 31, 2021. The strategy to address this commitment is presented in the 2014 PWGSC Greenhouse Gas Action Plan.

**FSDS Target 7.1: Real Property Environmental Performance.** *As of April 1, 2014, and pursuant to departmental Real Property Sustainability Frameworks, an industry recognized level of high environmental performance will be achieved in Government of Canada real property projects and operations.*

FSDS Implementation Strategies and Best Practices	Relevant PWGSC Green Building Commitments
<p><b>7.1.1</b> By March 31, 2015, each department will update as appropriate, their Real Property Sustainability Framework to define the custodian's approach to managing the environmental performance of new construction, build-to-lease projects, major renovations, operation and maintenance of existing Crown-owned buildings, and new lease or lease renewal projects over 1000 m<sup>2</sup>. Key elements of the Real Property Sustainability Framework will address the scope of application and commitments to:</p>	
<p><b>7.1.1.1</b> Achieve a level of performance that meets or exceeds the custodian's current commitment(s) to sustainable buildings using industry-recognized assessment and verification tool(s).</p>	<p>As of April 1, 2012, all newly constructed federal government office buildings, including Crown-owned, leased-to-own, and build-to-lease will meet the LEED Canada-NC Gold, 4 Green Globes for Design or equivalent level of environmental performance.</p> <p>As of April 1, 2012, all major renovations of office buildings and all non-office buildings will meet the LEED Canada-NC Silver, 3 Green Globes for Design or equivalent level of environmental performance.</p> <p>From April 2004, the PWGSC building acquisition process will be updated to include environmental assessment and the requirement to meet either LEED Silver equivalent or 3 Green Globes rating. The costs to bring the building to these standards will be included in the selection process.</p> <p>As of April 1, 2012, existing crown buildings ≥1000 m<sup>2</sup> in rentable area will be assessed for environmental performance using an industry-recognized assessment tool, such as BOMA BEST, LEED EB:O&amp;M or equivalent.</p> <p>As of April 1, 2012, leased office and non-office space ≥500 m<sup>2</sup> in rentable area and in which PWGSC is the majority leasee (&gt; 50% of the total rentable area in the building) will be assessed using the BOMA BEST assessment method and must qualify for at least the first level of certification. This applies to leases with a term of greater than 5 years, including all option years.</p>

<sup>1</sup> The buildings covered in these commitments include all federal buildings that are under the custodianship of PWGSC or linked to the government through its leasing activities.



FSDS Implementation Strategies and Best Practices	Relevant PWGSC Green Building Commitments
	<p>As of April 1, 2012, leased office space <math>\geq 10,000</math> m<sup>2</sup> in rentable area and in which PWGSC is the majority leasee (<math>&gt; 50\%</math> of the total rentable area of the building) will be assessed using the BOMA BEST assessment method and must qualify for at least the second level of certification. This applies to leases with a term of greater than 5 years, including all option years.</p> <p>As of April 1, 2012, all office-space fit-up and retrofit projects with a project area <math>\geq 1000</math> m<sup>2</sup> in usable area that involve a complete redesign will achieve LEED Commercial Interiors Silver or 3 Green Globes for fit-up or equivalent.</p>
<p><b>7.1.1.2</b> Conduct life-cycle assessments for major construction and renovation projects using an industry recognized tool.</p>	<p>As of April 1, 2015, all new building construction and major renovation projects of <math>&gt; \\$5M</math> will undergo a life-cycle assessment of the major building elements (structure and envelope) using the Athena Sustainable Materials Institute's "Environmental Impact Estimator", "EcoCalculator" or equivalent.</p> <p>The commitment does not apply in remote and northern communities, as the Athena tool does not accommodate these locations well.</p> <p>The commitment does not apply to space fit-up projects.</p>
<p><b>7.1.1.4</b> Manage the collection, diversion and disposal of workplace waste in Crown-owned buildings in an environmentally responsible manner.</p>	<p>By April 2007, multi-material recycling will be implemented in PWGSC Crown-owned buildings where recycling infrastructure exists.</p> <p>Starting on March 31, 2016, PWGSC will assess all Crown-owned general purpose office buildings <math>\geq 5000</math> m<sup>2</sup> through waste audits and waste reduction work plans to baseline, track, and assess performance of non-hazardous solid waste management practices on a five-year cycle.</p> <p>By March 31, 2016, PWGSC will ensure that paper material generated in Crown-owned buildings is reused or recycled, where feasible.</p> <p>By March 31, 2017, PWGSC will have implemented composting collection services in all existing Crown-owned buildings, where feasible.</p> <p>As of April 1, 2015, all newly constructed federal government office buildings, including Crown-owned, leased-to-own, and build-to-lease will be designed to accommodate composting collection services and will implement these services, where feasible.</p> <p>As of March 31, 2016, PWGSC will have implemented a national waste diversion program such as the 3R Plus Program in Crown-owned buildings, where feasible.</p> <p>Commencing in April 2004, at the time of lease renewals and new lease agreements, cost effective multi-material recycling will be implemented in leased buildings, where the recycling infrastructure exists and where PWGSC is the majority lessee.</p>
<p><b>7.1.1.5</b> Manage construction, renovation and demolition waste in Crown-owned buildings in an environmentally responsible manner.</p>	<p>As of April 2004, in real property projects over \$1M and in communities where industrial recycling is supported, the implementation of construction and demolition waste management practices will be completed, with waste materials being reused or recycled.</p> <p>As of March 31, 2015, construction, renovation, and demolition projects of more than \$1M will achieve a minimum waste diversion target of 75%.</p>



FSDS Implementation Strategies and Best Practices	Relevant PWGSC Green Building Commitments
	By March 31, 2016, construction, renovation, and demolition waste management practices will be integrated into the National Project Management System (NPMS) and will be used for reporting, including the projects' final diversion rates.
<b>7.1.1.6</b> Develop an approach to improve performance of Crown-owned buildings via automation and commissioning.	<p>As of April 1, 2015, start using only Open Protocol (BACnet) capable Building Automation Systems and building components (e.g. building envelopes) in all new construction and major renovation projects.</p> <p>By March 31, 2016, assess the status of Building Automation Systems in buildings <math>\geq 5000</math> m<sup>2</sup> under Department's custody for suitability for integration with a Smart Building/Intelligent Building system.</p> <p>By March 31, 2017, start implementing Smart/Intelligent Building technology in selected (suitable) buildings.</p>
<b>7.1.1.9</b> Benchmark and report annually on the energy usage intensity of Crown-owned office buildings using an industry recognized tool.	Commencing April 1, 2015, PWGSC will register all Crown-owned office buildings for which it is the custodian, in the ENERGY STAR Portfolio Manager and maintain the information in the program thereafter.
<b>Best Practice 7.1.2</b> Real property managers and functional heads responsible for new construction, leases or existing building operations will have clauses related to environmental considerations incorporated into their performance evaluations.	As of April 1, 2014, in support of the Real Property Branch Assistant Deputy Minister/Associate Assistant Deputy Minister's Performance Management Agreement, all staff at the EX-1 level and above will include a statement of support for the organization achieving results pertaining to the Greening Government Operation's priority of reducing the government's environmental footprint; and continue to lead national programs that guide and support operations that ensure compliance with environmental acts, legislation and Federal Sustainable Development Strategy commitments.

**FSDS Target 8.1: Water Management.** *As of April 1, 2014, the Government of Canada will take further action to improve water management within its real property portfolio.*

FSDS Implementation Strategies and Best Practices	Relevant PWGSC Commitments
<b>8.1.1</b> By March 31, 2015, each department will update, as appropriate, the Real Property Sustainability Framework to define the custodian's approach to sustainable water management in Crown-owned assets. Key elements of the approach will address the scope of application and commitments to:	
<b>8.1.1.1</b> Conserve potable water	As of April 1, 2015, PWGSC will examine the feasibility of reducing potable water consumption from cooling towers in existing crown-owned buildings by increasing cooling tower cycle of concentration to six or more on a case by case basis.



FSDS Implementation Strategies and Best Practices	Relevant PWGSC Commitments
	<p>By March 31, 2016, PWGSC will, where feasible, install water meters in buildings that are currently not metered.</p> <p>By March 31, 2017, PWGSC will determine the department's national baseline water consumption to establish an achievable national water-reduction target in terms of litres/person or litres/m<sup>2</sup> for its existing crown-owned inventory.</p> <p>By March 31, 2016, PWGSC will eliminate the use of cooling systems that utilize single-pass cooling.</p>
<b>8.1.1.2</b> Manage storm water run-off	<p>By March 31, 2016, where feasible, PWGSC will ensure that all roof drains in its existing crown-owned buildings <math>\geq 1000</math> m<sup>2</sup> are disconnected from sanitary or combined sewers, where feasible.</p> <p>By March 31, 2016, PWGSC will develop and implement a framework for assessing and installing storm water reuse options in new building constructions <math>\geq 1000</math> m<sup>2</sup>.</p>
<b>8.1.1.4</b> Meter the water usage in new projects	<p>As of April 1, 2015, all new construction projects will include the installation of a building level water meter.</p> <p>As of April 1, 2015, all major renovations (as defined in Table 2, Row 5.) that affect the building's plumbing system, will include the installation of a building level water meter.</p>
<b>Best Practice 8.1.2</b> Conduct potable water audits in Crown-owned assets	Water audits will be conducted as part of building utility (energy and water) audits under the regular building management program of Real Property Branch's Asset Management Plan / Building Management Plan program.
<b>Best Practice 8.1.4</b> Reclaimed non-potable water is used for landscape irrigation	For properties with significant landscaped features, new construction and building renovations that affect the plumbing system, the collection and use of non-potable water (rainwater and greywater) will be considered for site irrigation requirements, where feasible. A study identifying those sites with this potential will be updated to reflect current conditions.



## 2. Sustainability Framework Summary Tables

The tables below summarize PWGSC's commitments for each building project type, including the threshold, assessment tool(s) and energy efficiency targets. Table 2 addresses the commitments related to Project Design and Delivery; and Table 3 addresses ongoing Building Management.

### ***How does the National Energy Code for Buildings (NECB) inform energy efficiency targets?***

The NECB provides a series of design criteria (e.g. for systems and equipment for heating, lighting, and electrical power systems) that result in a building having a certain energy performance. This NECB level of energy performance is used as a baseline for the targets specified here. Most of these targets aim to make projects significantly more energy efficient than a building that meets only NECB requirements.

**Table 2: Project Design and Delivery**

Building Project Type	Threshold <sup>2</sup> (\$ or m <sup>2</sup> )	Assessment Tool & Target	Energy Efficiency Target	Lifecycle Assessment
1. New office buildings	All projects	<a href="#">LEED Gold</a> or <a href="#">4 Green Globes</a>	28% more energy efficient than NECB performance and/or 35% more energy efficient than the building being replaced.	Athena EIE/EC (>\$5M, location restrictions)
2. Other types of newly constructed buildings <sup>3</sup>	All projects	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>	24% more energy efficient than NECB performance and/or 35% more energy efficient than the building being replaced.	Athena EIE/EC (>\$5M, location restrictions)
3. Long-term lease office buildings (including build-to-lease, lease-to-purchase, sale-leaseback)	All projects ≥500 m <sup>2</sup>	<a href="#">LEED Gold</a> or <a href="#">4 Green Globes</a>	24% more energy efficient than NECB performance and/or 35% more energy efficient than the building being replaced.	No
4. Building acquisition	All projects	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>	24% more energy efficient than NECB performance.	No
5. Buildings undergoing Major Renovations <sup>4</sup>	All projects	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>	24% more energy efficient than NECB performance.	Athena EIE/EC (>\$5M, location restrictions)
6. Space Fit-Up and Retrofits	≥1000 m <sup>2</sup> (Office)	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>		No

**Table 3: Building Management**

Building Project Type	Threshold (\$ or m <sup>2</sup> )	Assessment Tool and Target	Frequency
1. Existing federally-owned buildings (office and non-office)	≥1000 m <sup>2</sup>	<a href="#">BOMA BEST</a>	5 years
2. New and renewed leased office buildings	≥10,000 m <sup>2</sup> , 5+ year lease	<a href="#">BOMA BEST Certified (second level)</a>	3 years
	≥500 m <sup>2</sup> (major lessee of 5+ year lease)	<a href="#">BOMA BEST Certified (first level)</a>	3 years
3. New and renewed leased non-office buildings	≥500 m <sup>2</sup> (major lessee of 5+ year lease)	<a href="#">BOMA BEST Certified (first level)</a>	3 years

<sup>2</sup> This only includes buildings where PWGSC is the custodian or leases where PWGSC is the lease holder.

<sup>3</sup> This does not include special purpose buildings for which no appropriate green assessment tool is available.

<sup>4</sup> Heritage buildings undergoing major renovations are subject to the Sustainable Heritage Guide



### 3. PWGSC Positions Involved in Green Buildings

Table 4 lists the most common positions within Real Property Branch that are involved in green buildings. These stakeholders have various roles in implementing the commitments PWGSC has made in response to the FSDS 2013 – 2016 (described in Section 1). Many also have a role in reporting PWGSC's performance against meeting these commitments. A number of these position titles are generic, that is, they are meant to describe the position in a general way, recognizing that the position may be defined differently between various sectors and regions.

**Table 4: Common Projects Relevant to each RPB Position**

RPB Position:	Project Delivery:						Building O&M:	
	New Office Buildings	Other Types of Newly Constructed Buildings	Long-Term Lease	Building Acquisitions	Buildings Undergoing Major Renovations	Space Fit-up and Retrofits	Management of Existing Federally Owned Office and Non-Office Buildings	Management of New and Renewed Leased Office and Non-Office Buildings
Regional and Senior Directors	●	●	●	●	●	●	●	●
Owner / Investor	●	●	●	●	●	●		
Sustainable Building Coordinators <sup>5</sup>	●	●	●	●	●	●	●	●
Project Leaders	●	●	●	●	●	●		
Senior Project Managers	●	●	●	●	●	●		
Project Managers	●	●	●	●	●	●		
Environmental Services Department (ESD) Technical Specialists	●	●	●	●	●	●	●	
All Other Technical Specialists (e.g. Architects, Engineers)	●	●	●	●	●	●		
Client Accommodation Service Advisor	●	●	●		●	●		
Leasing Officers	●		●			●		●
Lease Administrators, Asset and Facility Management Services	●		●			●		●
Asset / Facility Manager, Asset and Facility management Services (AFMS)						●	●	
Maintenance Management							●	

<sup>5</sup> **Sustainable Building Coordinators:** Each region should have a "sustainable building coordinator" under one of a variety of position titles. Ordinarily, this coordinator will be within the Environmental Services group of Professional and Technical services, but each region is organized differently to meet its own unique requirements. For project delivery, the sustainable building coordinator is to be consulted at the outset of each project as an integral part of the project team. The sustainable buildings coordinator will be included on the project team from the initial planning stages of the project. They assist the project team to determine how the building will achieve its targets. They also provide advice for integrating sustainability design principles into projects and for operating practices to be used in building management. And, they coordinate the collection of reporting information from the project manager on the green building targets.



## 4. Definitions: Building and Accommodation Types

PWGSC's green building commitments vary across the types of buildings and accommodations. The following tables provide definitions for the common building and accommodation types applicable to the Department.

**Table 5: Definitions of Common Building Types**

Building Types	Definition
1. New office buildings	All newly constructed general-purpose office buildings owned by PWGSC.
2. Other types of newly constructed buildings	Any newly constructed building type (e.g. shops, warehouses, garages) owned by PWGSC, other than a general-purpose office building.
3. Long-term lease buildings	<p>All buildings leased for a term of 15 years or greater for any combination of the initial term plus optional extensions. This includes:</p> <p><i>Lease-to-purchase:</i> All new and existing buildings that are leased with an option to purchase the building at the end of the lease.</p> <p><i>Build-to-lease new office buildings:</i> Newly constructed office buildings that are built to the specifications of a federal government lease agreement.</p> <p><i>Sale-leaseback:</i> All new and existing buildings that are sold to a third party, with whom PWGSC subsequently enters into a lease agreement. May be short to medium term (1-10 years) or long term (20+ years) subject to the vendor's specific occupancy or capital requirements.</p>
4. Building acquisition	Existing buildings purchased by PWGSC.
5. Buildings undergoing Major Renovations	<p>Defined as a renovation to a building owned by PWGSC that may entail any one of the following set of conditions:</p> <ul style="list-style-type: none"> <li>– The building is stripped to its structure, or it is undergoing a mid-life retrofit;</li> <li>– The building renovations include significant alterations to the building's envelope and heating, ventilation and air conditioning (HVAC) systems; and/or</li> <li>– The total renovation budget is equal to or greater than 50% of the replacement cost of the building in current dollars.</li> </ul> <p>Buildings with heritage elements are a sub-group of this building project type.</p>
6. Space Fit-Up and Retrofits	<p>"Fit-Up" refers to the preparation of a building office space for initial federal occupancy whereas "Retrofit" (or "Refit") refers to the preparation of a building office space previously occupied by a federal organization to meet new requirements or to respond to a change in functional requirement of an organization.</p> <p>This definition applies to space fit-ups and retrofits for building office space of <math>\geq 1000 \text{ m}^2</math> and a complete redesign of the space. This includes:</p> <ul style="list-style-type: none"> <li>– Space is stripped to its base building (industry standard) configuration;</li> <li>– Redesign of lighting; and</li> <li>– Redesign of plumbing services for the space.</li> </ul>



**Table 6: Definitions of Accommodation Types**

Accommodation Types	Definition
1. Crown-owned, Crown managed	The building is owned by the Crown under the custodianship of PWGSC and managed by employees of the Department.
2. Crown-owned RP-n managed	The building is owned by the Crown under the custodianship of PWGSC and managed by a private sector contractor under an RP-n contract.
3. Buildings in which space is leased	The building is owned by a private sector company and managed by that company or its agent.

## 5. Definitions: Green Building Assessment Tools

Green or sustainable buildings are generally defined as those that deliver superior environmental performance in areas such as: the building site; water; energy; material resources; and the indoor environment. PWGSC uses the tools presented in Table 7 (below) to assess the performance and impact of its buildings during project delivery (i.e. design and construction) and building management (i.e. operation and maintenance).

When selecting a tool to assess and report on environmental performance and impact, the project team must consider the project type, the total value of project and the relevant commitment made by PWGSC toward greening its operations. The *Green Building Implementation Guide* (refer to Section 6 for a link to this document) outlines in detail how project teams should approach the assessment of each project type, including how to select the appropriate assessment tool.

**Table 7: Description of Assessment Tools and Supporting Materials**



**Leadership in Energy and Environmental Design® (LEED):** LEED is a points-based rating system used to assess the environmental performance of buildings. It is the principal system used by PWGSC and is widely recognized as the industry standard. It can be used to assess: new construction, including major renovations (NC); the fit-up of an existing building; commercial interiors (CI); and existing building operations and maintenance (EB:O&M). Buildings are awarded one of four levels based on their score: Certified, Silver, Gold, and Platinum.



**Green Globes:** Green Globes (formerly BREEAM/Green Leaf) is a points-based rating system used to assess the environmental performance of buildings. It can be used for both new construction (including major renovations) and for interior space fit-ups of existing spaces. Buildings are awarded one to five 'Green Globes' based on their score.



**Athena Environmental Impact Estimator (EIC) and EcoCalculator® (EC):** The Athena Sustainable Materials Institute's EIE/EC tools are used to conduct a life-cycle assessment to determine the environmental impact of major construction and renovation projects. These tools enable informed decisions, at different levels of detail and precision, estimate the environmental impact of construction materials and their use in building projects, focusing principally on concrete, steel and wood.



**Building Owners and Managers Association Building Environmental Standards program (BOMA BEST®):** The BOMA BEST program assesses the energy and environmental performance of operation and maintenance of existing buildings. It is the principal system used by PWGSC for existing buildings and is widely recognized as the industry standard. It has a set of best practices and gradations of environmental certification.





**ENERGY STAR Portfolio Manager:** The ENERGY STAR Portfolio Manager is an interactive energy management tool for tracking and assessing the energy and water consumption of buildings. It allows users to monitor, rate, and optimize their building's energy use – all in a secure online environment. Developed and owned by the U.S. Environmental Protection Agency, the Portfolio Manager is currently in use by Natural Resources Canada and has been adapted to include Canadian weather and other data specific to Canada.



**National Energy Code for Buildings, 2011 (NECB):** The National Energy Code for Buildings, 2011 (NECB) provides minimum requirements for the design and construction of energy-efficient buildings. It covers the building envelope, systems and equipment for heating, ventilating and air-conditioning (HVAC), service water heating, lighting, and the provision of electrical power systems and motors. It applies to new buildings and additions. It does not apply to farm buildings nor to housing and smaller buildings covered in Part 9 of the National Building Code of Canada (NBC).

**2014 PWGSC Greenhouse Gas Action Plan:** The 2014 PWGSC Greenhouse Gas Action Plan was developed as a specific guide to achieving the Department's FSDS greenhouse gas (GHG) emission reduction target. The Action Plan identifies the most cost effective path to achieving the Department's emission reduction goal by 2020. The Action Plan establishes specific regional GHG goals to achieve the overall GHG emission reduction target, and identifies the key facilities across the country that must be the focus of PWGSC's efforts.

**Sustainable Heritage Guide (SHG):** The Sustainable Heritage Guide was developed by PWGSC to provide guidance to project teams on integrating sustainability building standards in heritage building projects.

**Green Lease:** PWGSC's 'green lease' provision was established in 2004 to address other types of leases for office buildings (other than those that are Crown owned). The PWGSC Green Lease addresses key environmental standards such as the proper management of wastewater, indoor air quality and energy efficiency.



## 6. Acronyms and References

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**Athena EIC/EC** – Athena Environmental Impact Estimator and EcoCalculator ([EIE/EC®](#))

**BOMA BEST** – Building Owners and Managers Association Building Environmental Standards program ([BOMA BEST](#))

**EB:O&M** – LEED Existing Building Operations & Maintenance ([LEED EB:O&M](#))

**ENERGY STAR Portfolio Manager** – ([ENERGY STAR Portfolio Manager](#))

**FSDS** – Federal Sustainable Development Strategy Canada ([FSDS](#))

**GHG** – Greenhouse Gas

**Green Building Implementation Guide** – ([Green Building Implementation Guide](#))

**Green Globes** – ([Green Globes](#))

**Green Lease** – ([Green Lease](#))

**HVAC** – Heating, Ventilation and Air Conditioning

**LEED** – Leadership in Energy and Environmental Design ([LEED®](#))

**NCA** – National Capital Area

**NBC** – National Building Code of Canada

**NECB** – National Energy Code for Buildings – ([NECB](#))

**NPMS** – National Project Management System

**OGGO** – Office for Greening Government Operations

**PWGSC** – Public Works and Government Services Canada

**RPB** – Real Property Branch

**RPP** – Reports on Plans and Priorities

**SDS** – Sustainable Development Strategy



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## **H) ANNEX F: GUIDELINE – PROJECT G.H.G. OPTIONS ANALYSIS METHODOLOGY**

**ADD the following:**





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# Guideline - Project GHG Options Analysis Methodology





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New commitments and targets in the Federal Sustainable Development Strategy (FSDS) 2016-19 and in PSPC's Real Property Service 2016-19 Business Plan have emphasized reductions in greenhouse gas (GHG) emissions. Therefore, some additions must be made to the existing approach used by PSPC to evaluate project options. This guideline provides a methodology to evaluate real estate investment project options based on their GHG emission reductions opportunity. The methodology was developed to incorporate greenhouse gas emissions reduction and their financial impact into Real Property Investment Decisions. It was approved for full application by the Real Property Operations Committee in March 2017.

As part of the FSDS, the Government of Canada committed to reducing GHG emissions by 17% by 2020, and 40% by 2030 when compared to the 2005-06 baseline. In addition, the Real Property Services Branch of PSPC has committed to initiating measures to achieve a carbon neutral portfolio by 2030. All other sustainability commitments and targets, at this time, are unchanged. If and when other sustainability commitments change, this options and analysis methodology may require adjustments.

## **Scope**

This guideline is to be followed for projects in crown-owned buildings. It currently does not apply to leases, sale-lease-back and built-to-leases as PSPC does not have operational control of this space. It does not apply to infrastructure projects.

## **Energy Modelling and Simulation**

This methodology relies on building energy modelling and simulation to quantify the energy savings, energy cost savings and GHG emission reductions of energy conservation measures. This section provides a background on building energy modelling and simulation.

A building can be considered as a whole system composed of elements that interact with one another. These elements include: building envelope, mechanical systems, lighting, people, plug and other equipment loads and the external environment, including weather and site.

Energy modelling and simulation of a building takes into account the interaction of the building elements and considers the building as a whole system. It takes into account the energy, air and moisture flows into and out of the building and between the building elements, thus predicting the building's energy requirements in a holistic manner.

Major projects are defined as projects that are multi-disciplinary in nature (impacting more than one of the building elements defined above), newly constructed buildings, acquisitions and major renovations. Major projects will require building energy modeling and simulation. It is the only accepted tool that is capable of accounting for the interaction between different building elements and of analyzing multiple energy conservation measures simultaneously. Energy modelling and simulation promotes the application of an integrated design process among building professionals: architects designing the building envelope, mechanical and electrical engineers designing the HVAC and lighting systems and other members of the design and project teams.

Simple projects do not necessarily require whole building energy modeling and are defined as projects that are single-disciplinary (affect one building element in isolation) and non-complex in nature. An example can be the replacement of a pump, small chiller, small boiler or a window replacement project.



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## **Carbon Neutral – Definition**

Carbon neutral for the Department is defined as a highly energy efficient portfolio that produces on-site, or procures enough clean energy (in part through carbon offset purchases), to meet the portfolio's annual energy needs. The Department will focus primarily on reducing GHG emissions from its facilities, in order to reduce the number of carbon offsets and renewable energy credits that will be required to achieve a carbon neutral portfolio.

Clean energy for the Government of Canada is defined as energy from non-GHG emitting sources, including hydro, nuclear, wind, solar, geothermal, biomass, tidal, etc.

## **Strategy/approach for single disciplinary projects (affect one building element in isolation) and non-complex in nature**

This approach will apply to projects in Tier 1, Tier 2 or Tier 3 buildings that are single disciplinary and that have an impact on GHG emissions. For example, the replacement of HVAC equipment (boilers, chillers, etc). In this case, the consultant will evaluate the energy savings, associated GHG savings and net present value (NPV) over 25 years for each option, compared to the baseline (status quo) option. Among the options that have returns on investment within 25 years, i.e. a positive incremental NPV over the 25 years, the option that generates the largest GHG emission savings compared to the baseline option will be selected. For options where the incremental NPV is slightly negative and GHG emission reductions are significant, the option should not be automatically discarded. An energy manager must be consulted to review the options and evaluate which option makes the most financial sense in comparison to GHG emission savings. For example, if there is an option that results in a return on investment that is close to cost-neutral (NPV not positive for all 25 years) but that generates a significant amount of GHG emission savings, it may still be recommended. This recommendation will be based on the importance of the asset for PSPC to meet its goal of a carbon neutral portfolio.

It is requested that projects in which the capital cost of the recommended option is 20% greater than the capital cost of the baseline option (option that would have normally been recommended before the implementation of this methodology) be flagged and reviewed by the National Centre of Expertise. This request is to determine the impact of the methodology on the capital cost investment required for single disciplinary projects. This requirement may be adjusted or removed in the future once sufficient data is collected to better understand the financial impact these greener options have on funding.

## **Strategy/approach for multi-disciplinary projects or for new buildings, acquisitions and major renovations**

The application of this approach is mandatory to multi-disciplinary projects in Tier 2 and Tier 3 assets. It is to be applied to the recommended procurement option and to any other option within 10% of the lifecycle cost of the recommended one.

Each Investment Analysis Report (IAR) will analyze the following four design options:



## Option 1: Design to Meet Minimum Departmental Commitments (Baseline option)

This option will require the building design to meet the minimum departmental green building commitments. PSPC's diverse green building commitments are formalized in the Department's response to the FSDS, specific targets in past Sustainable Development Strategies (SDSs), input to the Report on Plans and Priorities (2012-2013), the Department's Sustainable Buildings Policy (Departmental Policy 100), and various Ministerial announcements. Table 1 presents the key sustainability and energy performance commitments approved by the Department.

Table 1: Project Design and Delivery

Building Project Type	Threshold <sup>1</sup> (\$ or m <sup>2</sup> )	Assessment Tool & Target	Energy Efficiency Target	Lifecycle Assessment
1. New office buildings	All projects	<a href="#">LEED Gold</a> or <a href="#">4 Green Globes</a>	28% more energy efficient than NECB performance and/or 35% more energy efficient than the building being replaced.	Athena EIE/EC (>\$5M, location restrictions)
2. Other types of newly constructed buildings <sup>2</sup>	All projects	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>	24% more energy efficient than NECB performance and/or 35% more energy efficient than the building being replaced.	Athena EIE/EC (>\$5M, location restrictions)
3. Long-term lease office buildings (including build-to-lease, lease-to-purchase, sale-leaseback)	All projects ≥500 m <sup>2</sup>	<a href="#">LEED Gold</a> or <a href="#">4 Green Globes</a>	24% more energy efficient than NECB performance and/or 35% more energy efficient than the building being replaced.	No
4. Building acquisition	All projects	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>	24% more energy efficient than NECB performance.	No
5. Buildings undergoing Major Renovations <sup>3</sup>	All projects	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>	24% more energy efficient than NECB performance.	Athena EIE/EC (>\$5M, location restrictions)
6. Space Fit-Up and Retrofits	≥1000 m <sup>2</sup> (Office)	<a href="#">LEED Silver</a> or <a href="#">3 Green Globes</a>		No

Every project team should reference and provide the design team the "PWGSC – Real Property Sustainability Framework".

## Option 2: Design to Achieve Cost-neutral (25 years) GHG Emission Reductions

Option 2 will meet all of the Departmental commitments to sustainability, and environmental performance standards, as identified in Option 1.

In addition, the consultant will assess individual measures that improve energy performance and reduce the greenhouse gases emitted by the facility. Energy modeling and simulations will be performed on bundled measures until the best option is identified. The best option results in a positive NPV on the incremental cost (compared to option 1), when calculated over the life cycle of the project (usually 25 years). Priority should be given to energy conservation, before fuel switching alternatives are considered for reducing GHG emissions. For example, switching a building component's fuel source from natural gas to electricity in a

<sup>1</sup> This only includes buildings where PWGSC is the custodian or leases where PWGSC is the lease holder.

<sup>2</sup> This does not include special purpose buildings for which no appropriate green assessment tool is available.

<sup>3</sup> Heritage buildings undergoing major renovations are subject to the Sustainable Heritage Guide



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province with a clean grid will reduce the facility's GHG emissions but will not necessarily improve the building's energy efficiency. The priority should be to reduce the building component's energy use, no matter its fuel source. Once the building energy performance has been optimized, fuel switching and on-site renewable energy generation should be evaluated.

As Option 2 will lead to a positive, or very close to positive, incremental NPV over the project's lifecycle, it should always be recommended over Option 1 if funding is available. Option 2 provides the crown the best option for deep GHG emission reductions at no additional cost over the investment horizon.

### **Option 3: Design to Achieve Maximum GHG Emission Reductions**

Option 3 will meet all of the Departmental commitments to sustainability, and environmental performance standards, as identified in Option 1.

In addition, the consultant will evaluate the measures required for the project to reduce the carbon emissions footprint to as close to or beyond carbon neutral as possible, excluding the use of carbon offsets or renewable energy credits. The consultant should focus on reducing emissions through improved energy efficiency first, followed by the selection of non-emitting fuel sources. The production of on-site carbon-free renewable energy generation should be evaluated and presented.

This option will provide PSPC with two key pieces of information: (1) the maximum GHG reduction potential of the project, and (2) the cost associated with this Maximum GHG Emissions Reduction Design Option.

### **Option 4: Hybrid GHG Emissions Reduction Design**

Using the information collected and calculated in the three defined options above, the consultant, in consultation with the PSPC project leader and Regional Centre of Expertise Specialists, will be asked to evaluate and propose an optimized recommended option. This option balances GHG emissions with construction and building operating costs. The recommended option may be one of the three options defined above, or may be a combination of individual measures that were investigated in Options 2 or 3. The individual measures themselves can be evaluated in terms of cost, cost avoidance, energy consumption and GHG emission reductions. The modeling and simulation of different energy/GHG measure combinations will be required to determine the recommended combination of measures that provides the best value for the Crown. In other words, the crown is requesting that the professional consortium use their expertise to determine a fiscally responsible option that takes GHG emission reductions into consideration.

### **Final Remarks**

This methodology was developed with no hard energy/GHG performance targets. The project requirements, asset characteristics and its geographical location will dictate what must be included in each option to provide best value for the crown. The different options provide best financial, GHG emission reduction and combination value so PSPC can make an informed decision.



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**The following is in response to inquiries received in relation to this solicitation.**

**Question 1**

Our firm would like to submit a proposal for the 1500 Bronson Rehabilitation Project. Would you be able to confirm whether there is a site visit?

**Response 1**

Please refer to RFP section:

SUBMISSION REQUIREMENTS AND EVALUATION

**SRE 1 GENERAL INFORMATION – 1.2 Site Visit**

In Phase Two, one site visit will be scheduled for Proponents, but participation will not be mandatory.