

NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

Official Residences of Canada

ASSET PORTFOLIO CONDITION REPORT

APRIL 2018 (FINAL)



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1 Executive Summary

The National Capital Commission's (NCC) objective for the official residences is to ensure that they are furnished, maintained and rehabilitated to safeguard their national heritage, provide safe and appropriate accommodations for Canada's official leaders, and serve as inspiring properties and grounds for the conduct of state events and ceremonies.

The six official residences in the National Capital Region (NCR) are:

- Rideau Hall: home and workplace to the Governor General of Canada
 - Rideau Cottage: temporary home to the Prime Minister of Canada
- 24 Sussex Drive: home to the Prime Minister of Canada
- Harrington Lake: the Prime Minister of Canada's country residence
- Stornoway: home to the Leader of the Opposition
- The Farm: home to the Speaker of the House of Commons
- 7 Rideau Gate: home to official guests of the Canadian government

This document presents the state of the official residences portfolio managed by the NCC as of September 2017 based on a 2017 in-depth assessment of the entire asset base.¹ According to the findings, approximately 80% of the building portfolio is greater than 50 years old, with 20% greater than 150 years old. The overall Facility Condition Index for the portfolio is 0.134 which translates into an overall assessment of "POOR". 27% of the portfolio is in "CRITICAL" condition. Lack of timely investments in the portfolio have resulted in a deferred maintenance deficit.

Without sustainable funding, the deferred maintenance deficit will continue to grow and more assets will resemble the current state of 24 Sussex Drive. A one-time injection of \$83 million in funding over 10 years to address the deferred maintenance deficit coupled with an increase in annual appropriations of \$24.6 million would provide a sustainable source of funds that could be used to conserve the built heritage of national interest under the NCC's stewardship.

However, funding is not the only requirement. Predictable access to the residences is another key element. Without both a sustainable source of funds and access to the residences to undertake regular repair, maintenance and scheduled capital improvements, the NCC will not be able to fulfill its mandate with respect to the official residences.

¹ This report does not address site related infrastructure such as underground utilities, perimeter fencing, access roads, etc., security upgrades (RCMP mandate) or any costs related to new programming.

While the NCC will work with the RCMP on a coordinated approach, these funding requirements are limited to the NCC's mandate and therefore do not include the funding required by the RCMP to fulfill its security mandate.

Next steps include the development of an OR Management Framework (in consultation with key stakeholders) that includes a refreshing of the current management principles; an OR portfolio strategy including identifying a source of funds, a more focused approach to governance and oversight, defined levels of service, measurable performance indicators; informed long-term investment and practical asset management plans and finally a prioritized list of programs and projects.

2 Introduction

The National Capital Commission (NCC) is a Crown corporation with a mandate and mission to build the National Capital Region (NCR) as a source of pride and unity for Canadians. The corporation is responsible for planning, as well as taking part in the development, conservation and improvement of the NCR.

The NCC fulfills its mandate through the following areas of activity:

- setting the long-term planning direction for federal lands in the NCR;
- guiding and controlling the use and development of federal lands in the NCR;
- managing, conserving and protecting NCC assets (including Gatineau Park, the Greenbelt, the NCC real property portfolio, and other assets such as bridges, pathways and parkways); and
- maintaining heritage sites in the NCR, such as the official residences and commemorative sites.

The ownership and stewardship responsibilities for the buildings and grounds of the official residences in the NCR were officially transferred from Public Works and Government Services Canada to the NCC in January 1988. The six official residences in the NCR are:

- Rideau Hall: home and workplace to the Governor General of Canada
 - Rideau Cottage: temporary home to the Prime Minister of Canada
- 24 Sussex Drive: home to the Prime Minister of Canada
- Harrington Lake: the Prime Minister of Canada's country residence
- Stornoway: home to the Leader of the Opposition
- The Farm: home to the Speaker of the House of Commons
- 7 Rideau Gate: home to official guests of the Canadian government

All of the above buildings are designated “classified” or “recognized” heritage buildings by the Federal Heritage Buildings Review Office (FHBRO), reflecting the great national significance of the portfolio.

The entire portfolio includes not only the six official residences, but an additional 50 ancillary buildings, with a total gross area of approximately 25,000 square meters.

These official residences serve a number of key functions:

- a place for official business;
- accommodation to lodge and entertain foreign and Canadian guests;
- accommodation for the residents, their families and their personal guests;
- working quarters and accommodation for staff.

An essential role of the official residences is to provide a worthy setting for Canadian official hospitality at the highest level. To this end, the NCC strives to maintain and furnish the residences to standards of excellence, to display Canada's finest furniture and art, to provide comfortable and attractive interiors, and to design inspiring grounds and surroundings.

The NCC furnishes the residences with valued assets from the Crown Collection. The Collection is comprised of contemporary and antique works of art, traditional Canadian furniture, and pieces coming from Europe, the Far East and other regions around the world. Many of the acquisitions come from donations made through the Canadiana Fund. The Canadiana Fund was established in 1990 by the NCC to enhance the State areas of Canada's official residences, through donations of the finest examples of historical furnishings, paintings and *objets d'art*. The chosen pieces reflect Canada's heritage and artistic traditions, or are historically associated with, or complement, the architectural style of each residence.

The Official Residences Branch (ORB) of the NCC was created expressly to oversee maintenance, preservation and planning services for the above official residences and delivers on this mandate, utilizing skilled personnel in the following sections:

- Interior Design and Collections Management;
- Property Management;
- Grounds Management and Floral Services, and;
- Official Residences Special Projects.

ORB staff include: property managers, engineers, conservators, interior designers, maintenance staff, trades, building technicians, horticulturists, arborists, and floral designers.

3 Asset Portfolio

The NCC's overall objective for the official residences is to ensure that they are furnished, maintained and rehabilitated to safeguard their national heritage, provide safe and appropriate accommodations for Canada's official leaders, and serve as inspiring properties and grounds for the conduct of state events and ceremonies. The official residences are not luxurious or extravagant. However, they reflect the nation to Canadians and to foreign visitors and therefore must be maintained at a level that reflects the importance of the role of the residents and ensures their safety and security as well as the long-term preservation of these national assets.

Governance and Oversight

The NCC's board of directors is responsible for the oversight and direction of the NCC's activities and assets – including the Official Residences. The minister responsible for the *National Capital Act* appoints board members with the approval of the Governor-in-Council, while the Governor-in-Council appoints the chair and CEO.

In carrying out its oversight role, the board of directors undertakes the following:

- Sets broad strategic directions for the organization;
- Ensures the effective and efficient use of corporate resources;
- Monitors and reviews corporate performance and risks;
- Approves key accountability documents for the government, such as the corporate plan, annual report and quarterly financial reports;
- Approves significant projects and transactions to be undertaken by the organization; and
- Communicates and fosters relationships with government, stakeholders and the public.

The Advisory Committee on the Official Residences of Canada (ACORC) provides objective professional advice to the board of directors, CEO and executive management on asset management and matters relating to the six official residences in Canada's Capital Region. Committee members are experts in interior design, architecture, heritage and real property asset management.

The Canadiana Fund is responsible for soliciting donations of heritage art, artifacts, furniture and funds for the enhancement of staterooms in the official residences. Chosen pieces reflect Canada's heritage, artistic traditions and historical associations, or complement the architectural style of a particular residence.

Funding

In 1987, following the decision to transfer responsibility of the management of the six Official Residences from Public Works and Government Services Canada (PWGSC – now PSPC) to the NCC, operating funds and FTE's were transferred but no capital funding. The NCC submitted ad hoc requests for funding for the Official Residences (\$25.8 million in 1987 and \$31.5 million in 1999) until the 2005-06 supplementary estimates when Treasury Board approved \$3.5M for operating expenditures and \$4.5M for capital expenditures over four years to maintain and rehabilitate the Official Residences. In 2008/2009, operating expenditures went up slightly to \$3.7M, but the capital expenditures were reduced to \$3M. That same year, the NCC decided to allocate all of its capital appropriations to the highest priorities throughout the entire organization. Since then, requests for project funding for the Official Residences have been competing against all capital project funding within the NCC. The Official Residences Branch participates equally with the other NCC stewards in the annual capital allocation and re-allocation process that results in the Multi-Year Capital Plan (MYCP). In this exercise, all identified projects are prioritized and ranked against a set of criteria and available funding is allocated to the highest ranked projects.

The NCC receives approximately \$23 million in annual capital Parliamentary appropriations. On average over the last ten years, capital expenditures are \$7.5 million and operating expenditures are \$6.0 million for the Official Residences.

Management Principles

In order to direct the NCC in its mandate of policy development, strategic planning, long-term development and maintenance of the official residences, a statement of philosophy and a set of management principles have been established, with the support of the Advisory Committee on Official Residences (ACORC). The full text of these guidance documents can be found in Appendix A.

3.1 Location

The official residences are located in the National Capital Region; two are located in the province of Quebec and four in the province of Ontario.

A general map of the NCR is provided below, showing the six official residences. The Ontario properties are located within 1km of each other in the area of Rockcliffe Park in Ottawa, whereas the Quebec properties are located in more rural areas of the towns of Chelsea and Pontiac. Harrington Lake is the most distant property to service, located approximately 30km from Rideau Hall.

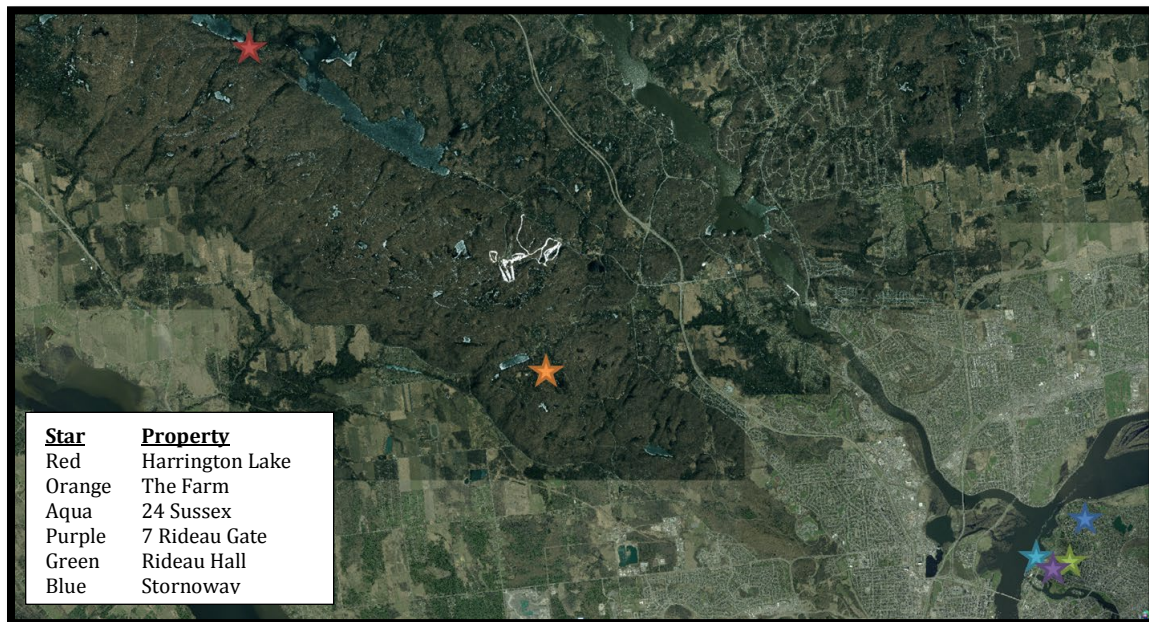


Figure 1: Map of National Capital Region showing the location of the NCC's six official residences

3.2 Size of Asset Portfolio

The Official Residences Branch (ORB) is responsible for the property management activities, as well as long-term planning and capital improvements for the six-property, 56-building portfolio². Note that four of the buildings that the ORB maintains are located at a remote site, and used for storage of materials. The breakdown of the portfolio by official residence is shown below.

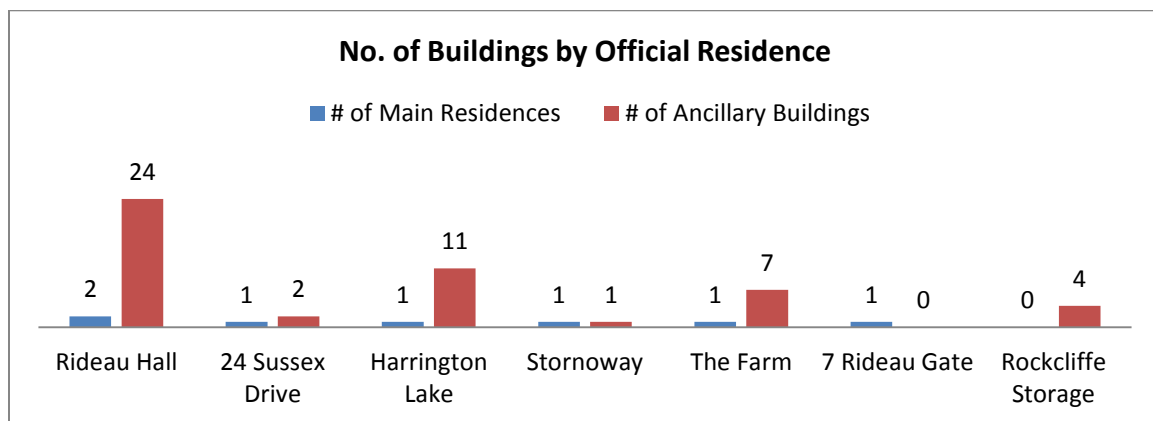


Figure 2: No. of Official Residence Buildings

² The ORB is also responsible for interior design services, stewardship of the Crown Collection of Canada, and maintaining the grounds and greenhouses.

3.3 Age of Asset Portfolio

The main residences and the overwhelming majority of their ancillary buildings were built when different building codes and lower standards of health and safety requirements applied. Approximately 80% of the building portfolio is greater than 50 years old, with 20% older than Canada, which recently celebrated its 150th birthday.

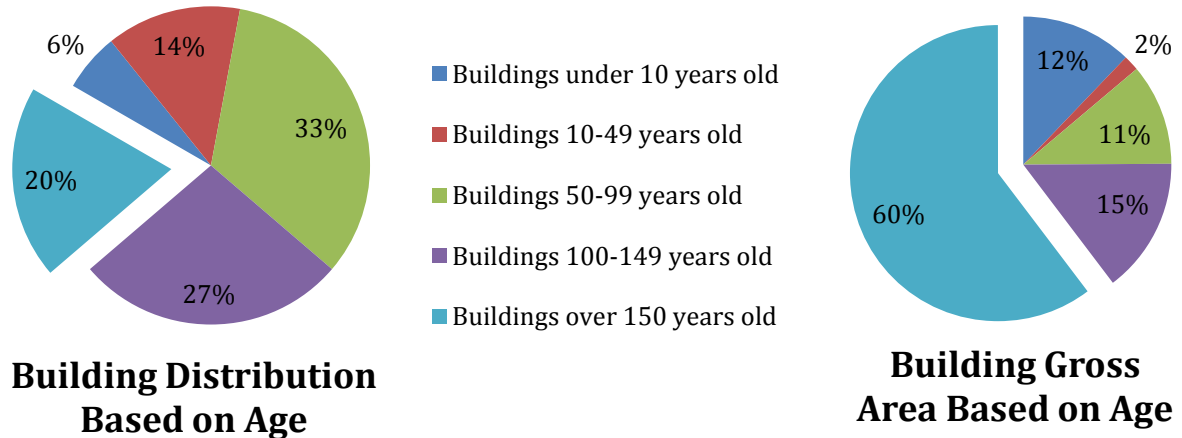


Figure 3: Portfolio Age

Operating, maintaining, and improving an aged and aging building stock comes with some challenges. This is seen when comparing the performance of ORB's building stock to recently built assets, whose building performance and usage benefit from the large improvements to energy efficiency, environmental and universal accessibility standards that have come into effect over the last century.

Further, very few of the buildings in the portfolio were purpose built for their current use, which affects the livability and functionality of most of the major assets. The majority of the gross area of the portfolio has been repurposed to fit with changing occupant requirements. Former stables, dairy houses, and gasometers at the turn of the 20th century are spaces for office administration, public usage, and mail services in the 21st century.

3.4 Condition of Asset Portfolio

Investments over time into the operation and maintenance of a facility or portfolio largely influence its physical condition. Therefore, it is important to regularly monitor and assess the condition of a facility or portfolio to ensure that the necessary funding is allocated to maintain or improve an asset.

Prior to 2017, building inspections of the ORB portfolio were performed on a three-year cycle by the NCC's lifecycle inspection team, to assess a number of building

components. These components were evaluated on a scale from critical to excellent, and examined building systems for signs of deferred maintenance, code issues, potential upgrades, etc.

This approach provided high level estimates of on-going issues and assigned a status for the building's overall condition. However, replacement and repair cost estimates were often modest and more in keeping with residential buildings of lower prominence, compared to ORB's portfolio. Other factors that are specific to the day-to-day activity at the Official Residences, such as increased security requirements, building availability, and heritage considerations often result in increased project implementation costs, schedule, and complexity.

3.4.1 Portfolio Condition Assessment Program

In 2017, the ORB property management group revised the assessment program for the Official Residences to provide a more thorough understanding of the condition of the portfolio.

For the largest and most complex buildings in the portfolio, the ORB commissioned in-depth building condition reports (BCRs), consistent with a Public Services and Procurement Canada (PSPC) Level II BCR. These BCRs were performed by a 3rd-party, multi-disciplinary team of professionals lead by the consulting group of SNC Lavalin (SNC). The PSPC reporting template, methodology, and costing baseline utilized by SNC was adopted by the NCC lifecycle inspection team who, in turn, assessed and generated a dedicated BCR for a large majority of the remaining ORB building stock. Both SNC and the NCC lifecycle inspection team were fully supported by ORB building operations staff to ensure that building component history was accurately captured.

These BCR's are attached in electronic format in Appendix B.

It should be noted that the three buildings located at 24 Sussex, as well as the Main Cottage at Harrington Lake, and the Rideau Cottage were excluded from the BCR exercise, as the condition of these buildings is well known, due to the numerous in-house and third-party investigations and reports performed on behalf of the ORB in recent years.

In total, the new assessment program has comprehensively detailed the investment requirements to address on-going maintenance, deferred maintenance, and other capital infrastructure renewal of 50 of the 56 buildings (89%) in the portfolio. Coupled with the numerous investigations and reports performed for the 24 Sussex properties and the Main Cottage at Harrington Lake, ORB has renewal investment information for over 96% of its building portfolio.

Moreover, the third-party review of the costing identified to rectify the issues in the largest and most complex buildings of the portfolio provides an independent verification of the expenditures required to improve the building stock from its current condition.

The costs provided in the reports are opinions of probable cost determined using *Hanscomb Yardsticks for Costing 2017* and represent average, non-residential, construction involving union labour in year 2017 dollars. In some instances, these costs have been increased, based on the experience of the inspector, using past project costs, industry knowledge, or current industry pricing. Prices are inclusive of site overhead and profit, a 30% allowance for soft costs, a 15% construction contingency, and a 25% contingency. No allowances have been included for alteration work, difficult access, crash schedules, or any other extremes.

The Government of Canada's *Guide to the Management of Real Property* identifies that the overriding objective of a property steward is to ensure that a property continues to fully, effectively, and efficiently meet the program requirements of the department whose program it supports.

To make informed real property investment decisions, metrics need to be established to identify which properties in a portfolio are effectively and economically supporting a department's program.

3.4.2 Facility Condition Assessment

Definitions

The facility condition index (FCI) is a key performance indicator which is used by real property managers to objectively quantify and evaluate the current condition of a facility or portfolio. The FCI is a calculation based on known deferred maintenance (DM) costs divided by the current replacement value (CRV) of the asset; the lower the FCI, the better the condition of the building or portfolio.

$$FCI = DM / CRV$$

Based on this ratio, which can range between 0 and 1, the ORB qualifies its building assets in-line with the Directory of Federal Real Property's building condition field classifications as either 'Good', 'Fair', 'Poor', or 'Critical' condition. The definition for each classification is shown below.

DFRP Building Classification	FCI	Asset System(s)	Risk of System(s) Failure	O&M Costs
Good	0.00 – 0.05	Meet(s) all operational requirements	Highly Unlikely	Low and Predictable
Fair	0.06 – 0.10	Meet(s) most operational requirements	Unlikely	Moderate with Some Backlog
Poor	0.11 – 0.30	Some or all are compromised	Likely	High with Unplanned Maintenance
Critical	0.31 – 1.00	Frequent emergency maintenance and repair	Very Likely	High with Frequent Unplanned Maintenance

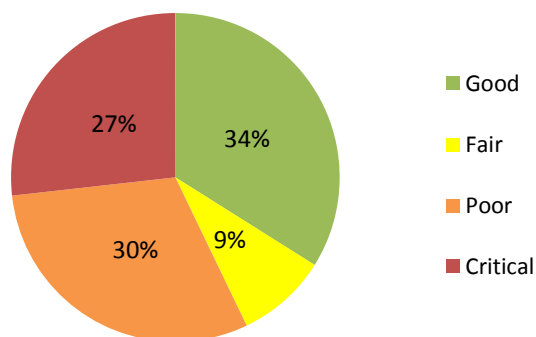
Table 1: DFRP Building Classification System Definitions

OR Portfolio FCI Assessment

The current replacement value (CRV) of the Official Residences Portfolio was calculated based on a number of factors including: the area of the building, class of building, 3rd party opinion of probable costs, or actual project costs of select federal and provincial heritage buildings over the last 5 years and is estimated to be \$615M. A summary of the CRV's for the portfolio can be found in Appendix C.

Based on the 2017 BCR estimation of deferred maintenance and an estimated CRV of \$615M – the overall FCI of the portfolio is 0.134 – which translates into an overall assessment of “Poor”.

ORB Building Portfolio FCI Based on No. of Buildings



ORB Main Residences FCI Based on No. of Buildings

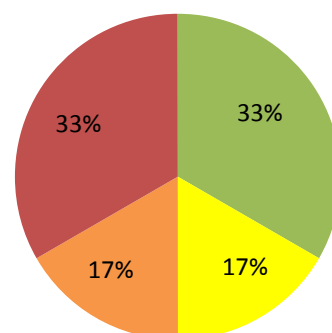


Figure 4: OR Portfolio FCI Assessment

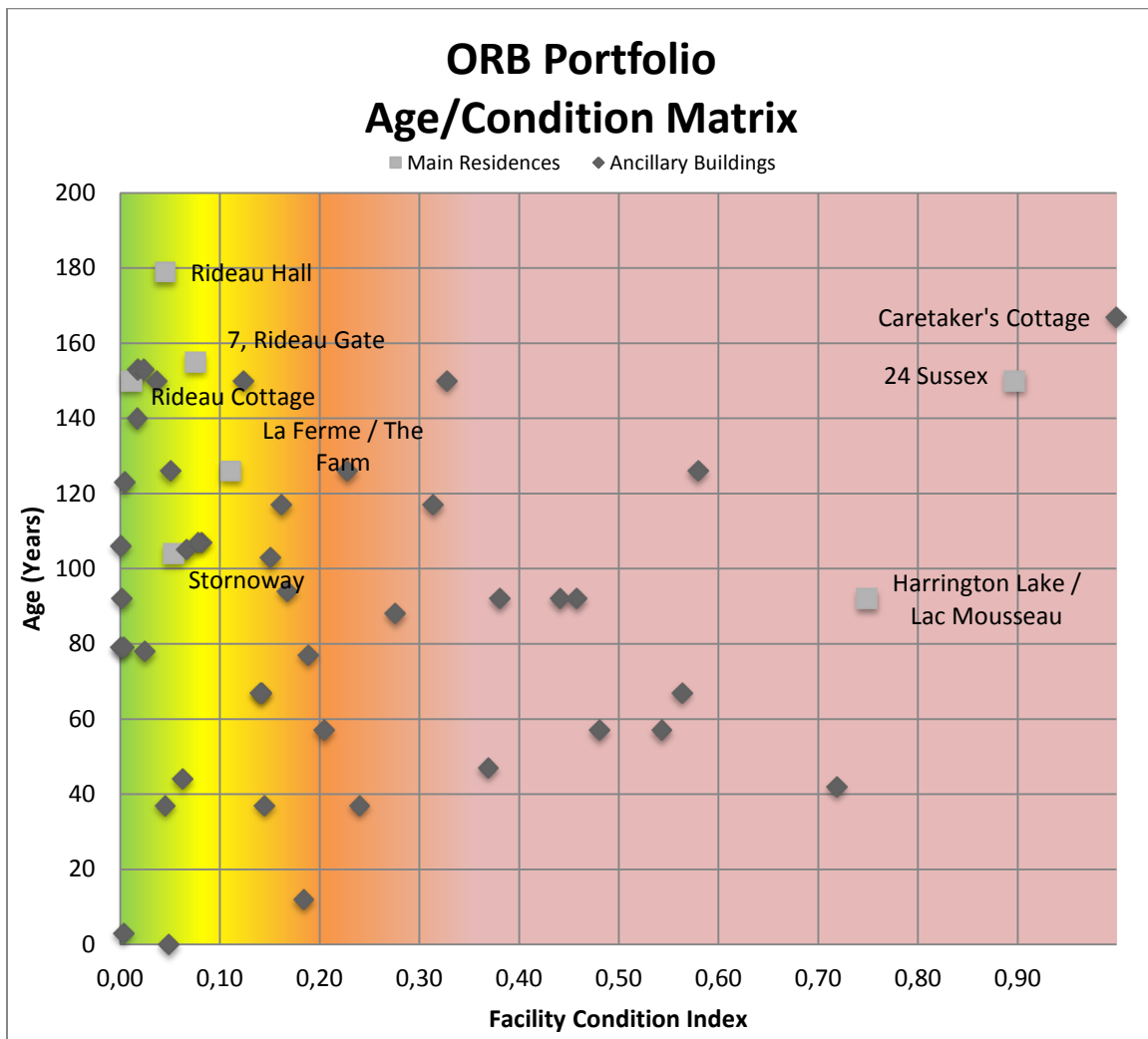


Figure 5: OR Portfolio Age/FCI Matrix

Figures 4 and 5 demonstrate that while the overall FCI for the portfolio is in “POOR” condition at 0.134, 58% of ORB’s individual assets are identified as being in ‘POOR’ to ‘CRITICAL’ condition and 50% of the main residences are ‘POOR’ to “CRITICAL’. However, the assets are operationally safe. Historical investments have been prioritized to alleviate current health and safety concerns, comply with regulations, ensure critical building systems remain in operation, and to address occupant priorities.

3.4.3 Asset Priority Index

The Asset Priority Index (API) is a metric assigned to ORB real property assets that indicates the importance of the asset in supporting the goals of the branch. In tandem with the FCI, the API allows the ORB to better compare assets against each other, in order to more effectively make funding and programming decisions.

Further, by assigning a relative priority to each of its assets, the ORB is better positioned to determining the level of intervention that each asset may require. For example, a high priority building in 'critical' condition may warrant additional funding for a rebuild in comparison to a low priority building, in the same condition, which, due to its low priority, may be considered for demolition or disposition.

Each of the ORB's building assets is assigned an API ranging from 0 to 100, where 100 is an asset of highest priority and 0 is an asset of lowest priority. The API is generated by individually rating a number of criteria that are important to the branch delivering on its goal to maintain and preserve its assets to effectively and efficiently meet the program requirements of its occupants.

API Criteria	Criteria Assessment	Criteria Points
Heritage Preservation	Is the asset of historical significance? Is it easily substituted?	0-25
Availability	Is the asset readily available to the NCC to perform work?	0-15
Building Criticality	Is the asset critical to the ongoing operations of the official residences?	0-15
Functionality	Does the asset have livability issues? Does the asset perform poorly for its purpose?	0-10
Designated Substances	To what degree does the asset contain designated substances?	0-10
Health and Safety	Does the asset have Code issues? Universal Accessibility issues? Outstanding safety issues?	0-15
Environmental Impact	What is the asset's relative impact on greenhouse gas emissions?	0-10

Table 2: Asset Priority Index (API) Definition

Note that asset condition is not a criteria in scoring for the API. The API is solely for ranking assets by priority. Should an asset have a high API and high FCI (i.e. be in poor/critical condition), it is a higher priority.

A comparison of the API and FCI of the ORBs portfolio is shown graphically below.

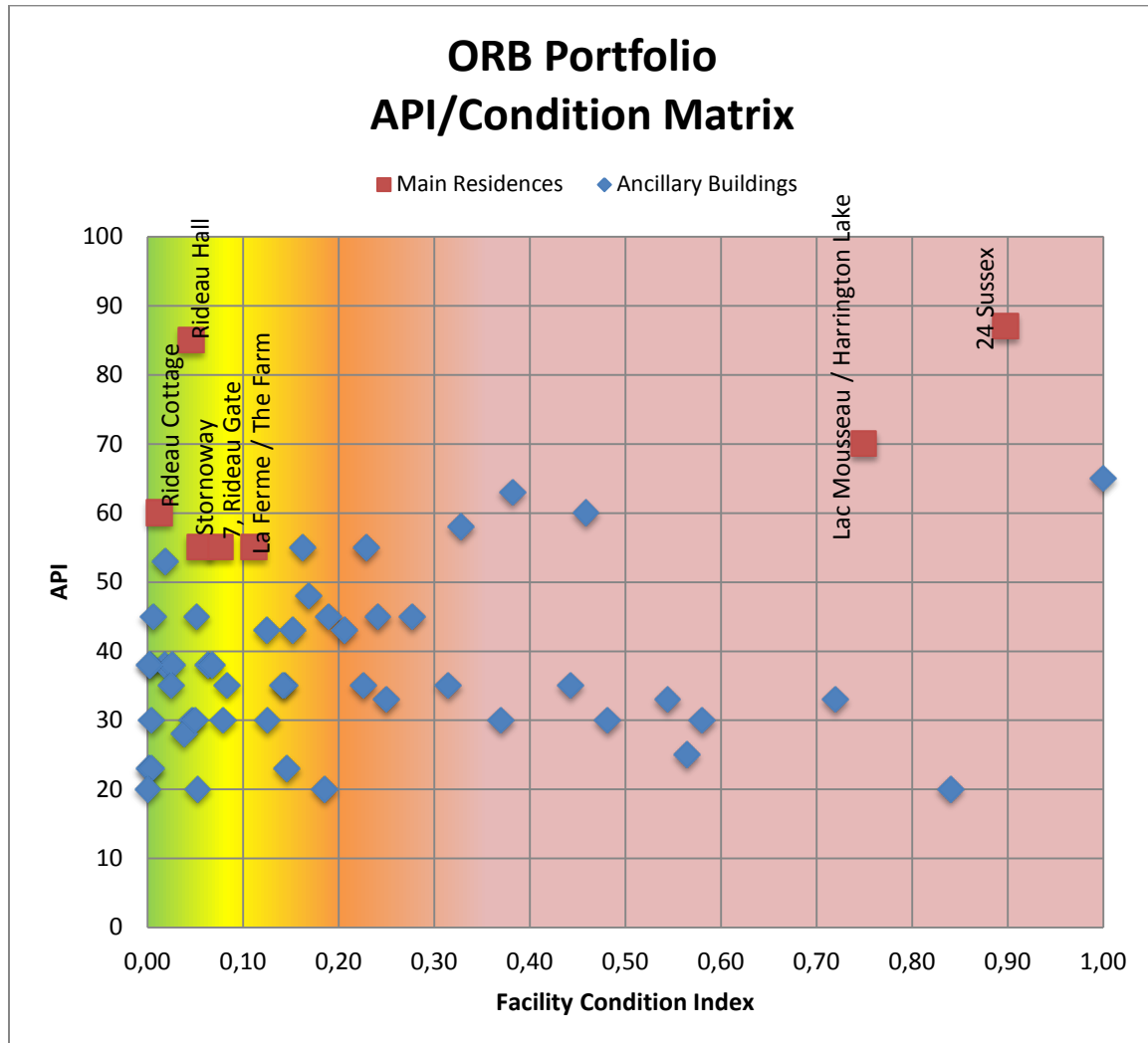


Figure 6: OR API/FCI Matrix

Figure 6 demonstrates that both 24 Sussex and Harrington Lake along with the Caretaker's Cottage are in critical condition and a high priority.

3.5 Sustainable Funding

Deferred Maintenance Deficit

Based on the FCI formula, the estimated “Deferred Maintenance” deficit is calculated as follows: $DM = FCI * CRV$. Thus the overall DM across the portfolio is estimated at \$83 million ($0.134 * \$615M = \$83M$).

Injecting **\$83 million** in the portfolio would bring the aging portfolio up to “GOOD”, but it would not result in the modernization of the asset base.

Asset Recapitalization

As shown in Figure 3, 80% of the building portfolio is greater than 50 years old.

There are numerous issues that should be resolved in all the residences, including building envelope, programmatic operations, building systems, and security.

Recent overhaul of the heating and cooling systems has ensured that some of the buildings can operate efficiently however most of the buildings have no insulation, and far exceed greenhouse gas (GHG) target emissions. Many of the buildings systems have reached the end of their useful life and require replacement. The age and condition of the electrical systems necessitates a long-term strategy to incrementally replace the panels and distribution. The plumbing sanitary systems have failures or backups on a regular basis. The fire protection piping requires cyclical attention to ensure that it will function as intended, when required. Certain air handling systems need to be upgraded or replaced, due to age. Universal accessibility is an issue for every residence and is of increasing concern with an aging population.

All of these identified works are complicated by the presence of contained asbestos throughout many of the interior finishes of the buildings, as well as the fact that many areas that need renewal are within confined work areas in difficult to access spaces.

What this means is that every residence will require a significant recapitalization within the next 10 – 15 years.

This strategy is contingent on being able to have access to a safe, secure and suitable temporary “swing” space for the occupant during the recapitalization duration.

Sustainable Funding

At the strategic planning level, a rule of thumb ascribes a notional amount that should be invested annually for the proper care of built assets (buildings, facilities, or public works such as roads and sewers). The rule of thumb is that a minimum 2 per cent of what it would cost to rebuild an asset is what should be invested annually for its maintenance and repair. Assuming that a built asset will last about 50 years, an additional 2 per cent should be invested in capital projects that renew the life of the asset. The rule of thumb for a minimum level of annual investment to maintain real property in good condition is therefore thought to be 4 per cent of replacement value.³

Based on the CRV of **\$615 million**, sustainable funding for the Official Residences portfolio equates to **\$24.6 million** annually (**\$12.3 million** for repair and maintenance and **\$12.3 million** for capital investment).

As annual investments in this order of magnitude have not been available for the Official Residences portfolio, many assets have deteriorated faster than life cycle forecasts would predict and now require complete recapitalization. The following figure highlights the benefits of timely renewal investments:

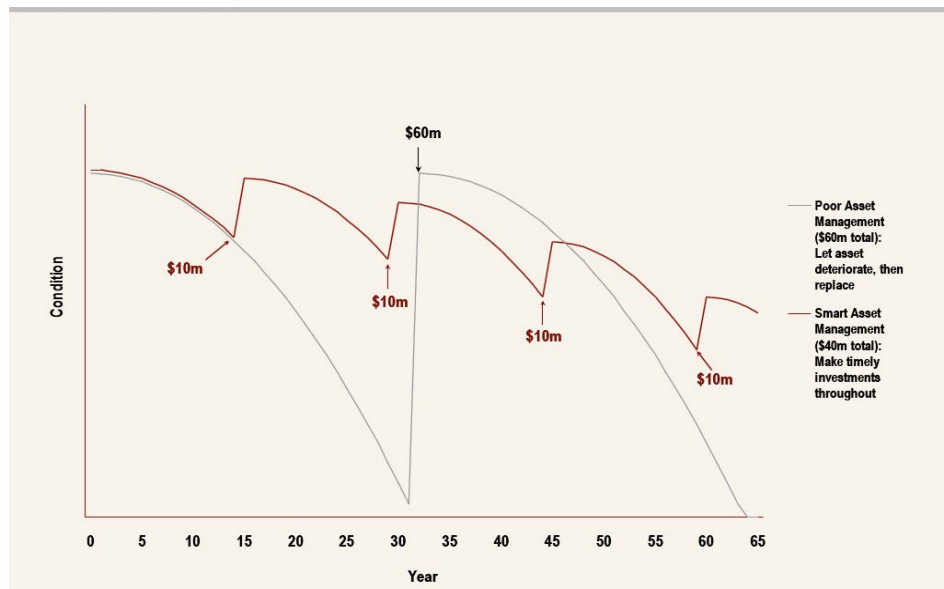


Figure 7: Small but Timely Renewal Investments Save Money (<https://www.ontario.ca/page/building-together-guide-municipal-asset-management-plans#f1>)

³ Treasury Board of Canada Secretariat *Guide to the Management of Real Property*

4 Asset Report Cards

The following section summarizes the present condition of each of the official residences managed by the NCC, highlighting their history, the present condition of the asset, recent infrastructure investments, risks to asset failure, and proposed infrastructure investments to maintain or improve building condition and a summary dashboard.

4.1 Rideau Hall



4.1.1 Background

The home and workplace of the Governor General, Rideau Hall has played a prominent historical and constitutional role in Canada since Confederation. For more than 150 years, this heritage site has been the official residence of Canada's Governors General.

Rideau Hall comprises 32 hectares (79 acres) of grounds, a main building with about 175 rooms covering approximately 8,825 m² (95,000ft²). The site includes 27 outbuildings, many of national heritage significance. A site plan is included in Appendix D.

FHBRO reviewed the Rideau Hall Main Building, grounds and outbuildings in 1986 and 1987. The following were deemed “Classified”:

- Main Building, including the greenhouses;
- the Front Gate and Fence (1868 portion); and,
- the Grounds.

Today, Rideau Hall, a national historic site, continues to be the official residence as well as official workplace of the Governor General of Canada. In addition, it serves as the home to the Office of the Secretary to the Governor General (OSGG), operations centre for the NCC’s Official Residences Branch (serving the local Official Residences), as well as the RCMP’s Governor General’s Protection Detail and the Prime Minister’s Protection Detail.

The Rideau Hall site is open year-round for public visits and tours, is host to hundreds of events and ceremonies annually and receives world leaders and state visits from around the globe.

4.1.2 FHBRO Recognized Ancillary Buildings

A number of the outbuildings at the Rideau Hall site were deemed “Recognized” by FHBRO, due to their important historical associations, design qualities, landmark status or environmental significance. Below is a brief description of each of these assets with an accompanying historical and recent photo of each building, to demonstrate how their appearance or function has evolved over time.

4.1.2.1 Rideau Cottage

Built in 1866, it served continuously as the residence of the Secretary to the Governor General until October 2015. Since that time, it has served as the temporary residence of the Prime Minister of Canada and family. The building underwent an extensive renovation in 2012.



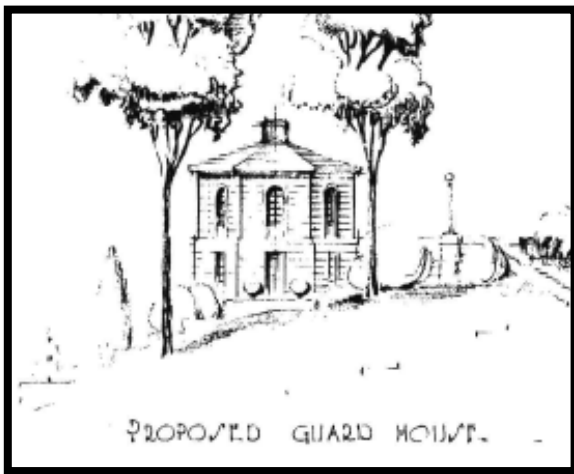
4.1.2.2 The Gate Lodge

Built between 1864 and 1867, this octagonal building is the first that visitors see as they pass through the main gates of the Rideau Hall site. It is used today as administrative space for OSGG staff.



4.1.2.3 The Foot Guard House

Built in 1939 and renovated in 2012, the building is occupied during the summer by the Governor General's Foot Guards.



4.1.2.4 The Stable Building

Built in 1867, it was rehabilitated in 2003 to accommodate OSGG administrative functions.



4.1.2.5 The Dome Building

Originally a “gasometer” built in 1877-78 to store manufactured coal gas to fuel light fixtures in the residence, it was rehabilitated in 2013. The rehabilitation included a 3-floor elevator tower and extensive designated substances removal. It is currently used for OSGG administrative functions.



4.1.2.6 *The Dairy Building*

Built in 1895, it was rehabilitated in 2016 and relocated to the Rideau Hall skating rink area, where it serves as a Skating Pavilion, offering an area for skaters to change in the winter and meeting space during the remainder of the year.



4.1.3 History



Thomas MacKay built the original stone villa in 1838, as a home for his family, which now forms the main part of the official residence. MacKay was a stonemason and contractor who built the entrance locks of the Rideau Canal and the mills at Rideau Falls, the landmark after which Rideau Hall was named. It has been home to every governor general since Confederation. Period photographs show it as a rectangular, three-storey stone villa, with a semi-circular facade onto the garden.

In 1865, the house was leased to the Canadian government as a residence for The Viscount Monck, 21st Governor General of British North America, who became Canada's first governor general. That same year, Lord Monck added a long, two-storey wing and also laid out the formal path that leads to front of the house.

In 1868, the year after Confederation, the Government of Canada purchased the house and grounds for \$82,000, and declared it an official residence for Canada's governors general.

In the time of Canada's third governor general, Lord Dufferin (1872-1878), the Ballroom and the Tent Room were built as wings on either side of the front entrance. The Tent Room was originally designed as both an indoor tennis court and reception room. Both rooms are now used for official and ceremonial functions.

The Minto Wing was added in 1899 to supply more living space. The governor general's study, with its window overlooking the gardens, was built in 1906, during the mandate of Earl Grey (1904-1911).

Many changes were made during the tenure of the Duke of Connaught (1911-1916). In 1913, work was completed on the interior entrance hall and the present front entrance. The massive motif of the Royal Arms, visible from the driveway, is said to be one of the largest in the world. Also in 1913, the Long Gallery was added and the Dining Room was enlarged. Concerned about the lack of sunlight in the residence, the Duke had many of the fir trees on the grounds replaced with maples and other species.

Over the years, various changes have been made to the stately building to meet the demands of modern times, including media and security requirements. The grounds, the building and its interiors have also evolved to better reflect and reinforce Rideau Hall's identity as Canada's national home.

4.1.4 Present Condition

The main residence has an FCI of 0.05 (DFRP Rating = GOOD) and is considered a very high priority building, with an API score of 85. Given its current condition and API, it is recommended to perform both minor operations and maintenance

projects, as well as major rehabilitation work, of various systems and areas of the main residence.

RIDEAU HALL ESTATE	Year Built	Area (m2)	DM (\$000)	CRV (\$000)	FCI (DM/CRV)	API
Main Residence	1838	9,468	19,702	426,060	0.05	85
Rideau Cottage - Temp. Main PM Residence	1867	931	188	15,082	0.01	60
Stable Building	1864	962	193	10,390	0.02	53
Dome Building	1877	424	83	4,579	0.02	38
Dairy Building	1894	80	6	1,072	0.01	45
Gate Lodge	1867	187	379	3,029	0.13	43
Foot Guard House	1939	56	24	907	0.03	38
Central Heating Plant	1973	284	195	3,067	0.06	38
Cold Room	1960	465	96	465	0.21	43
Ceremonial GH # 1	1923	285	260	1,540	0.17	48
Palm House # 2	1925	110	3	878	0.00	38
Production GH # 3 and #4	1938	288	3	1,555	0.00	23
Production GH # 5, #6 and #7	1938	372	9	2,009	0.00	23
Production GH # 8	1980	35	27	187	0.15	23
Official Car Garage - New 2017	1911	550	13	7,370	0.00	38
Root Cellar	1910	126	57	680	0.08	35
Wood Shed	1950	19	29	51	0.56	25
Taxi Stand	1940	32	98	518	0.19	45
Tennis Pavilion	1929	38	84	304	0.28	45
Visitor Centre	1864	306	124	4,957	0.03	35
15 & 17 Lisgar	1912	300	392	4,860	0.08	38
9 & 11 Lisgar	1867	303	187	4,909	0.04	28
NCC Administration Office - Proposed	2018	2,013	5	10,870	0.00	20
Greenhouse Mechanical Room	1910	70	60	756	0.08	30
Rideau Hall Pump House (Governors' Bay)	0	11	30	120	0.25	33
Rideau Hall Tool Shed	0	10	8	10	0.84	20

Table 3: Summary of current condition of Rideau Hall site buildings

4.1.5 Historical Investments

Since 1988, development plans, supported by asset condition reports, for both the building and grounds have been completed and several upgrades have been made.

Projects such as the replacement of central chillers and steam boilers, envelope improvements, roof replacements, as well as rehabilitation and repurposing of heritage buildings have been completed as part of this renovation program. Investigations to ensure site reliability have also been completed, for example a 2013 3rd party study assessed the underground water network at the site as being in good condition with a 2013 replacement value of \$982k.

Below, a more comprehensive list of the rehabilitation initiatives undertaken since 2005 to the main building, ancillary building(s), and grounds is shown.

Asset Element	Major Rehabilitation Projects
Exterior Systems	<ul style="list-style-type: none"> • Front Façade Rehabilitation (restoration of Mappin Wing stone façade) • Exterior Envelope Rehab – Wall Assembly (Ballroom, Tent Room) • Roofs Rehabilitation – Mappin Wing, Tent Room, Ballroom (new copper roofs c/w insulation, heating cables, gutters and downspouts) • Dining Room Roof Replacement • Princess Anne Entrance Roof Replacement
Mechanical/Electrical Systems	<ul style="list-style-type: none"> • Ballroom and Mappin Wing Air Conditioning (installation of new central system) • Admin Wing (Hot Water Heating Controls) • Replacement of Fire Suppression Sprinkler Heads and Correction of System Deficiencies • Hospitality Wing (Fan Coil Replacement) • Geothermal Heating and Cooling System (Replacement of Air Cooled Chillers) • Main Kitchen (Replacement of Steam Kettle, Convection Steamer, and Grease Traps) • Handicap Lift (Controller Upgrade) • Recommissioning of HVAC Systems • Replacement of Monitoring Station for Fire Protection System • Replacement of Main Steam Pressure Reducing Valve • Upgrade to Siemens Building Automation System • Domestic Hot Water System Upgrade • Monck Wing Attic HVAC (Geothermal Glycol Line Extension) • Replacement of the underground glycol lines near the PA entrance • Conversion of Heating System from Steam to Hot Water
Interior Architectural	<ul style="list-style-type: none"> • Private Quarters upgrades (life cycle upgrades to bathrooms, new kitchenette, floor refinishing and interior elements) • Tent Room Interior Rehab (new fabric, fire detection/suppression, sound system) • Monck Wing Attic (Hazardous Materials Removal)

	<ul style="list-style-type: none"> • Front Entrance Handrails • Mappin Wing and Monck Wing Fire Stopping Project • Main Laundry (Replace commercial laundry equipment) • Cafeteria Rehabilitation • Monck Wing Basement (Hazardous Material Removal, Pouring of Slab, Masonry Work) • Servery Kitchen Equipment (Replacement of equipment) • Monck Wing 2nd Floor Bathroom (Expansion and rehabilitation of fixtures/finishes)
Ancillary Buildings	<ul style="list-style-type: none"> • Rideau Cottage Rehabilitation Significant upgrades to exterior envelope, interior finishes and mech./elect. systems • Stable Building Replacement of Potable Water Service Piping Recommissioning of HVAC System Conversion of Heating System from Steam to Hot Water) • Dome Building Complete rehabilitation and addition • Dairy Building -Rehabilitation into Winter Pavilion • Central Heating Plant Main Electrical Board Replacement Conversion of Heating System from Steam to Hot Water Replacement of Electrical Vault Doors • Ceremonial Greenhouses Full heritage restoration of Greenhouse No. 2 and life cycle upgrades for Greenhouse 1 Conversion of Heating System from Steam to Hot Water • Greenhouses 3, 4, 5, and 6 Replacement of Side Vents Asbestos Transite Panel Table Removal and Replacement Conversion of Heating System from Steam to Hot Water • Visitor Centre Exterior Envelope and Interior Rehab (roof, windows restoration, exterior walls, floors, heating and air conditioning, washrooms) • Footguard House Full exterior envelope, mechanical,/electrical, and interior fit-up • Ground Source Mechanical Room (new construction as addition to the Footguard House to house Geothermal mech. equipment) • Ice House, NCC Garage, NCC Grounds Administration Demolition of buildings as Part of Phase 1 of Operation Zone Redevelopment
Infrastructure and Grounds	<ul style="list-style-type: none"> • Perimeter Fence (restoration of portions along Rideau Gate, Thomas Street, and section along Princess Avenue) • Emergency Generator (Diesel Tank Replacement and Enclosure Upgrades) • Terry Fox Fountain (Replacement of steel piping and structural repairs) • Front Forecourt Landscaping (Including replacement of Terry Fox Fountain)

Table 4: Past construction projects at Rideau Hall site buildings

Historical spending for the past 10 years at the entire site, including outbuildings, grounds, and infrastructure, is shown below.

Fiscal Year	Operations & Maintenance (\$)	Capital (\$)	TOTAL (\$)
2006-2007	2,288,055	4,625,217	6,913,272
2007-2008	1,976,720	3,888,592	5,865,312
2008-2009	1,983,098	2,282,558	4,265,656
2009-2010	2,139,088	6,028,292	8,167,380
2010-2011	2,132,608	6,653,482	8,786,090
2011-2012	1,697,993	4,152,507	5,850,500
2012-2013	1,639,796	6,180,109	7,819,905
2013-2014	2,205,134	4,142,349	6,347,483
2014-2015	1,891,026	1,739,287	3,630,313
2015-2016	2,507,491	5,492,012	7,999,503
TOTAL (\$)	20,461,009	45,184,405	65,645,414

Table 5: Historical spending at Rideau Hall site

4.1.6 Proposed Deferred Maintenance Investments

The proposed investments into the property over the next 10 years are grouped according to building asset type. In general, it is proposed to leverage capital and O&M funding to improve assets that are in fair-to-poor condition.

Proposed capital and O&M projects include:

- UA studies and upgrades;
- exterior envelope improvements including wood window replacement and brick/block/stucco repairs;
- foundation and footing work;
- copper roof replacement;
- membrane roof replacement;
- replacement of interior floor finishes;
- replacement of one freight elevator and one passenger elevator;
- replacement of Server air handling equipment;
- replacement of Tent Room air handling unit;
- upgrades to the building automation system;
- the replacement of electrical wiring/panels and lighting fixtures;
- the replacement of the fire alarm system; and,
- the replacement of hardwood flooring.

The planned investments are summarized in the table below.









	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Budget	5857	299	350	374	11163	486	299	500	374	312
Architectural	2048	28	28	103	9748	28	28	229	103	262
Conveying Systems	1140	0	0	0	0	0	0	0	0	0
Mechanical	564	19	69	19	406	206	19	19	19	50
Electrical	1196	252	252	252	1010	252	252	252	252	0
Engineering Studies	909	0	0	0	0	0	0	0	0	0

Table 6: Proposed capital and O&M funding for Rideau Hall Main Building

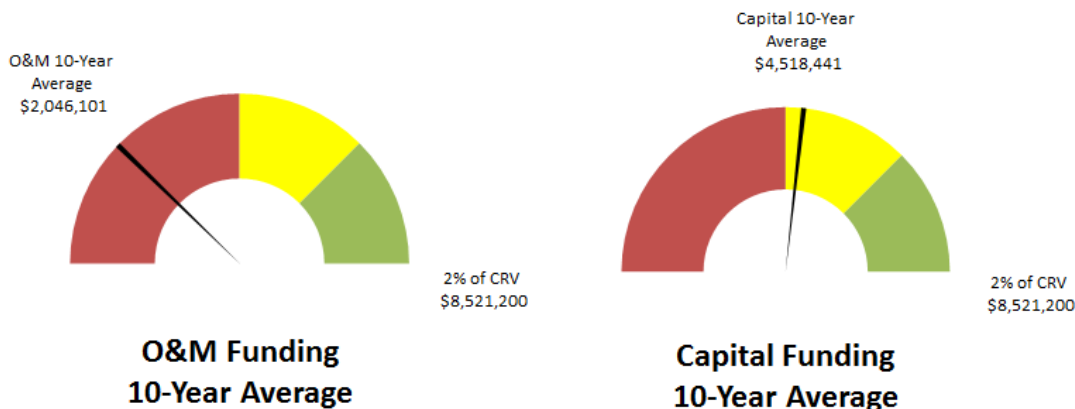
4.1.7 Summary

The following dashboard highlights the performance gap between the NCC's Management Principles and the current condition of the main residence. Also shown is the deferred maintenance deficit and historical investments for the main residence only.

RIDEAU HALL - MAIN BUILDING					
YEAR BUILT :	1838	FCI :	0.05 (GOOD CONDITION)	DEFERRED MAINTENANCE:	\$ 19.70 M
AREA (m2) :	9,468	API :	85 (VERY HIGH PRIORITY)	CRV :	\$ 426.06 M

MANAGEMENT PRINCIPLES	CURRENT STATUS	NEXT STEPS
Planning		
Does the residence have a Life Cycle Management Plan in place? Emergency Response Plan? O&M and Capital Plan?	 <ul style="list-style-type: none"> - No Life Cycle Management in place - Emergency Response Plan in place - Capital planning done on 5-year cycles and O&M planning on yearly cycle 	<ul style="list-style-type: none"> - Create Life Cycle Management Plan - Integrate Capital and O&M planning into Life Cycle Management Plan
Heritage Preservation		
Are FHBRO defined heritage characteristics maintained?	 <ul style="list-style-type: none"> - Heritage characteristics maintained 	<ul style="list-style-type: none"> - None
Building Systems		
Are mechanical and electrical systems modernized and upgraded to current standards?	 <ul style="list-style-type: none"> - Hot water boilers replaced 2016 - Geothermal installed 2013 - Electrical and plumbing systems very dated 	<ul style="list-style-type: none"> - Electrical modernization and piping replacement during major renovations
Universally Accessible		
All grounds and residences shall be universally accessible	 <ul style="list-style-type: none"> - UA issues include multiple lifts and ramps for access to upper levels not to Code; access to some areas are stepped 	<ul style="list-style-type: none"> - UA study
Operational		
Is the building operational and available at all times?	 <ul style="list-style-type: none"> - Building is operational - Building is made available during negotiated periods 	<ul style="list-style-type: none"> - Continue working during periods of access
Fire Protection		
Does the building have fire detection and suppression systems?	 <ul style="list-style-type: none"> - Fire suppression piping in poor condition 	<ul style="list-style-type: none"> - Investigation and report for fire suppression upgrade in heritage building with designated substances
Business Continuity		
Is the residence equipped with backup systems to permit operation during infrastructure outage?	 <ul style="list-style-type: none"> - Emergency backup system in place 	<ul style="list-style-type: none"> - Continue maintaining equipment
Appropriately Furnished		
Is the residence furnished and equipped at all times? Are contents inventoried, inspected, and maintained regularly?	 <ul style="list-style-type: none"> - Residence is furnished and contents managed by NCC Interior Design group 	<ul style="list-style-type: none"> - Continue furnishing and maintaining contents on a regular basis

INVESTMENTS



4.2 24 Sussex Drive



4.2.1 Background

The main residence at 24 Sussex Drive was built in 1867 and holds a FHBRO “classified” heritage designation. The site comprises 2.15 hectares of grounds, one main building with 34 rooms that covers approximately 1,115 m² (12,000 ft²), as well as another small home at 10 Sussex Drive, which was originally a coach/caretaker’s house (presently, an RCMP detachment), a poolhouse, and two RCMP guard houses.

The main residence is not currently occupied by the Prime Minister of Canada, who now resides on a temporary basis at the Rideau Cottage on the Rideau Hall site. However, household staff and the prime minister’s security detail are still housed at the 24 Sussex site and travel to the Rideau Cottage on an as required basis. The site as a whole must accommodate a permanent detachment of the RCMP, as well as the operational staff.

4.2.2 History



Built in 1866-68 by Joseph Currier, a lumber baron and member of the 1st Dominion Parliament, the main building at 24 Sussex Drive was originally a pleasant Gothic Revival villa. In 1870, a ballroom was added to entertain Prince Arthur, future Duke of Connaught. In 1902, the property was sold to William Cameron Edwards, another lumber manufacturer.

In 1943, the Government began the process of expropriating the house, a process which lasted into 1946 due to the vigorous objections of its then owner, Senator Gordon C. Edwards.

Late in 1949, the Government decided to make the house over as a prime ministerial residence. To render the house suitable for the Prime Minister, the architects stripped away its Victorian ornament, demolished the tower on the west front and lowered some exterior walls to regularize the massing of the house. In addition, its fenestration was completely altered and the apparent size was about doubled, all this in the process of rendering the original house quite unrecognizable. The result suggests that the architects were attempting to create a Georgian-style house. The new house was finished and occupied, reluctantly, by Louis St-Laurent in 1951.

4.2.3 Present Condition

The main residence has an FCI of 1.00 (DFRP Rating = CRITICAL) and is considered a very high priority building, with an API score of 87. Given its current condition and API, it is recommended to perform a major rehabilitation of the main residence.

24 SUSSEX DRIVE	Year Built	Area (m2)	DM (\$000)	CRV (\$000)	FC (DM/CRV)	API
Main Residence	1867	1,672	34,530	38,456	0.90	87
Caretaker's House	1867	304	2,000	6,084	0.33	58
Pool Building	1975	325	5,380	7,475	0.72	33
East Guard Hut	N/A	N/A	N/A	N/A	N/A	N/A
West Guard Hut	N/A	N/A	N/A	N/A	N/A	N/A

Table 7: Summary of current condition of 24 Sussex site buildings

Currently, there are numerous issues that should be resolved in the residence, including programmatic operations, building systems, and security.

24 Sussex was not purpose built as a fully functioning official residence, although it is divided into Private, Office, and State space; only 20% of the space at 24 Sussex is designated as 'Private' for the prime minister and family. Those areas designated as 'State' spaces are not appropriate in layout or condition to serve State functions, for example, the building has no accessible entrances or washrooms, the kitchen is not appropriate to serve State functions, and the dining room is at the same time too large for a family and too small for State dinners.

The building systems at 24 Sussex have reached the point of imminent or actual failure, and require replacement. The age and condition of the electrical system poses a fire hazard and the plumbing system has failures on a regular basis. The building has no permanent air conditioning system; window air conditioners are run in every room in the summer, which poses a security risk and is disruptive and costly. Repairs and/or upgrades are complicated due to the presence of asbestos throughout many of the interior finishes.

The threat environment has changed drastically since the last major renovation to the site in 1951. As such, the RCMP has recommended several security upgrades.

4.2.4 Historical Investments

Since 1988, development plans, supported by asset condition reports, for both the building and grounds have been completed and several upgrades have been made.

Projects such as the replacement of the septic tank, rehabilitation to the shoreline, the upgrade to potable water treatment systems, electrical system repairs, roof repairs, and regular decorative upgrades to state areas have been completed as part of this renovation program. Below, a more comprehensive list of the rehabilitation initiatives undertaken since 2005 to the main building, ancillary building(s), and grounds is shown.

Asset Element	Major Rehabilitation Projects
Exterior Systems	<ul style="list-style-type: none"> Family room windows (replacement)
Mechanical/Electrical Systems	<ul style="list-style-type: none"> Chimneys Rehabilitation Various mechanical and electrical improvement projects
Interior Architectural	<ul style="list-style-type: none"> Fire compartmentalization of boiler room, east and west stairs 3rd floor Private Quarters (Life cycle renewal of finishes, incl. flooring, paint, light fixtures) Hazardous Material Removal
Ancillary Buildings	<ul style="list-style-type: none"> 10 Sussex Relocation of NG Meter Replacement of furnace Poolhouse Pool dehumidification Replacement of steam sauna equipment
Infrastructure and Grounds	<ul style="list-style-type: none"> Escarpment Stabilization Rehabilitation of Emergency Generator Minor updates to escarpment catwalk

Table 8: Past construction projects at 24 Sussex site buildings

Historical spending for the past 10 years at the entire site, including outbuildings, grounds, and infrastructure, is shown below.

Fiscal Year	Operations & Maintenance (\$)	Capital (\$)	TOTAL (\$)
2006-2007	248,820	587,461	836,281
2007-2008	205,156	295,602	500,758
2008-2009	171,008	1,266,439	1,437,447
2009-2010	198,802	975,293	1,174,095
2010-2011	219,183	410,574	629,757
2011-2012	203,380	345,919	549,299
2012-2013	323,096	661,506*	984,602
2013-2014	236,667	1,453,122*	1,689,789
2014-2015	200,859	15,711	216,570
2015-2016	272,303	-	272,303
TOTAL (\$)	2,279,274	6,011,627	8,290,901

* 95% of capital spending in these years on site infrastructure improvements.

Table 9: Historical spending at 24 Sussex site

4.2.5 Proposed Recapitalization

24 Sussex Drive has not seen significant investment in over 60 years and it requires extensive and urgent repair. All buildings on the site require extensive recapitalization.

Proceeding with the construction activities for the main residence would allow for the abatement of hazardous materials, retention of certain heritage components, improvement in the building envelope, replacement of mechanical and electrical systems, construction of universally accessible entrances and washrooms, creation of dining facilities and support spaces to accommodate state functions.

The pool building also requires a new building envelope (walls, windows, doors, roof and skylight) as the current building envelope is rotting and contains mould due to high interior humidity levels.









The Caretaker's House (10 Sussex) is also in critical condition and needs extensive recapitalization.

4.2.6 Summary

The following dashboard highlights the performance gap between the NCC's Management Principles and the current condition of the main residence. Also shown is the deferred maintenance deficit and historical investments for the main residence only.

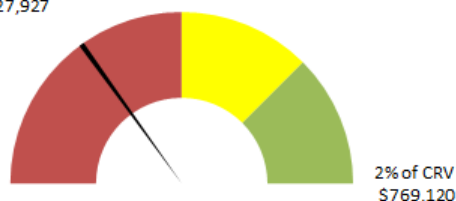
24 SUSSEX - MAIN RESIDENCE					
YEAR BUILT :	1867	FCI :	0.90 (CRITICAL CONDITION)	DEFERRED MAINTENANCE:	\$34.53 M*
AREA (m2) :	1,672	API :	87 (VERY HIGH PRIORITY)	CRV :	\$ 38.46 M*

*Does not include security, grounds, pool, or site infrastructure

MANAGEMENT PRINCIPLES	CURRENT STATUS	NEXT STEPS
Planning		
Does the residence have a Life Cycle Management Plan in place? Emergency Response Plan? O&M and Capital Plan?	 <ul style="list-style-type: none"> - No Life Cycle Management in place - Emergency Response Plan in place - Capital planning done on 5-year cycles and O&M planning on yearly cycle 	<ul style="list-style-type: none"> - Create Life Cycle Management Plan - Integrate Capital and O&M planning into Life Cycle Management Plan
Heritage Preservation		
Are FHBRO defined heritage characteristics maintained?	 <ul style="list-style-type: none"> - Internal heritage characteristics maintained 	<ul style="list-style-type: none"> - None
Building Systems		
Are mechanical and electrical systems modernized and upgraded to current standards?	 <ul style="list-style-type: none"> - Hot water boilers end of life - No centralized air conditioning - Electrical and plumbing systems very dated 	<ul style="list-style-type: none"> - Building recapitalization to include full electrical modernization and mechanical systems replacement
Universally Accessible		
All grounds and residences shall be universally accessible	 <ul style="list-style-type: none"> - UA issues include front and back entrance, elevator not accessible, staff level, washrooms, and bedrooms 	<ul style="list-style-type: none"> - UA study
Operational		
Is the building operational and available at all times?	 <ul style="list-style-type: none"> - Building does not currently act as a residence - Building is made available during negotiated periods 	<ul style="list-style-type: none"> - Continue working during periods of access
Fire Protection		
Does the building have fire detection and suppression systems	 <ul style="list-style-type: none"> - No fire suppression system 	<ul style="list-style-type: none"> - Investigation and report for fire suppression upgrade in heritage building with designated substances
Business Continuity		
Is the residence equipped with backup systems to permit operation during infrastructure outage?	 <ul style="list-style-type: none"> - Emergency backup system in place 	<ul style="list-style-type: none"> - Continue maintaining equipment
Appropriately Furnished		
Is the residence furnished and equipped at all times?	 <ul style="list-style-type: none"> - Residence is not currently furnished. Contents managed by NCC Interior Design group 	<ul style="list-style-type: none"> - Continue furnishing and maintaining contents on a regular basis
Are contents inventoried, inspected, and maintained regularly?		

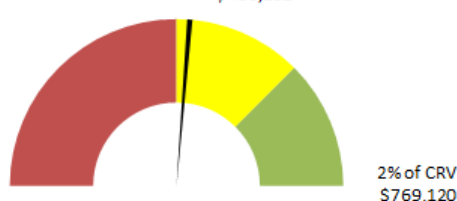
INVESTMENTS

O&M 10-Year
Average
\$227,927



**O&M Funding
10-Year Average**

Capital 10-Year
Average
\$400,292



**Capital Funding
10-Year Average**

4.3 Harrington Lake



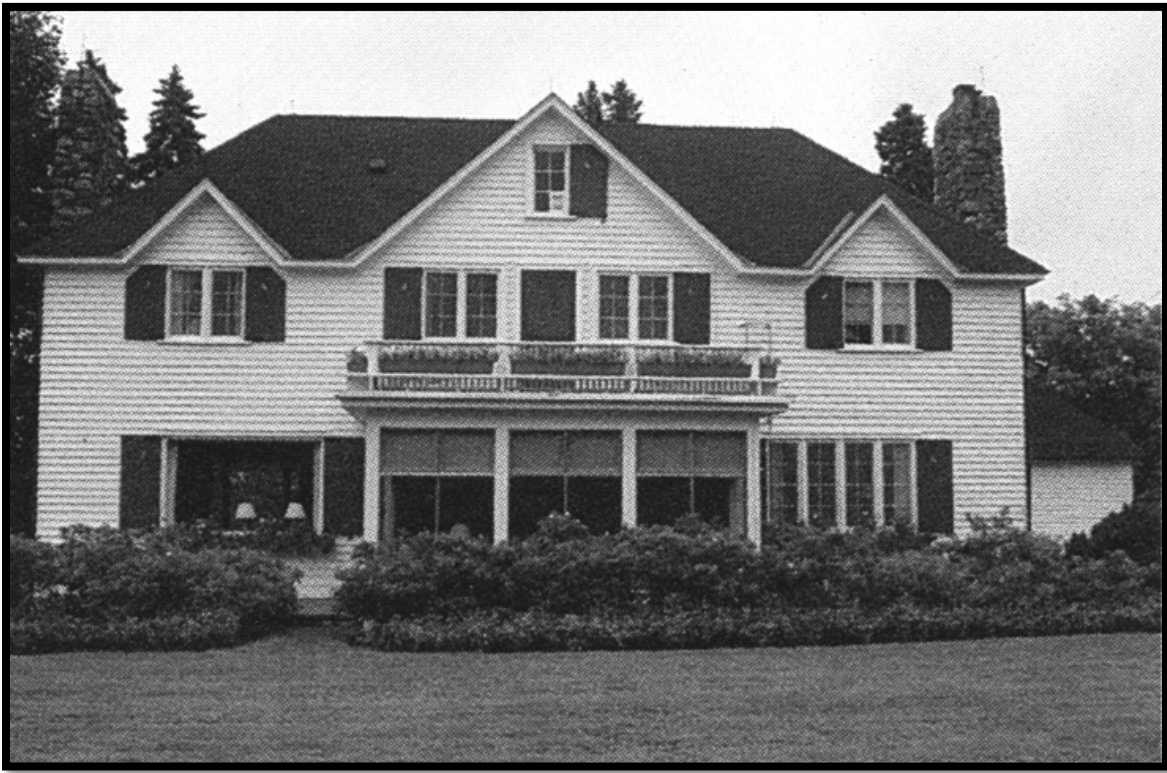
4.3.1 Background

The main area of Harrington Lake (known in French as Lac Mousseau) comprises 5.4 hectares (13 acres) of grounds, one main residence with 16 rooms covering approximately 771 m² (8,300 ft²), plus eight outbuildings. Located in Pontiac, Quebec, the main residence has received the “recognized” heritage designation from FHBRO.

The site is used extensively by the Prime Minister and family, throughout the year, for both official and private purposes.

It is not open to the public.

4.3.2 History



The main building at Harrington Lake is a typical country house in a Twenties Colonial Revival style.

In 1951, about two-thirds of the property belonged to Lt. Col. Cameron Edwards, who had assembled the land over a number of years around a core property, with the intention to set himself up as a gentleman farmer. He built the main house in 1925 as his country home and farm house. Further evidence of his agricultural intent is provided by the experimental precast concrete barn he built in 1929, which is now used for storage.

The remaining third of the property was acquired from the Honourable William Herridge, who had held the land from the early twenties. Until his death in 1961, he retained the use and enjoyment of a winterized log cabin (now a way station on the Gatineau Park cross-country ski trail), a summer cottage (now a guest cottage) and a boat-house (now demolished).

The property was acquired in 1951 as part of the federal program to develop Gatineau Park. On June 6, 1959, it became the official country residence of the Prime Minister of Canada.

4.3.3 Present Condition

The main residence has an FCI of 0.75 (DFRP Rating = Critical) and is considered a very high priority building, with an API score of 70. Given its current condition and API, it is recommended to perform a major rehabilitation of the main residence.

HARRINGTON LAKE - LAC MOUSSEAU	Year Built	Area (m2)	DM (\$000)	CRV (\$000)	FCI (DM/CRV)	API
Garage & Shop	1925	77	92	208	0.44	35
Main Cottage	1925	771	11,568	15,424	0.75	70
Change House	1960	23	69	126	0.54	33
Upper Guest Cottage	1925	85	350	918	0.38	63
Lower Guest Cottage	1925	67	331	721	0.46	60
Caretaker's House	1850	260	1,900	1,900	1.00	65
Generator Shed	1980	18	7	145	0.05	30
Official Car Garage	1980	38	50	206	0.24	45
Horse & Cattle Barn	1900	177	230	1,414	0.16	55
Dairy House	1900	34	29	91	0.31	35
Tool Shed	1960	19	24	51	0.48	30
Pump Shed	1970	30	30	82	0.37	30

Table 10: Summary of current condition of Harrington Lake site buildings

The last significant construction work took place in 2005 and consisted of improvements to the electrical system, installation of a sprinkler system, reroofing, and the construction of a sunroom. Due to budget and scheduling limitations a number of deficiencies that need to be addressed were not completed. These included upgrades to prevent further deterioration of building systems and work to improve the safety, liveability and energy efficiency of the building.

Since this time, the building has continued to deteriorate and critical life cycle rehabilitations are required for the exterior envelope including doors, windows, attic, foundations, and chimneys.

4.3.4 Historical Investments

Since 1988, development plans, supported by asset condition reports, for both the building and grounds have been completed and several upgrades have been made.

Projects such as the replacement of the septic tank, rehabilitation to the shoreline, the upgrade to potable water treatment systems, electrical system repairs, roof repairs, and regular decorative upgrades to state areas have been completed as part of this renovation program. Below, a more comprehensive list of the rehabilitation initiatives undertaken since 2005 to the main building, ancillary building(s), and grounds is shown.

Asset Element	Major Rehabilitation Projects
Exterior Systems	<ul style="list-style-type: none"> • Roof and eavestrough replacement (Cedar shingles, heating cables and copper eavestrough and downpipes) • Select foundation damproofing • Porches Rehabilitation • Design for Exterior Envelope Rehab (window restoration, walls/insulation, foundation damproofing)
Mechanical/Electrical Systems	<ul style="list-style-type: none"> • Chimneys Rehabilitation • Electrical Wiring Replacement (new electrical throughout main house) • Fire Suppression and Detection installation • Potable Water Treatment System Upgrade
Interior Architectural	<ul style="list-style-type: none"> • New interior fire exit stairs (2nd floor to exterior) • Private Area and State Area decor upgrades • Sunroom Replacement • U/A Strategy (complete investigation and research)
Ancillary Buildings	<ul style="list-style-type: none"> • Outbuildings Study (Investigation and research on condition of Upper/Lower Guest Cottages, Staff Cottages and storage barns) • Caretakers House Rehabilitation – Phase 1 (decontamination of interior and foundation damproofing)
Infrastructure and Grounds	<ul style="list-style-type: none"> • Underground electrical service (site distribution upgrade) • UA ramp and landscaping upgrades • Emergency Generator Replacement • Shoreline Rehabilitation (naturalization of the shoreline, rehabilitation of docks, walkways, patios and beach area) • Replace Septic System Diverter Box • Septic System Reservoir Replacement (Including Separation of Water Softening Backwash from Sanitary)

Table 11: Past construction projects at Harrington Lake site buildings

Historical spending for the past 10 years at the entire site, including outbuildings, grounds, and infrastructure, is shown below.

Fiscal Year	Operations & Maintenance (\$)	Capital (\$)	TOTAL (\$)
2006-2007	222,689	244,071	466,760
2007-2008	171,367	141,111	312,478
2008-2009	152,044	92,741	244,785
2009-2010	263,150	89,413	352,563
2010-2011	161,269	173,505	334,774
2011-2012	187,725	312,610	500,335
2012-2013	181,554	415,035	596,589
2013-2014	109,337	186,957	296,294
2014-2015	224,225	2,154	226,379
2015-2016	243,650	-	243,650
TOTAL (\$)	1,917,010	1,657,597	3,574,607

Table 12: Historical capital and O&M spending at Harrington Lake site

4.3.5 Proposed Deferred Maintenance Investments

The main cottage has not seen significant investment since 2005 and requires extensive repair to its building envelope, systems, and finishes.

A major \$3.5 million rehabilitation project, approved in 2017, will improve the building envelope and attic, to reduce energy consumption and improve pest control. This project will repair chimneys and fireplaces to address fire safety concerns, and improve foundations and site drainage to reduce moisture and mitigate rot in the wood building structure.









The works to be undertaken to rehabilitate the main cottage will maintain the heritage asset, renew the life cycle for the building envelope, and improve the liveability of the building.

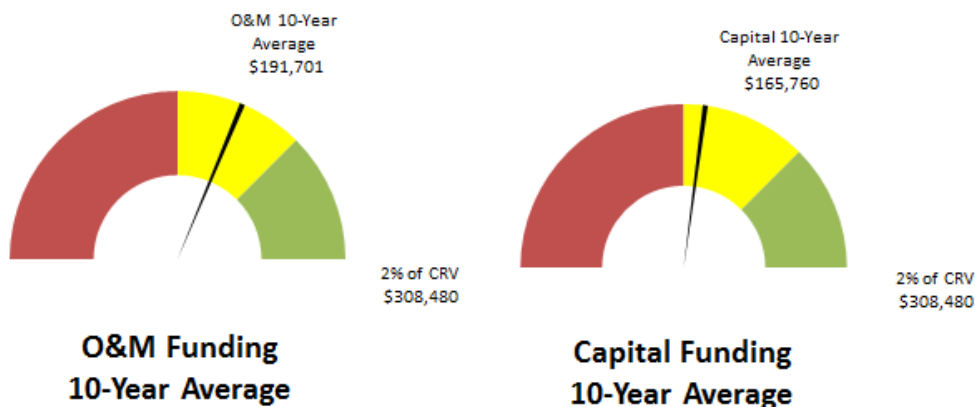
Still outstanding are UA upgrades to the main residence.

Because of its critical condition, the Caretaker's House has been closed for several years due to instability and other health and safety concerns. It requires a major recapitalization, at an estimate of \$1.9 million.

4.3.6 Summary

The following dashboard highlights the performance gap between the NCC's Management Principles and the current condition of the main residence. Also shown is the deferred maintenance deficit and historical investments for the main residence only.

HARRINGTON LAKE - MAIN RESIDENCE			
YEAR BUILT :	1925	FCI : 0.75 (CRITICAL CONDITION)	DEFERRED MAINTENANCE: \$ 11.57 M
AREA (m2) :	771	API : 70 (HIGH PRIORITY)	CRV : \$ 15.42 M
MANAGEMENT PRINCIPLES		CURRENT STATUS	NEXT STEPS
Planning			
Does the residence have a Life Cycle Management Plan in place? Emergency Response Plan? O&M and Capital Plan?		 <ul style="list-style-type: none"> - No Life Cycle Management in place - Emergency Response Plan in place - Capital planning done on 5-year cycles and O&M planning on yearly cycle 	<ul style="list-style-type: none"> - Create Life Cycle Management Plan - Integrate Capital and O&M planning into Life Cycle Management Plan
Heritage Preservation			
Are FHBRO defined heritage characteristics maintained?		 <ul style="list-style-type: none"> - Heritage characteristics maintained 	<ul style="list-style-type: none"> - None
Building Systems			
Are mechanical and electrical systems modernized and upgraded to current standards?		 <ul style="list-style-type: none"> - HVAC systems are generally end of life - Electrical systems need to be cleaned up 	<ul style="list-style-type: none"> - Replacement of HVAC systems - Electrical rationalization project
Universally Accessible			
All grounds and residences shall be universally accessible		 <ul style="list-style-type: none"> - UA issues throughout the house and property 	<ul style="list-style-type: none"> - UA study
Operational			
Is the building operational and available at all times?		 <ul style="list-style-type: none"> - Building is operational - Building is made available during negotiated periods 	<ul style="list-style-type: none"> - Continue working during periods of access
Fire Protection			
Does the building have fire detection and suppression systems?		 <ul style="list-style-type: none"> - Repairs are required to fire suppression tanks and fire alarm system 	<ul style="list-style-type: none"> - Perform repairs as part of regular O&M
Business Continuity			
Is the residence equipped with backup systems to permit operation during infrastructure outage?		 <ul style="list-style-type: none"> - Emergency backup system in place 	<ul style="list-style-type: none"> - Continue maintaining equipment
Appropriately Furnished			
Is the residence furnished and equipped at all times?		 <ul style="list-style-type: none"> - Residence is furnished and contents managed by NCC Interior Design group 	<ul style="list-style-type: none"> - Continue furnishing and maintaining contents on a regular basis
Are contents inventoried, inspected, and maintained regularly?			
INVESTMENTS			



4.4 Stornoway



4.4.1 Background

Located at 541 Acacia Avenue in Ottawa, Ontario, Stornoway holds a FHBRO “recognized” heritage designation and was built in 1913. The property comprises over 0.42 hectare (one acre) of grounds, one main building with 19 main rooms, hallways and washrooms covering approximately 883 m² (9,500 ft²). The property also includes one out building, which is a two-car garage c/w second storey loft and first storey 2-piece washroom.

The Main Residence is currently occupied by the Leader of the Opposition and family and is divided into Private and State space. State Areas are generally located on the 1st and 3rd Floors, with the Private Areas, consisting mostly of bedrooms and washrooms, located on the 2nd Floor. The residence functions primarily as a private residence, but does occasionally host official events.

The residence is not open to the public.

4.4.2 History



Stornoway was originally built for an Ottawa grocer in 1913-14. The house was designed by Allen Keefer, an important architect of the era. In 1923, it was purchased by Mr. and Mrs. Irvine Perley-Robertson, who in turn rented it to Crown Princess Juliana of the Netherlands during the Second World War.

In the late 1940's, a trust was set up to purchase and administer the running of the house, and was funded by contributions from the public. The house was privately maintained for the Leaders of the Opposition until 1970 when the property was acquired by the Government of Canada and maintained by Public Works Canada.

Stornoway is a two and one-half storey house in rough-cast stucco. It is rectangular in plan with a small "L" to the rear, covered with a simple saddle-back roof with Bernese gables. The main facade is loosely symmetrical about a central doorway, to which an exterior foyer was added in 1983.

The house is laid out in a pinwheel plan about a large central hall with stairs and is situated behind heavy hedges on the grounds planted in a typical Rockcliffe manner. In addition to a breakfast room and family room, the house contains formal living and dining rooms.

Since 1987, development plans, supported by asset condition reports, for both the building and grounds have been completed and several upgrades have been made. Projects such as the installation of a high-efficiency boiler system and perimeter

lighting, exterior painting, minor roof and foundation repairs, and some decorative upgrades to state areas have been completed as part of this renovation program.

4.4.3 Present Condition

The main residence has an FCI of 0.05 (DRFP Rating = GOOD) and is considered a high priority building, with an API score of 55. Given its current condition, work required consists of regular and ongoing maintenance.

STORNOWAY	Year Built	Area (m2)	DM (\$000)	CRV (\$000)	FCI (DM/CRV)	API
Main Residence	1913	878.9	780.9	14,238	0.05	55
Garage	1914	101.2	123.1	810	0.15	43

Table 13: Summary of current condition of Stornoway site buildings

The main residence requires regular and ongoing maintenance. Currently, there are numerous issues that should be resolved in the residence, including building envelope, fire alarm, and electrical systems. Universal accessibility concerns include the ramp to the main entrance that does not meet barrier-free design, stair access to the 2nd and 3rd Floors, as well as a stepped entrance to the sunroom.

Stornoway is used as a residence and is provided with adequate heating and cooling equipment to meet the Occupational Health and Safety Directive for Public Service employees. The building has no permanent air conditioning system; window air conditioners are run in every room in the summer, which is disruptive and costly.

The age and condition of the electrical sub-panels and the associated wiring indicates that it should be upgraded; the plumbing system has failed on multiple occasions in recent years. Repairs and/or upgrades are complicated due to the presence of asbestos throughout many of the interior finishes.

4.4.4 Historical Investments

Since 1988, development plans, supported by asset condition reports, for both the building and grounds have been completed and several upgrades have been made.

Projects such as the installation of a high-efficiency boiler system and perimeter lighting, creation of a universally accessible washroom on the main floor, exterior painting, minor roof and foundation repairs, rehabilitation work to the garage, and some decorative upgrades to state areas have been completed as part of this maintenance program. Below, a more comprehensive list of the rehabilitation initiatives undertaken since 2005 to the main building, ancillary building(s), and grounds is shown.

Asset Element	Major Rehabilitation Projects
Exterior Systems	<ul style="list-style-type: none"> • Front entrance stairs rehabilitation • Front façade storm water management • Backyard deck replacement • Exterior Painting
Mechanical/Electrical Systems	<ul style="list-style-type: none"> • Kitchen HVAC Replacement (Once-Through Water Cooled AC with DX Condensing Unit) • Electrical single line tracing • Replacement of Heating Hot Water Boilers • Replacement of Main Electrical Switch • Replacement of Outdoor Electrical Panel
Interior Architectural	<ul style="list-style-type: none"> • U/A Strategy (complete investigation and research) • U/A Washroom Conversion (Main Floor) • Basement Laundry room wall repairs
Ancillary Buildings	<ul style="list-style-type: none"> • Garage Envelope Rehabilitation (LCM upgrades to envelope and interior)
Infrastructure and Grounds	<ul style="list-style-type: none"> • Upgrade to main electrical manhole • Asphalt paving • Exterior lighting

Table 14: Past construction projects at Stornoway site buildings

Historical spending for the past 10 years at the entire site, including outbuildings, grounds, and infrastructure, is shown below.

Fiscal Year	Operations & Maintenance (\$)	Capital (\$)	TOTAL (\$)
2006-2007	92,210	-	92,210
2007-2008	72,176	15,035	87,211
2008-2009	74,759	-	74,759
2009-2010	109,639	5,136	114,775
2010-2011	86,230	-	86,230
2011-2012	116,785	149,533	266,318
2012-2013	101,021	189,843	290,864
2013-2014	105,983	59,950	165,933
2014-2015	54,715	17,838	72,553
2015-2016	75,577	147,381	222,958
TOTAL (\$)	889,095	584,716	1,473,811

Table 15: Historical spending at Stornoway site

4.4.5 Proposed Deferred Maintenance Investments

The proposed investments into the property over the next 10 years are grouped according to building asset type. In general, it is proposed to leverage capital and O&M funding to improve assets that are in fair-to-poor condition.

Proposed capital and O&M projects include:

- UA studies and upgrades;
- the replacement of the roof;
- the replacement of electrical wiring/panels;
- upgrades to the fire alarm system; and,
- the replacement of hardwood flooring.

The planned investments are summarized in the table below.









	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Budget	605	-	15	-	148	-	-	-	13	14
Architectural	363	-	-	-	52	-	-	-	-	-
Mechanical	13	-	-	-	30	-	-	-	13	14
Electrical	93	-	15	-	66	-	-	-	-	-
Engineering Studies	136	-	-	-	-	-	-	-	-	-

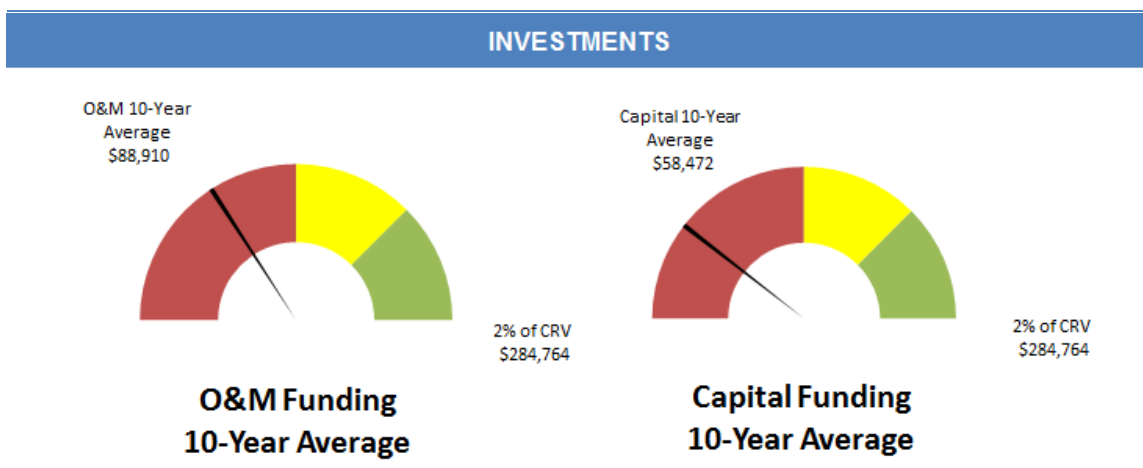
Table 16: Proposed capital and O&M funding at Stornoway Main Building

4.4.6 Summary

The following dashboard highlights the performance gap between the NCC's Management Principles and the current condition of the main residence. Also shown is the deferred maintenance deficit and historical investments for the main residence only.

STORNOWAY - MAIN BUILDING					
YEAR BUILT :	1913	FCI :	0.05 (GOOD CONDITION)	DEFERRED MAINTENANCE:	\$ 0.78 M
AREA (m2) :	879	API :	55 (MEDIUM PRIORITY)	CRV :	\$ 14.24 M

MANAGEMENT PRINCIPLES	CURRENT STATUS	NEXT STEPS
Planning		
Does the residence have a Life Cycle Management Plan in place? Emergency Response Plan? O&M and Capital Plan?	 <ul style="list-style-type: none"> - No Life Cycle Management in place - Emergency Response Plan in place - Capital planning done on 5-year cycles and O&M planning on yearly cycle 	<ul style="list-style-type: none"> - Create Life Cycle Management Plan - Integrate Capital and O&M planning into Life Cycle Management Plan
Heritage Preservation		
Are FHBRO defined heritage characteristics maintained?	 <ul style="list-style-type: none"> - Heritage characteristics maintained 	<ul style="list-style-type: none"> - None
Building Systems		
Are mechanical and electrical systems modernized and upgraded to current standards?	 <ul style="list-style-type: none"> - Hot water boilers replaced 2015 - No ventilation or air conditioning for occupied spaces - Electrical and plumbing systems very dated 	<ul style="list-style-type: none"> - Electrical modernization and piping replacement during major renovations - Installation of ventilation and air conditioning
Universally Accessible		
All grounds and residences shall be universally accessible	 <ul style="list-style-type: none"> - UA issues include the ramp to the main entrance, stair access to the 2nd and 3rd Floors, as well as a stepped entrance to the sunroom 	<ul style="list-style-type: none"> - UA study
Operational		
Is the building operational and available at all times?	 <ul style="list-style-type: none"> - Building is operational - Building is made available during negotiated periods 	<ul style="list-style-type: none"> - Continue working during periods of access
Fire Protection		
Does the building have fire detection and suppression systems?	 <ul style="list-style-type: none"> - No fire suppression system 	<ul style="list-style-type: none"> - Investigation and report for fire suppression upgrade in heritage building with designated substances
Business Continuity		
Is the residence equipped with backup systems to permit operation during infrastructure outage?	 <ul style="list-style-type: none"> - No emergency backup system in place 	<ul style="list-style-type: none"> - Investigation and report on options for providing emergency backup
Appropriately Furnished		
Is the residence furnished and equipped at all times? Are contents inventoried, inspected, and maintained regularly?	 <ul style="list-style-type: none"> - Residence is furnished and contents managed by NCC Interior Design group 	<ul style="list-style-type: none"> - Continue furnishing and maintaining contents on a regular basis



4.5 The Farm



4.5.1 Background

Located at 15 Barnes Road in Chelsea, QC lies the property known as The Farm. The residence, a former farmhouse, comprises more than 1.74 hectares (4 acres) of grounds, one main building with 11 rooms covering approximately 465 m² (5,000 ft²) plus five outbuildings.

In June 1985, the farmhouse and barn were designated as “recognized” heritage buildings by FHBRO. Today, the historic significance of some of the interior features of the house, including ornamental plaster and woodwork personally designed by Prime Minister King, have been recognized. Some of King’s personal possessions are still retained in the house. For example, the dining room contains the mahogany Willingdon Table that was presented to him by the Governor General of Canada, Viscount Willingdon, in 1931.

The Main Residence is currently occupied by the Speaker of the House and family and is divided into Private and State space. State Areas are generally located on the

1st Floor with the Private Areas, consisting mostly of bedrooms and washrooms, located on the 2nd Floor. The residence functions primarily as a private residence, but does occasionally host official events.

The residences are not open to the public.

4.5.2 History

The original farmhouse was built about 1891 by the Fleury brothers and was typical of the pioneer homesteads in the Gatineau region. It was a simple one and one-half storey frame building with gables and bay windows facing south. Like most houses of the era, it lacked central heating and plumbing.

Prime Minister William Lyon Mackenzie King purchased the house, and the two-mile stretch of land between Mountain and Barnes roads, on April 12, 1927 for \$4,000. In 1935, Mr. King converted the house into a year-round residence. Renovations were fairly modest. Two new L-shaped wings were added – one to the south for living and reception rooms and one to the east for a kitchen and servants' quarters. The character, materials and proportions of the original building were left intact. The Farm became one of the Prime Minister King's favourite residences and in the last 15 years of his life he conducted much of the nation's business there. He bequeathed this extensive property to the Government of Canada upon his death in 1950.

The Farm was apparently offered as a home to Prime Minister Louis St. Laurent and Mr. George Drew, Leader of the Opposition, neither of whom chose to occupy it. In 1954, The Farm was rented to the Honourable L. René Beaudoin, then Speaker of the House of Commons, for the sum of \$350.00 per year. The practice of renting The Farm to the Speaker of the House of Commons for use as a summer continued into the 1970s.

4.5.3 Present Condition

The main residence has an FCI of 0.11 (DFRP Rating = POOR) and is considered a high priority building, with an API score of 55. Given its current condition, work required consists of regular and ongoing maintenance.

THE FARM - KINGSMERE	Year Built	Area (m2)	DM (\$000)	CRV (\$000)	FCI (DM/CRV)	API
Main Residence	1891	464	843	7,524	0.11	55
Wood Shed	1891	25	78	135	0.58	30
Generator Shed	0	15	18	81	0.23	35
Gazebo	0	15	10	81	0.13	30
Storage Barn	1891	80	33	640	0.05	45
Recreational Building	1891	66	121	528	0.23	55
Garage	2005	48	48	257	0.19	20
Irrigation System Pump House	?	10	4	80	0.05	20

Table 17: Summary of current condition of The Farm site buildings

Currently, there are numerous issues that should be resolved in the residence, including building envelope, fire alarm, and electrical systems. Universal accessibility concerns include staired access to the 2nd Floor, as well as a stepped entrance to the sunroom.

The Farm is used as a residence and is provided with adequate heating and cooling equipment to meet the Occupational Health and Safety Directive for Public Service employees.

The age and condition of the electrical sub-panels and the associated wiring indicates that it should be upgraded; the plumbing system has failed on multiple occasions in recent years. Repairs and/or upgrades are complicated due to the presence of asbestos throughout many of the interior finishes.

4.5.4 Historical Investments

Since 1988, development plans, supported by asset condition reports, for both the building and grounds have been completed and several upgrades have been made.

Projects such as the replacement of the septic field, window rehabilitation, the upgrade to potable water treatment systems, roof repairs, and regular decorative upgrades to state areas have been completed as part of this renovation program. Below, a more comprehensive list of the rehabilitation initiatives undertaken since 2005 to the main building, ancillary building(s), and grounds is shown.

Asset Element	Major Rehabilitation Projects
Exterior Systems	<ul style="list-style-type: none"> Window Rehabilitation (rehabilitation of all windows, storms and screens) Roof replacement
Mechanical/Electrical Systems	<ul style="list-style-type: none"> Potable Water (Upgrade of the well water supply to the house) HVAC Upgrades (replace aging furnaces and humidifiers with high efficiency system) Basement Sanitary Line Replacement Electrical single line tracing
Interior Architectural	<ul style="list-style-type: none"> Main floor hardwood refinishing Chimney Rehabilitation (all 4 chimneys) U/A Washroom Conversion (Main Floor)
Ancillary Buildings	<ul style="list-style-type: none"> Barn Stabilization (new foundation, new doors, rehabilitated cladding) Garage Exterior paint
Infrastructure and Grounds	<ul style="list-style-type: none"> Dry stone wall rehab Terrace Rehabilitation (restoration of flagstone patio) Well Pumps (Replacement of Pump No.1 and Pump No.2) Septic Field Replacement Underground Oil Tank Decommissioning Flag pole new underground electrical cables and fixtures \$2.5K

Table 18: Past construction projects at The Farm site buildings

Historical spending for the past 10 years at the entire site, including outbuildings, grounds, and infrastructure, is shown below.

Fiscal Year	Operations & Maintenance (\$)	Capital (\$)	TOTAL (\$)
2006-2007	91,660	17,151	108,811
2007-2008	121,582	109,072	230,654
2008-2009	173,258	73,532	246,790
2009-2010	182,876	11,979	194,855
2010-2011	99,803	-	99,803
2011-2012	199,339	460,367	659,706
2012-2013	116,102	61,106	177,208
2013-2014	154,651	89,911	244,562
2014-2015	246,336	173	246,509
2015-2016	96,391	-	96,391
TOTAL (\$)	1,481,998	823,291	2,305,289

Table 19: Historical spending at The Farm site

4.5.5 Proposed Deferred Maintenance Investments

The proposed investments into the property over the next 10 years are grouped according to building asset type. In general, it is proposed to leverage capital and O&M funding to improve assets that are in fair-to-poor condition.

Proposed capital and O&M projects include:

- UA studies and upgrades;
- The replacement of some of the roof coverings;
- the replacement of the foundation and repair to exterior walls;
- the replacement of the porch;
- the replacement of air conditioning equipment;
- the replacement of fire suppression equipment;
- the replacement of electrical systems and wiring;
- upgrades to the fire alarm system; and,
- the replacement of hardwood flooring.

The planned investments are summarized in the table below.









	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Budget	650	15	88	7	58	19	0	0	0	9
Architectural	313	0	0	0	58	19	0	0	0	0
Mechanical	159	15	60	7	0	0	0	0	0	0
Electrical	153	0	28	0	0	0	0	0	0	0
Engineering Studies	25	0	0	0	0	0	0	0	0	0

Table 20: Proposed capital and O&M funding for The Farm Main Building

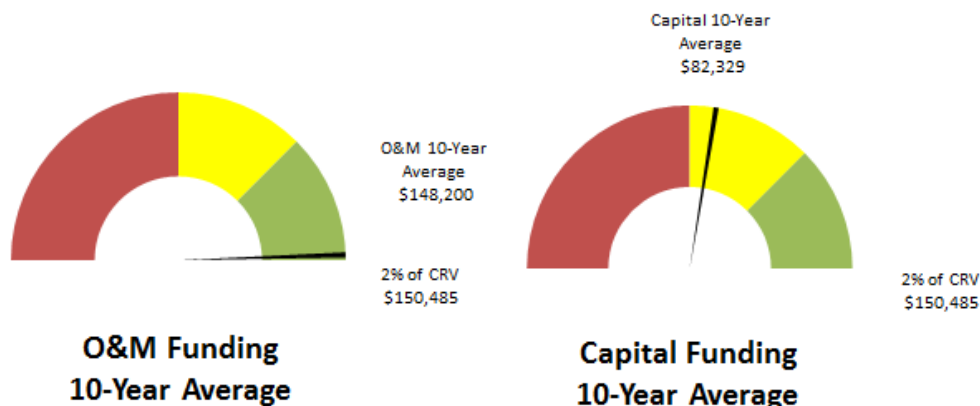
4.5.6 Summary

The following dashboard highlights the performance gap between the NCC's Management Principles and the current condition of the main residence. Also shown is the deferred maintenance deficit and historical investments for the main residence only.

THE FARM - MAIN BUILDING					
YEAR BUILT :	1891	FCI :	0.11 (POOR CONDITION)	DEFERRED MAINTENANCE:	\$ 0.84 M
AREA (m2) :	464	API :	55 (MEDIUM PRIORITY)	CRV :	\$ 7.52 M

MANAGEMENT PRINCIPLES	CURRENT STATUS	NEXT STEPS
Planning		
Does the residence have a Life Cycle Management Plan in place? Emergency Response Plan? O&M and Capital Plan?	 <ul style="list-style-type: none"> - No Life Cycle Management in place - Emergency Response Plan in place - Capital planning done on 5-year cycles and O&M planning on yearly cycle 	<ul style="list-style-type: none"> - Create Life Cycle Management Plan - Integrate Capital and O&M planning into Life Cycle Management Plan
Heritage Preservation		
Are FHBRO defined heritage characteristics maintained?	 <ul style="list-style-type: none"> - Heritage characteristics maintained 	<ul style="list-style-type: none"> - None
Building Systems		
Are mechanical and electrical systems modernized and upgraded to current standards?	 <ul style="list-style-type: none"> - Three furnaces recently replaced - Air conditioning nearing end of life - Electrical and plumbing systems dated 	<ul style="list-style-type: none"> - Electrical modernization and piping replacement during major renovations - Replacement of air conditioning
Universally Accessible		
All grounds and residences shall be universally accessible?	 <ul style="list-style-type: none"> - UA issues include stair access to the 2nd Floor, as well as a stepped entrance to the sunroom 	<ul style="list-style-type: none"> - UA study
Operational		
Is the building operational and available at all times?	 <ul style="list-style-type: none"> - Building is operational - Building is made available during negotiated periods 	<ul style="list-style-type: none"> - Continue working during periods of access
Fire Protection		
Does the building have fire detection and suppression systems?	 <ul style="list-style-type: none"> - Attic fire suppression requires replacement to mitigate freezing concerns. Issue currently addressed with regular maintenance - Fire pump and storage systems require replacement as they are end of life 	<ul style="list-style-type: none"> - Replace fire suppression deficiencies throughout the house
Business Continuity		
Is the residence equipped with backup systems to permit operation during infrastructure outage?	 <ul style="list-style-type: none"> - Emergency backup system in place 	<ul style="list-style-type: none"> - Continue maintaining equipment
Appropriately Furnished		
Is the residence furnished and equipped at all times?	 <ul style="list-style-type: none"> - Residence is furnished and contents managed by NCC Interior Design group 	<ul style="list-style-type: none"> - Continue furnishing and maintaining contents on a regular basis
Are contents inventoried, inspected, and maintained regularly?		

INVESTMENTS



4.6 7 Rideau Gate



4.6.1 Background

Located between 24 Sussex and Rideau Hall lies 7 Rideau Gate. This building holds a FHBRO “recognized” heritage designation, comprises a little over 0.2 hectares (0.49 acres) of grounds and one main building covering approximately 797.6 m² (8,566 ft²).

Due to ongoing renovations to the Governor General’s private quarters at Rideau Hall, the Main Residence is currently occupied by the Governor General Designate and family through December 2017. Once the Governor General Designate returns to Rideau Hall, 7 Rideau Gate will return to its primary vocation as a guest house for state visitors.

The residence is not open to the public.

4.6.2 History



Designed by architect Alan Keefer, this 790 square-meter private home was built in 1862 and was obtained by the Crown in 1966 as lodgings for visiting dignitaries who are guests of Canada. The Victorian architecture home was restored and renovated in 1989 to reinstate historical features as well as to upgrade the guest facilities.

For its first 70 years, the house remained Victorian in character. In 1947, new owners modernized the house by stripping away the verandas and entirely replacing the dark Victorian décor inside. The last private owner removed the roof walk, added exterior shutters, and built a sunroom on the east side of the original building and a new wing on the west side.

In 1988, the NCC took on responsibility of all official residences in Canada's Capital Region. It fully restored and refurnished the house, with the help of the Canadiana Fund, which receives donations of heritage art and furniture. Today, much of the original character and spirit of this historic old house has been recaptured. As well, thanks to the generosity of former owners, a number of family pieces came back to

their old home at 7 Rideau Gate. The house has been decorated and furnished to create a distinctively Canadian experience for visitors.

The residence is not open to the public.

4.6.3 Present Condition

The main residence has an FCI of 0.08 (DFRP Rating = FAIR) and is considered a high priority building, with an API score of 55. Given its current condition, work required consists of regular and ongoing maintenance.

7 RIDEAU GATE	Year Built	Area (m2)	DM (\$000)	CRV (\$000)	FCI (DM/CRV)	API
Main Residence	1862	798	991	12,925	0.08	55

Table 21: Summary of current condition of 7 Rideau Gate

There are numerous issues that should be resolved in the residence, including universal accessibility, building envelope (windows), fire alarm, and heating systems.

Universal accessibility concerns include that a visitor would be required to climb two (2) steps to reach the front entrance, a step to reach the sun room, and it is necessary to climb stairs to reach the second and third floor levels. Furthermore, the sole washroom for visitors is located beneath the main staircase, but it is not universally accessible. To meet the requirements for a visitable dwelling, the front entrance would need to be modified and a washroom with a clear route to the toilet at least 920 mm wide would need to be provided.

As 7 Rideau Gate is primarily used to accommodate visiting dignitaries for overnight stays, consideration should be given to providing an accessible bedroom on the ground floor or providing barrier-free access to the second level.

7 Rideau Gate is provided with adequate heating and cooling equipment to meet the Occupational Health and Safety Directive for Public Service employees. The building was recently upgraded to central air conditioning. Previously, window air conditioners were active in every room in the summer, which was disruptive and costly. The age and condition of the hot water boilers and accessories indicate that these systems should be upgraded; the plumbing system has failed on multiple occasions in recent years. Repairs and/or upgrades are complicated due to the presence of asbestos in some of the interior finishes.

In general, the home is occupied on an irregular schedule. In between stays by visiting dignitaries, the home is used frequently for government lunches, dinners,

and meetings. This limits repair work to small windows of opportunity during most of the year and requires negotiation with federal partners for major repair works.

4.6.4 Historical Investments

Since 1988, development plans, supported by asset condition reports, for both the building and grounds have been completed and several upgrades have been made.

Projects such as the replacement of the commercial kitchen, provision of air conditioning, and foundation damp proofing have been completed as part of this renovation program. Below, a more comprehensive list of the rehabilitation initiatives undertaken since 2005 to the main building, ancillary building(s), and grounds is shown.

Asset Element	Major Rehabilitation Projects
Exterior Systems	<ul style="list-style-type: none"> Foundation Damp proofing and Drainage (NE wall) Exterior sunroom wall mortar and stairs repairs and replacement Roof top railing replacement
Mechanical/Electrical Systems	<ul style="list-style-type: none"> HVAC Upgrades Upgrades to hot water heating system Provision of central air conditioning
Interior Architectural	<ul style="list-style-type: none"> Kitchen Renovations (new floor, new gas range, ventilation upgrades, new counters, repaint) Sunroom exterior double doors replacement Kitchen stainless steel cabinetry Basement storage room upgrade
Ancillary Buildings	<ul style="list-style-type: none"> Not applicable
Infrastructure and Grounds	<ul style="list-style-type: none"> Landscape Upgrades (rehab of main patio)

Table 22: Past construction projects at 7 Rideau Gate

Historical spending for the past 10 years at the entire site, including grounds and infrastructure, is shown below.

Fiscal Year	Operations & Maintenance (\$)	Capital (\$)	TOTAL (\$)
2006-2007	94,954	458,633	553,587
2007-2008	55,099	39,145	94,244
2008-2009	69,248	140,127	209,375
2009-2010	61,558	93,554	155,112
2010-2011	55,258	-	55,258
2011-2012	58,386	-	58,386
2012-2013	93,786	89,063	182,849
2013-2014	91,130	122,770	213,900
2014-2015	66,813	500,110	566,923
2015-2016	52,498	18,565	71,063
TOTAL (\$)	698,730	1,461,967	2,160,697

Table 23: Historical spending at 7 Rideau Gate site

4.6.5 Proposed Deferred Maintenance Investments

The proposed investments into the property over the next 10 years are grouped according to building asset type. In general, it is proposed to leverage capital and O&M funding to improve assets that are in fair-to-poor condition.

Proposed capital and O&M projects include:

- UA studies and upgrades;
- the replacement of the heritage windows;
- the replacement of carpeted surfaces;
- the replacement of the hot water boilers and pumps;
- the replacement of domestic hot water heater;
- the replacement of the fire alarm system;
- the repair of roof heat tracing systems; and,
- upgrades to the lighting and fire alarm system.

The planned investments are summarized in the table below.









	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Budget	224	0	527	0	74	63	0	90	13	360
Architectural	9	0	505	0	35	0	0	0	0	0
Mechanical	66	0	0	0	39	0	0	90	13	351
Electrical	37	0	22	0	0	63	0	0	0	9
Engineering Studies	111	0	0	0	0	0	0	0	0	0

Table 24: Proposed capital and O&M funding for 7 Rideau Gate

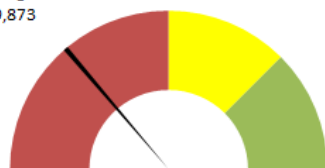
4.6.6 Summary

The following dashboard highlights the performance gap between the NCC's Management Principles and the current condition of the main residence. Also shown is the deferred maintenance deficit and historical investments for the main residence only.

7 RIDEAU GATE - MAIN BUILDING					
YEAR BUILT :	1862	FCI :	0.08 (FAIR CONDITION)	DEFERRED MAINTENANCE:	\$ 0.99 M
AREA (m2) :	798	API :	55 (MEDIUM PRIORITY)	CRV :	\$ 12.93 M

MANAGEMENT PRINCIPLES	CURRENT STATUS	NEXT STEPS
Planning		
Does the residence have a Life Cycle Management Plan in place? Emergency Response Plan? O&M and Capital Plan?	 <ul style="list-style-type: none"> - No Life Cycle Management in place - Emergency Response Plan in place - Capital planning done on 5-year cycles and O&M planning on yearly cycle 	<ul style="list-style-type: none"> - Create Life Cycle Management Plan - Integrate Capital and O&M planning into Life Cycle Management Plan
Heritage Preservation		
Are FHBRO defined heritage characteristics maintained?	 <ul style="list-style-type: none"> - Heritage characteristics maintained 	<ul style="list-style-type: none"> - None
Building Systems		
Are mechanical and electrical systems modernized and upgraded to current standards?	 <ul style="list-style-type: none"> - Centralized air conditioning installed in 2014 - Hot water boilers nearing end of life - Electrical and plumbing systems dated 	<ul style="list-style-type: none"> - Electrical modernization and piping replacement during major renovations - Replacement of hot water boilers
Universally Accessible		
All grounds and residences shall be universally accessible?	 <ul style="list-style-type: none"> - UA issues include front entrance, sunroom, ground washroom, and stairs to upper levels 	<ul style="list-style-type: none"> - UA study
Operational		
Is the building operational and available at all times?	 <ul style="list-style-type: none"> - Building is operational - Building is made available during negotiated periods 	<ul style="list-style-type: none"> - Continue working during periods of access
Fire Protection		
Does the building have fire detection and suppression systems?	 <ul style="list-style-type: none"> - No fire suppression system 	<ul style="list-style-type: none"> - Implement design for new fire suppression system
Business Continuity		
Is the residence equipped with backup systems to permit operation during infrastructure outage?	 <ul style="list-style-type: none"> - No emergency backup system in place 	<ul style="list-style-type: none"> - Investigation and report on options for providing emergency backup
Appropriately Furnished		
Is the residence furnished and equipped at all times?	 <ul style="list-style-type: none"> - Residence is furnished and contents managed by NCC Interior Design group 	<ul style="list-style-type: none"> - Continue furnishing and maintaining contents on a regular basis
Are contents inventoried, inspected, and maintained regularly?		
INVESTMENTS		

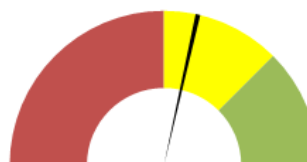
O&M 10-Year
Average
\$69,873



**O&M Funding
10-Year Average**

2% of CRV
\$258,507

Capital 10-Year
Average
\$146,197



**Capital Funding
10-Year Average**

2% of CRV
\$258,507

5 Summary and Next Steps

The NCC's situation is not unique, and other provincial and federal institutions are experiencing similar challenges due to underfunding. Understanding the true condition of our assets is allowing the NCC to make strategic decisions regarding its building portfolio. This includes investing in high priority buildings, allowing the ORB to align their portfolio with its core mission or those of its occupants, re-evaluating certain ancillary buildings to better align with long range plans.

With \$26 million in the NCC's annual operating budget allocated to asset maintenance and \$23 million in the NCC's annual parliamentary appropriations for capital expenditures, the NCC annual budgets fall significantly short. Furthermore, because of the age, condition and heritage significance of the official residences, the investments required for these properties requires a disproportionate amount of the NCC's already limited funds.

Without sustainable funding, the deferred maintenance deficit will continue to grow and more assets will resemble 24 Sussex. As demonstrated in the figure below, even with a one-time injection (\$83M and current funding levels (~1% CRV = \$6M), FCI will deteriorate to "Poor" in 10 years. With a one-time injection (\$83M) and on-going funding ~2% CRV = \$12 M/yr), FCI can be maintained between "Fair" and "Good". In other words, an increase in annual capital appropriations of \$12.3 million would provide a sustainable source of funds that could be used to conserve the built heritage of national interest under the NCC's stewardship.

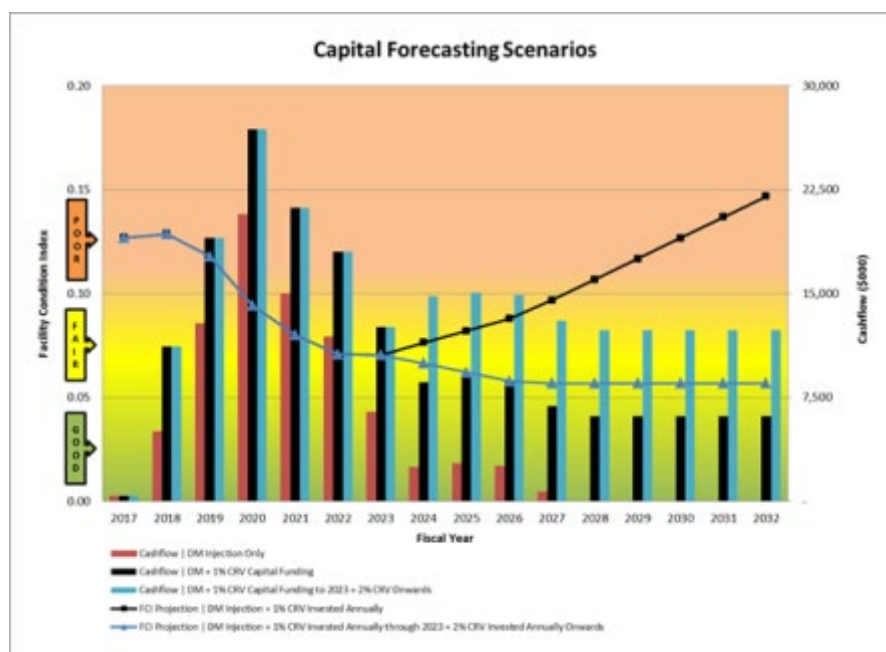


Figure 8: Capital Forecast Scenarios

However, funding is not the only requirement. Predictable access to funding (a one-time injection and increased annual capital appropriations) is another key element, as highlighted in the figure below.

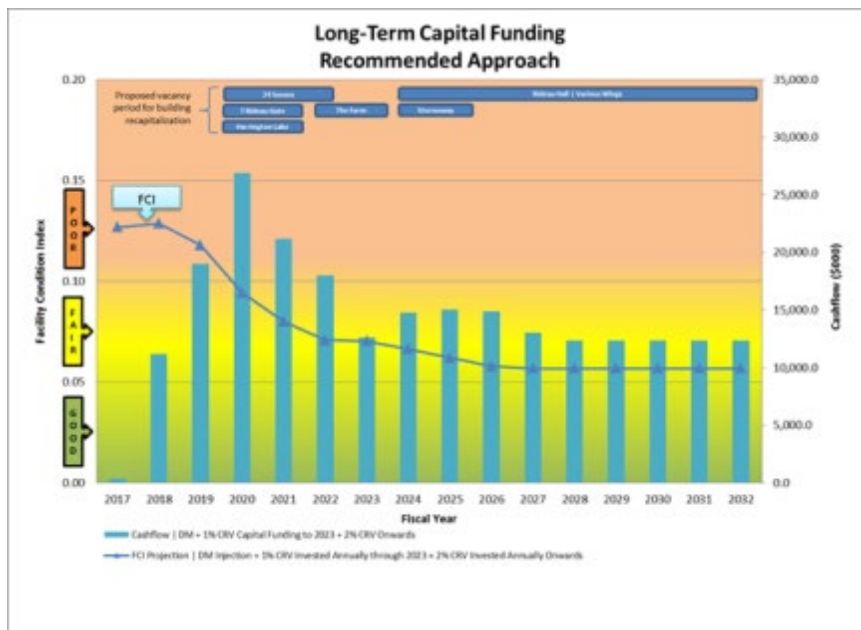


Figure 9: Long-Term Capital Plan Recommended Approach

Without both a sustainable source of funds and access to the residences to undertake regular repair, maintenance and scheduled capital improvements, the NCC will not be able to fulfill its mandate with respect to the official residences. The NCC's recommended approach: a long-term Capital Plan published annually identifying timing and duration of Official Residences projects would be open and transparent and would maintain the portfolio in "fair – good" condition.

The NCC will also work with the RCMP on a coordinated approach. The funding requirements presented in this report are limited to the NCC's mandate and therefore do not include funding required by the RCMP to fulfill its security mandate.

Next steps include the development of a OR Management Framework that includes a refreshing of the current management principles; an OR portfolio strategy including identifying a source of funds, more focused governance and oversight, levels of service, performance measurements; asset management plans and finally a prioritized list of projects and programs.

Appendix A – Official Residence Management Principles

- That all the residences are divided into State Areas and Private Areas (allowing for décor planning and expenditure guidelines).
- That all grounds are separated into specific landscape zones (allowing for use, maintenance and intervention guidelines).
- That State Area décor be maintained for a generation before complete redecoration occurs.
- That the heritage characteristics of the properties, as defined by FHBRO, be maintained.
- That all residences have a plan in place covering preferred development strategies for buildings, grounds and infrastructure.
- That all residences have a Life Cycle Management Plan in place.
- That all residences have an Emergency Response Plan in place.
- That all residences must be operational at all times (unless specific arrangements are otherwise made).
- That all grounds and residences be universally accessible (front door access and guest floor access guidelines).
- That all building systems are modernized and upgraded to current standards.
- That all residences provide for fire detection and suppression systems (allowing for the evacuation of the building and the protection of assets).
- That all residences have backup systems to permit the residence to function in case of regular infrastructure outage (e.g. that all residences have an emergency power source available to address life safety, security and functional requirements in case of power outage).
- That all residences be furnished and equipped at all times.
- That the contents of all residences be inventoried, inspected and maintained regularly.
- That although measures are taken at all residences to protect the state collections and furnishings, the residences cannot be rendered to museum standard.
- That environmentally friendly practices be used in managing the property.

Source: Official Residences in the National Capital Region, Life Cycle Management Program 1999-2009

Appendix B – Building Condition Reports

Removed for security reasons

Appendix C – Current Replacement Values (CRV)

CRV was calculated based on a number of factors including: the area of the building, class of building, 3rd party opinion of probable costs, or actual project costs of select federal and provincial heritage buildings over the last 5 years:

OFFICIAL RESIDENCES
CURRENT REPLACEMENT VALUE / FACILITY CONDITION INDEX

10/4/2017																
DEFERRED MAINTENANCE (DM) - 30 year plan Entretien différé (ED) - Plan de 30 ans																
CURRENT REPLACEMENT VALUE (CRV) Coût de remplacement actuel (CA)																
DHP - Structure Number	NCC ASSET #	DHP Property Number	Structure name English	Structure name French	Construction Year	Age	Floor Area ft²	Floor Area m²	BOC \$ (SNC/NCC LOM including 25%) "A"	\$/m²	Total to "Good Condition" "B"	\$/m² (OHD's estimate)	Recommended CRV	Asset Condition OHD evaluation	Facility Condition DM/CRV	Source of Estimates
Identificateur de bâtiment du RPP	Identificateur de bien de la CCN	Identificateur de bien de la RPP	Nom du bâtiment Anglais	Nom du bâtiment Français	Année de construction	Âge	Surface ft²	Surface m²	\$ des REDI (SNC/CCN DM incluant 25%) "A"	\$/m²	Total des coûts pour amener à "bonne condition" "B"	%/m² (Estimation des RO)	Valeur recommandée de CA	Indice de l'état des installations évalué par les RO		Source d'information pour les estimations
RED - Rapports sur l'état des immeubles																
24 SUSSEX																
144553	94049	2069	Main Residence	Résidence principale	1827	2017	24,761	2,301	-	-	\$ 41,910,000	0.81	\$ 52,015,000	Critical	0.81	D&C Nov. 2016 Advice to Ministers
144554	94050	2069	Central Office	Bureau du gérant	1827	150	1,151	106	-	-	\$ 2,100,000	0.30	\$ 2,100,000	Critical	0.30	D&C Nov. 2016 Advice to Ministers
144555	94070	2069	Pool Building	Édifice de la piscine	1975	42	3,407	325	-	-	\$ 5,380,000	0.72	\$ 7,475,000	Critical	0.72	D&C Nov. 2016 Advice to Ministers
HARRINGTON LAKE - LAC MOUSSEAU																
142511	94028	4270	Garage & Shop	Garage et atelier	1925	92	17,221	1,600	1,192,218	6.93	\$ 17,817,662	0.75	\$ 23,787,008	Critical	0.75	D&C S. Robertson Project
142512	94029	4292	Main Cottage	Chalet principal	1925	92	8,268	771	91,376	5.70	\$ 11,566,000	0.44	\$ 207,000	Critical	0.44	D&C S. Robertson Project
142513	94031	4292	Change House	Salle d'habillage	1960	57	252	23	68,814	5.40	\$ 126,414	0.54	\$ 126,414	Critical	0.54	D&C S. Robertson Project
142514	94032	2090	Upper Guest Cottage	Chalet supérieur des invités	1925	92	915	85	350,461	8.00	\$ 680,000	0.36	\$ 918,000	Critical	0.36	D&C S. Robertson Project
142515	94033	2090	Lower Guest Cottage	Chalet inférieur des invités	1925	92	719	67	331,136	8.00	\$ 564,000	0.48	\$ 721,440	Critical	0.48	D&C S. Robertson Project
142516	94034	4270	Guest Cottage	Chalet des invités	1960	57	2,138	201	1,040,000	4.91	\$ 2,040,000	0.60	\$ 2,040,000	Critical	0.60	D&C S. Robertson Project
142517	94035	4292	Generator Shed	Hangar du groupe électrogène	1980	37	1,055	118	6,747	2.70	\$ 148,024	0.05	\$ 8,000	Good	0.05	D&C S. Robertson Project
142518	94037	4292	Official Car Garage	Garage de la voiture de fonction	1960	37	410	38	40,626	5.40	\$ 205,740	0.24	\$ 205,740	Poor	0.24	D&C S. Robertson Project
142519	94038	4270	Horse & Cattle Barn	Écurie et étable	1960	117	1,302	117	236,496	8.00	\$ 1,414,400	0.16	\$ 8,000	Poor	0.16	D&C S. Robertson Project
142520	94038	4270	Tool Shed	Atelier	1960	37	364	34	1,714,724	2.70	\$ 978,000	0.35	\$ 978,000	Critical	0.35	D&C S. Robertson Project
142521	337175	4292	Tool Shed	Atelier pour outils	1960	37	327	30	24,477	2.70	\$ 50,814	0.48	\$ 51,814	Critical	0.48	D&C S. Robertson Project
142516	337219	2090	Pump Shed	Atelier de la pompe	1970	47	303	28	30,400	5.40	\$ 82,080	0.37	\$ 82,080	Critical	0.37	D&C S. Robertson Project
THE FARM - KINGSMERE																
144553	94105	2077	Main Residence	Résidence principale	1891	126	7,769	724	1,697,647	9.00	\$ 4,970,680	0.81	\$ 9,918,363	Poor	0.81	D&C S. Robertson Project
144554	94106	2077	Wood Shed	Atelier pour le bois de chauffage	1891	126	4,058	464	842,699	5.00	\$ 3,715,680	0.11	\$ 2,524,252	Poor	0.11	D&C S. Robertson Project
144555	94107	2077	Generator Shed	Hangar du groupe électrogène	1891	126	269	25	78,365	2.70	\$ 67,500	0.58	\$ 135,000	Critical	0.58	D&C S. Robertson Project
144556	94108	2077	Sandbox Barn	Pavillon	1891	126	1,911	176	18,301	2.70	\$ 40,500	0.23	\$ 81,000	Poor	0.23	D&C S. Robertson Project
144557	94109	2077	Recreational Building	Bâtiment récréatif	1891	126	881	81	320,375	2.70	\$ 482,000	0.05	\$ 810,000	Poor	0.05	D&C S. Robertson Project
144558	94110	2077	Garage	Garage	2005	12	710	66	120,026	5.40	\$ 336,400	0.23	\$ 528,000	Poor	0.23	D&C S. Robertson Project
144559	371139	2077	Irrigation System Pump House	Atelier de la pompe d'irrigation	2005	12	511	48	-	1,000	\$ 47,500	0.19	\$ 256,000	Poor	0.19	D&C S. Robertson Project
144562	354462	2077	Irrigation System Pump House	Atelier de la pompe d'irrigation	2005	12	108	10	4,190	5.40	\$ 54,000	0.05	\$ 8,000	Good	0.05	D&C S. Robertson Project
STORMONWAY																
145046	94102	2068	Main Residence	Résidence principale	1913	104	10,857	997	904,068	8.33	\$ 10,113,978	0.87	\$ 15,198,340	Good	0.87	D&C S. Robertson Project
145050	94103	2068	Garage	Garage	1914	103	1,057	97	780,026	10.80	\$ 9,482,120	0.05	\$ 14,238,160	Good	0.05	D&C S. Robertson Project
145116	94107	2064	Main Residence	Résidence principale	1862	155	8,666	798	897,136	5.40	\$ 8,697,888	0.96	\$ 13,076,332	Poor	0.96	D&C S. Robertson Project
7 RIDEAU GATE																
145116	94107	2064	Main Residence	Résidence principale	1862	155	8,666	798	897,136	5.40	\$ 8,697,888	0.96	\$ 13,076,332	Poor	0.96	D&C S. Robertson Project
RIDEAU HALL ESTATE																
144275	94175	2078	Central Halling Plant	Chaufferie centrale	1973	44	190,758	17,758	22,667,692	12.75	\$ 315,933,915	0.85	\$ 558,297,500	Fair	0.85	D&C S. Robertson Project
144276	94177	2078	Domestic Building	Édifice du Domaine	1877	140	4,562	424	83,125	5.00	\$ 212,000	0.16	\$ 4,570,200	Good	0.16	D&C S. Robertson Project
144277	94181	2078	Cold Room	Chambre froide	1960	57	5,003	465	66,747	1,000	\$ 465,000	0.21	\$ 465,000	Poor	0.21	D&C S. Robertson Project
000559	443671	2078	Ceremonial GH # 1	Salle cérémonielle - #1	1923	94	3,084	285	280,005	2,700	\$ 760,770	0.17	\$ 1,530,540	Poor	0.17	D&C S. Robertson Project
000560	443672	2078	Ceremonial GH # 2	Salle cérémonielle - #2	1923	94	3,084	285	280,005	2,700	\$ 760,770	0.17	\$ 1,530,540	Poor	0.17	D&C S. Robertson Project
000662	443673	2078	Production GH # 3 and #4	Salles de production - #3 et #4	1938	79	4,003	372	2,000	1,000	\$ 288,000	0.00	\$ 1,555,200	Good	0.00	D&C S. Robertson Project
000663	443674	2078	Production GH # 5 and #6	Salles de production - #5 et #6	1938	79	4,003	372	2,000	1,000	\$ 288,000	0.00	\$ 1,555,200	Good	0.00	D&C S. Robertson Project
144278	335926	2078	Production GH # 8	Salle de production - #8	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144279	335927	2078	Production GH # 9	Salle de production - #9	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144280	335928	2078	Production GH # 10	Salle de production - #10	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144281	335929	2078	Production GH # 11	Salle de production - #11	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144282	335930	2078	Production GH # 12	Salle de production - #12	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144283	335931	2078	Production GH # 13	Salle de production - #13	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144284	335932	2078	Production GH # 14	Salle de production - #14	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144285	335933	2078	Production GH # 15	Salle de production - #15	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144286	335934	2078	Production GH # 16	Salle de production - #16	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144287	335935	2078	Production GH # 17	Salle de production - #17	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144288	335936	2078	Production GH # 18	Salle de production - #18	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144289	335937	2078	Production GH # 19	Salle de production - #19	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144290	335938	2078	Production GH # 20	Salle de production - #20	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144291	335939	2078	Production GH # 21	Salle de production - #21	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144292	335940	2078	Production GH # 22	Salle de production - #22	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144293	335941	2078	Production GH # 23	Salle de production - #23	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144294	335942	2078	Production GH # 24	Salle de production - #24	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144295	335943	2078	Production GH # 25	Salle de production - #25	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144296	335944	2078	Production GH # 26	Salle de production - #26	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144297	335945	2078	Production GH # 27	Salle de production - #27	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144298	335946	2078	Production GH # 28	Salle de production - #28	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144299	335947	2078	Production GH # 29	Salle de production - #29	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144300	335948	2078	Production GH # 30	Salle de production - #30	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144301	335949	2078	Production GH # 31	Salle de production - #31	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144302	335950	2078	Production GH # 32	Salle de production - #32	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144303	335951	2078	Production GH # 33	Salle de production - #33	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144304	335952	2078	Production GH # 34	Salle de production - #34	1960	37	372	35	27,297	5.40	\$ 186,840	0.15	\$ 186,840	Poor	0.15	D&C S. Robertson Project
144305	335953	2078	Production GH # 35	Salle de												

Appendix D – Rideau Hall Site Plan

Removed for security reasons

Appendix E – 24 Sussex Site Plan

Removed for security reasons

Appendix F – Harrington Lake Site Plan

Removed for security reasons