



**UNIVERSITY PLANNING COMMITTEE**  
**Wednesday, February 10, 2021 at 10:30 AM**  
**Zoom**

**AGENDA**

Page

***OPEN SESSION***

- 1. MINUTES OF PREVIOUS MEETING – JANUARY 20, 2021 (OPEN SESSION)**
- 2. BUSINESS ARISING**
- 3. CHAIR'S COMMENTS AND UPDATE**
- 4. UNIVERSITY PLANNING COMMITTEE BY-LAW REVISIONS**  
[UPC By-Law Revisions \(APPROVAL\)](#)
- 5. CAPITAL PLAN UPDATE**  
[Capital Plan \(APPROVAL\)](#)
- 6. OTHER BUSINESS**

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February 4, 2021

**TO:** University Planning Committee  
**FROM:** Andrea Thyret-Kidd, University Secretary  
**RE:** Revisions to the UPC Terms of Reference

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Attached please find proposed revisions to the UPC terms of reference based on the discussion at the last meeting.

The terms of reference now clarify that UPC follows the Board Election By-Laws. Also attached are revisions to the Board Election By-Laws that outline how UPC faculty member elections will be run. There are no proposed revisions to the Board Election By-Law for the non-teaching and student UPC members.

Please note that rather than having Senate Executive review nominations, the revisions propose that the Faculty Dean will review the faculty member nominations. It is a normal part of the Senate and Board election procedures for the Secretariat to work with the Dean's Offices to encourage nominations in order to ensure elections are held rather than acclamations.

Also attached are revised UPC Guidelines for Planning Reports based on feedback received from committee members

## THE UNIVERSITY PLANNING COMMITTEE<sup>1</sup>

114.

- a) The University Planning Committee shall consist of the following membership:

### ***Ex Officio Members***

Chancellor  
Chair of the Board of Governors (or delegate)  
Vice-Chair of the Board of Governors (or delegate)  
President; ~~the~~  
Provost, who shall be Chair  
Vice-President (Administration)  
Vice-President (Research)  
Vice-Provost and Dean of Graduate Studies

### ***Members***

~~Five-Six~~ faculty members, one from each Faculty, no more than two from any one Faculty, elected for staggered three-year terms  
One Faculty Dean elected annually (by and from the six Faculty Deans)  
One non-teaching staff member, elected for a three-year term  
One graduate student, elected for a two-year term  
One undergraduate student, elected for a two-year term

### ***Consultants***

Associate Vice-President, Finance and Planning (Academic)  
~~Associate Vice President (Institutional Research & Analysis)~~  
Assistant Vice-President/Chief Faculties Officer

### ***Observers***

Dean and Vice-President (Health Sciences) or delegate; ~~unless elected;~~  
Vice-President (University Advancement);  
Vice-President (Students and Learning) and Dean of Students; ~~and~~  
Chair of Undergraduate Council

- (i) One-half of the membership, excluding the *ex officio* members, shall constitute a quorum.

~~(ii)~~ The election of faculty, staff and student members to the University Planning Committee shall be conducted by the University Secretary and shall adhere to the Board of Governors Election By-

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<sup>1</sup>The University Planning Committee is a joint Board-Senate Committee and is the successor to the Board-Senate Committee on Academic Planning. It is also the successor to the Board-Senate Committee on Long-Range Planning named in *The McMaster University Act, 1976*. All references to the Board-Senate Committee on Long-Range Planning in *The McMaster University Act, 1976* shall be deemed henceforth to refer to its successor, the University Planning Committee.

~~Laws. Following a call for nominations from the appropriate University constituency. The Senate Executive Committee shall review the nominations and ensure that there are sufficiently many to require that an election be held; it may make any additional nominations it deems necessary to ensure an election. The counting of ballots in elections to the University Planning Committee shall be in accordance with the transferable vote system.~~

- b) The University Planning Committee's fundamental mandate is to co-ordinate academic and resource planning so that the Senate and the Board of Governors may be assured that any proposal presented for approval has academic merit that supports the mission of the University and that resources necessary for the implementation of any proposal have been appropriately assessed. In this context the University Planning Committee shall:
- (i) review the Plan for the University annually, and recommend revisions to it as necessary, for approval by the Senate and the Board of Governors;
  - (ii) review, for recommendation to the Senate and the Board of Governors, major initiatives (including those which are part of submissions to external agencies) that have significant resource implications, providing comment on how the proposals fit within the University Plan;
  - (iii) review and ~~approve~~receive annual planning reports as prescribed by the Provost from the Faculties, the School of Graduate Studies, the Vice-Provost (Faculty), the Associate Vice-President (Students and Learning) and Dean of Students, the University Registrar, the University Librarian, and other units (as appropriate) that report directly to the Provost, providing comment on how the plans relate to overall University planning and current budgeting. Approved plans are to be reported to the Senate and the Board of Governors for information;
  - (iv) review and ~~approve~~receive annual planning reports as prescribed by the Vice-President (Administration) from those administrative and service units that report directly to the Vice-President (Administration), providing comment on how the plans relate to overall University planning and current budgeting. Approved plans are to be reported to the Senate and the Board of Governors for information;
  - (v) review and ~~approve~~receive annually a report from the Vice-President (Research) on the major operations, institutes, and initiatives that receive significant support from the budget envelope of the Vice-President (Research), and on the anticipated impact of new funding opportunities (from federal, provincial, or private agencies or businesses) as they arise. Approved plans are to be reported to the Senate and the Board of Governors for information;

- (vi) receive annually from the Vice-President (University Advancement) a report on advancement efforts of the previous year and review, for recommendation to the Senate and the Board of Governors, future fund-raising priorities and their relationship to the University Plan;
- (vii) provide commentary, with reference to the University Plan and the McMaster University Campus Master Plan, to the relevant committee of the Board of Governors on proposals for capital development and other expenditures that fall outside the annual budget (such as those encompassed by the Capital Renewals process). For all major projects, the University Planning Committee will be provided with a total impact analysis that assesses the ongoing costs of maintenance, utilities, etc.;
- (viii) review, for recommendation to the Senate and the Board of Governors, the annual report on the *McMaster University Campus Master Plan*, including any updates, amendments and elaborations; and
- (ix) report to the Senate and the Board of Governors any matters of concern formally identified as such by a majority of the Committee.

115.

- a) The **Budget Committee** shall be a subcommittee of the University Planning Committee with membership drawn from the University Planning Committee as follows:

***Ex Officio Members***

President  
Provost  
Vice-President (Administration)

***Members***

Three faculty members (one of whom shall serve as Chair)  
One member of the non-teaching staff  
One graduate student  
One undergraduate student

- (i) The Chair of the Budget Committee shall be elected annually by the University Planning Committee from among the faculty members on the University Planning Committee following nomination by the Chair of the University Planning Committee and a call for further nominations. The other two faculty members on the Budget Committee shall be selected subsequently by and from the ~~five~~<sup>six</sup> faculty members on the University Planning Committee for service commencing July 1 or immediately following a vacancy. The Chair may vote on all questions.
- (ii) Two-thirds of the membership shall constitute a quorum. If more than two members are absent when a vote is taken on the final budget, the vote must be confirmed -electronically.

b) The Budget Committee shall:

- (i) review the budget framework prepared by the University administration in consultation with the Office of Institutional Analysis and Research, including any changes to the McMaster Budget Model; this framework (including the models and projections upon which it is based) will be provided to the Joint Administration / Faculty Association Committee to Consider University Financial Matters and to Discuss and Negotiate Matters Related to Terms and Conditions of Employment of Faculty (the Joint Committee) as will updates to the framework should these arise;
- (ii) receive and respond to budget submissions from all Faculties, areas, and units;
- (iii) make budget recommendations available to the University Planning Committee during development of the recommendations, for comment on whether those recommendations are congruent with the University Plan; deliver the final budget to the University Planning Committee in a timely fashion to ensure that it is in a position to make comments in advance of the budget being transmitted to other deliberative bodies;
- (iv) make budget recommendations available to the University Senate for comment before they are transmitted by the President to the Planning and Resources Committee of the Board of Governors;
- (v) deliver budget recommendations to the President of the University for transmittal to the Planning and Resources Committee of the Board of Governors. Any comments of the University Planning Committee and Senate shall be included in the material for the Board of Governors, along with the President's own comments; and
- (vi) hold all meetings of the Committee in Closed Session.

c) The **University Student Fees Committee** shall be a sub-committee of the University Planning Committee with the following membership:

***Ex Officio Members***

Associate Vice-President (Students and Learning) and Dean of Students – Co-Chair  
Vice-Provost and Dean of Graduate Studies – Co-Chair  
Associate Vice-President, Finance and Planning (Academic), Provost's Office  
Executive Director, Education Services, Faculty of Health Sciences  
Controller, Financial Services  
University Registrar

**Student Members**

Graduate Student Representative – selected from applicants for a one-year term  
Full-time Undergraduate Student Representative – selected from applicants for a one-year term  
Part-time Undergraduate Student Representative – selected from applicants for a one-year term

\*Student positions are renewable once.

**Consultants**

Director, Finance and Administration, Student Affairs

Associate Registrar and Graduate Secretary, School of Graduate Studies

Assistant Registrar, Government Aid Programs, Registrar's Office

Manager, Accounts Receivable, Financial Affairs

Two staff members from Financial Affairs (approved by the Committee annually)

Two staff members from Institutional Research and Analysis (approved by the Committee annually)

- d) The University Student Fees Committee shall:
- (i) recommend all revisions to tuition (undergraduate and graduate degree, diploma and certificate) and supplementary fees to the Budget Committee;
  - (ii) establish deadlines for the submission of all proposed tuition and supplementary fees to the University Student Fees Committee;
  - (iii) recommend policy guidelines to the Budget Committee that outline services and materials for which fees can be charged;
  - (iv) recommend policy guidelines to the Budget Committee for charging fees for existing and new programs that are not funded through grants from the Ministry of Training, Colleges and Universities;
  - (v) ensure that all proposed changes to existing student fees and all proposed new fees are reasonable, conform to government regulations and have been approved through appropriate processes within the University;
  - (vi) ensure that proposed changes to student fees are feasible and do not involve undue complications to calculate and administer; where appropriate, determining the most "*tax efficient*" method for students who are being charged these fees; and
  - (vii) hold all meetings of the Committee in Closed Session.

**Revised: December 9, 2020**

2. when deemed appropriate, review the policy and procedures relating to discrimination, harassment, and/or sexual violence and make recommendations, through the Senate Executive Committee, to the Senate and the Board on policy changes or new policies deemed necessary by the Panel.

The hearing of any case shall be before a Tribunal, consisting of three members of the Board-Senate Hearing Panel for Discrimination, Harassment, and Sexual Violence. These members shall be free of conflict of interest and shall be chosen by the Chair, or a Vice-Chair as appropriate, of the Hearing Panel in accordance with procedures approved by the Senate and the Board.

Hearings before a Tribunal of the Board-Senate Hearing Panel for Discrimination, Harassment, and Sexual Violence shall be conducted in accordance with the procedures approved by the Senate and the Board.

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| <b>Conflict of Interest</b>                            | 16. At any meeting of the Board or of any committee of the Board, changes in remuneration of employees of the University shall be deemed not to be a proposed contract within the terms of Section 8, subsection 16 of the 1976 Act.  |
| <b>Board-Senate Committee to Recommend a President</b> | 17. From time to time, as required, the Board shall appoint five of its members to a Board-Senate Committee to Recommend a President, one of whom shall be from those appointed under Section 8 (1) (d) of the 1976 Act, one member from those elected under Section 8 (1) (i), one member from those elected under Section 8 (1) (f), and two members shall be from among the persons elected or appointed under Sections 8 (1) (b), 8 (1) (c) or 8 (1) (j) of the 1976 Act. |

## **BY-LAW NO. 2**

being a by-law relating to the elections to the Board.

- |                              |  |
|------------------------------|--|
| <b>Election by the Board</b> | <ol style="list-style-type: none"><li>1.<ol style="list-style-type: none"><li>(1) The term of office of each of the members to be elected under Section 8 (1) (b) of the 1976 Act shall end on June 30th of the last year of the designated term for which the member was elected so that the terms of not more than four members shall expire in any one year;</li><li>(2) The candidates for election under Section 8 (1) (b) of the 1976 Act shall be nominated by the Nominating Committee of the Board or by individual members of the Board, provided that nominations of candidates by individual members shall be filed with the Chair of the Nominating Committee not later than three weeks preceding the date of the election, and the consent of the nominee shall be secured before such nomination is filed;</li><li>(3) The Board shall conduct its election at a regular meeting in June of each year, having notified its members at least two months prior to the date of the election. In the event that more candidates than are required are nominated,</li></ol></li></ol> |
|------------------------------|--|



voting shall be by secret ballot, and the candidates receiving the greatest number of votes shall be declared elected;

- (4) When two or more candidates receive the same number of votes and are thus prevented from being declared elected, a new election shall be held, confined to such candidates, under similar conditions to elect one candidate.

Election by  
Teaching Staff

2.

- (1) The election of members by the teaching staff under Section 8 (1) (f) of the 1976 Act shall be held annually and completed by April 30th;
- (2) The terms of office of each member to be elected under Section 8 (1) (f) shall end on June 30th of the last year of the designated term for which the member was elected so that the terms of not more than two members shall expire in any one year;
- (3) A notice defining eligibility requirements shall be posted on the McMaster Daily News website [<http://dailynews.mcmaster.ca>] and on the University Secretariat's election website <https://secretariat.mcmaster.ca> throughout the nomination period;
- (4)
  - a) For seats on the Board of Governors, ~~Any~~ any member of the teaching staff may be nominated as a candidate for election provided the written consent of the nominee has been filed with the Secretary of the Board and the nomination paper has been signed by five members of the teaching staff;
  - b) Seats on the University Planning Committee are Faculty specific (one member from each Faculty). Teaching staff may be nominated as a candidate from their Faculty for election provided the written consent of the nominee has been filed with the Secretary of the Board and the nomination paper has been signed by three members of the teaching staff from the same Faculty as the candidate. The Dean of the Faculty shall review the nominations and make any additional nominations as deemed necessary to ensure an election. A separate election shall be held for each faculty seat and eligible voters will be from the relevant Faculty;
- (5) The nominations must be received by the Secretary of the Board not later than three weeks prior to the election. The Secretary of the Board shall, as soon as possible following the close of the election period, prepare a list of candidates whose eligibility has been validated by the Assistant Vice-President, Human Resources, such list to be posted on the McMaster Daily News website and on the University Secretariat's election website at least two weeks prior to the election;
- (6) Eligible voters may cast their votes via the link to MacVote provided by the University Secretariat, such votes to be cast no later than April 30, the precise dates to be determined by the Secretary of the Board. Detailed instructions

for the conduct of elections shall be posted on the University Secretariat election website.

- (7) The ballots shall be counted under the supervision of the Secretary of the Board. The candidate having the greatest number of votes using the transferable vote system shall be declared elected;
- (8) Where two or more candidates receive the same number of votes and are thus prevented from being declared elected, a new election shall be held, confined to such candidates, under similar conditions to elect one candidate.

**Election by  
Undergraduate  
Students**

**3.**

- (1) The nomination and election of a member by the undergraduate students under Section 8 (1) (g) of the 1976 Act, shall be conducted during the period January 15 – March 31 (primary election period). In the event that the undergraduate student position is vacant at the end of the first week of September, a secondary election shall be conducted and completed by October 31;
- (2) The term of a member to be elected under Section 8 (1) (g), during the primary election, shall commence on July 1 following the election, and the term of a member elected during the secondary election shall be deemed to have begun on the previous July 1;
- (3) Any undergraduate student whose registration has been recorded by the University Registrar as a student, as defined by the 1976 Act, is eligible to vote;
- (4) Any undergraduate student eligible to vote may be nominated as a candidate for election, provided written consent has been filed with the Secretary of the Board and the nomination paper has been signed by at least ten undergraduate students eligible to vote;
- (5) At the beginning of the election period a notice defining eligibility requirements shall be posted on the McMaster Daily News website and on the University Secretariat election website and shall be published at least once in "The Silhouette";
- (6) Nominations must be received by the Secretary of the Board not later than the end of the first week of February (the end of the first week of October)\* in the year of election;
- (7) A list of eligible candidates whose status has been validated shall be posted, as soon as possible after the close of nominations, on the McMaster Daily News website and on the University Secretariat election website and published in at least one issue of "The Silhouette" at least ten days prior to the election

day(s). A copy of the campaign regulations (see Appendix I) will be provided to each candidate and posted on the University Secretariat election website;

- (8) Eligible voters may cast their votes via the link to MacVote provided by the University Secretariat, such votes to be cast no later than March 31 (October 31)\*, the precise dates to be determined by the Secretary of the Board. Detailed instructions for the conduct of the election shall be posted on the University Secretariat election website;
- (9) The ballots shall be counted under the supervision of the Secretary of the Board. The candidate having the largest number of votes using the transferable vote system shall be declared elected;
- (10) Where two or more candidates receive the same number of votes and are thus prevented from being declared elected, a new election shall be held, confined to such candidates, under similar conditions to elect one candidate.

\* Secondary election

Election by  
Graduate Students

4.

- (1) The nomination and election of a member by the graduate students under Section 8 (1) (h) of the 1976 Act, shall be conducted during the period January 15 – March 31 (primary election period). In the event that the graduate student position is vacant at the end of the first week of September, a secondary election shall be conducted and completed by October 31;
- (2) The term of a member to be elected under Section 8 (1) (h) during the primary election shall commence on July 1 following the election, and the term of a member elected during the secondary election shall be deemed to have begun on the previous July 1;
- (3) Any graduate student, whose registration has been recorded by the University Registrar as a student, as defined by the 1976 Act, is eligible to vote and may be nominated as a candidate for election provided consent has been filed with the Secretary of the Board and the nomination paper has been signed by at least ten graduate students eligible to vote;
- (4) At the beginning of the election period a notice defining eligibility requirements shall be posted on the McMaster Daily News website and the University Secretariat election website and shall be published at least once in "The Silhouette";
- (5) Nominations must be received by the Secretary of the Board not later than the end of the first week of February (the end of the first week of October)\* in the year of election;
- (6) A list of eligible candidates, whose status has been validated, shall be posted, as soon as possible after the close of nominations, on the McMaster Daily News website and the University Secretariat election website and published in at least one issue of "The Silhouette" at least ten days prior to the election

day(s). A copy of the campaign regulations (see Appendix I) will be provided to each candidate and posted on the University Secretariat election website;

- (7) Eligible Voters may cast their votes via the link to MacVote provided by the University Secretariat, such votes be cast no later than March 31 (October 31)\*, the precise dates to be determined by the Secretary of the Board; Detailed instructions for the conduct of the election shall be posted on the University Secretariat election website.
- (8) The ballots shall be counted under the supervision of the Secretary of the Board. The candidate having the largest number of votes using the transferable vote system shall be declared elected;
- (9) Where two or more candidates receive the same number of votes and are thus prevented from being declared elected, a new election shall be held, confined to such candidates, under similar conditions to elect one candidate.

\* Secondary election

**Election by Non-Teaching Staff**

5.

- (1) The election of a member by the non-teaching staff under Section 8 (1) (i) of the 1976 Act shall be completed by April 30 in any year in which an election is held;
- (2) The term of a member to be elected under Section 8 (1) (i) shall end on June 30th of the last year of the designated term for which the member was elected so that the term of not more than one member shall expire in any one year;
- (3) Any member of the non-teaching staff who is eligible to vote may be nominated as a candidate for election provided written consent has been filed with the Secretary of the Board and the nomination paper has been signed by at least ten members of the non-teaching staff eligible to vote;
- (4) A notice defining eligibility requirements shall be posted on the McMaster Daily News website and the University Secretariat's election website throughout the nomination period;
- (5) Nominations must be received by the Secretary of the Board not later than three weeks prior to the election. The Secretary of the Board shall, as soon as possible following the close of the nomination period, prepare a list of candidates whose eligibility has been validated by the University's Assistant Vice-President, Human Resources, such list to be posted on the McMaster Daily News website and the University Secretariat election website at least two weeks prior to the election;
- (6) Eligible voters may cast their votes via the link to MacVote provided by the University Secretariat, such votes to be cast no later than April 30, the precise dates to be determined by the Secretary of the Board of Governors. Detailed

instructions for the conduct of the election shall be posted on the University Secretariat's election website.

- (7) The ballots shall be counted under the supervision of the Secretary of the Board. The required number of candidate(s) having the greatest numbers of votes using the transferable vote system shall be declared elected.
- (8) Where two or more candidates receive the same number of votes and are thus prevented from being declared elected, a new election shall be held, confined to such candidates, under similar conditions.

**Electoral  
Responsibilities of  
the Secretary**

- 6. The Secretary of the Board shall be responsible for determining dates and implementing procedures, as necessary, to give effect to the by-laws of the Board governing the elections of members of the Board by and from the teaching staff, the non-teaching staff, undergraduate and graduate students.

**Listing of  
Candidates**

- 7. When names of candidates are listed on any electoral documents, they shall be arranged in alphabetical order.

**Transferable Vote  
System**

- 8. Whenever the by-laws provide for the counting of ballots by the transferable vote system, the following procedure shall be adopted.

Ballots shall be marked only with numerals 1, 2, 3, 4, etc. entered opposite the names of candidates in order of preference. Voters may leave blanks opposite the names of candidates for whom they do not wish to vote.

- (1) To elect a single member,

**A - First Count**

- (i) The number of ballots shall be counted to determine how many votes will constitute a majority which is one more than one-half the total number of ballots;
- (ii) A candidate who receives a majority of first choice votes shall be declared elected;
- (iii) On the first count, if no candidate has received a majority of the first choice votes, the candidate with the fewest number of first choice votes shall be eliminated from the count and such ballots shall be redistributed according to the second choice votes marked upon them.

**B - Second Count**

- (i) A candidate who receives a majority of first and second choice votes combined shall be declared elected;
- (ii) On the second count, if no candidate has received a majority of first choice and second choice votes combined, the ballots of the candidate with the next fewest number of votes shall be redistributed according to the next valid

choice vote marked upon them. The "next valid choice vote" shall not include a candidate who has already been eliminated.

**C - Third Count**

- (i) A candidate who receives a majority of first, second and next valid choice votes combined shall be declared elected;
  - (ii) On the third count if no candidate has received a majority of first, second and next valid choice votes combined, the above procedures shall be repeated as many times as necessary until one candidate has received a majority of votes.
- (2) To elect a second member:

The same procedure described in subsection 1 of this section shall be followed to elect a second member except that the candidate who has already received a majority of votes under subsection 1 of this section and has been declared elected shall not be included in the count. All ballots indicating the elected candidate as first choice shall be allotted to the candidate whom these ballots indicate as second choice. Whenever a vote in any ballot is for the elected candidate, the next valid choice vote shall be counted;

- (3) To elect a third member:

The same procedures described in subsection 1 and 2 of this section shall be followed, except that the two candidates elected shall not be included in the count. All ballots indicating the two elected candidates as choices shall be allotted to the candidate whom these ballots indicate as the next valid choice marked upon them;

- (4) To elect a fourth member:

The same procedures described in subsections 1, 2 and 3 of this section shall be followed except that the three candidates already elected shall not be included in the count.

**Vacancy of an  
Elected Member**

9. When a vacancy occurs on the Board and the vacancy is that of an elected member whose term has six months or less to run, the Board may decide by resolution to fill the vacancy and shall so inform the constituency involved. If the Board so decides, it shall, at its next regular meeting, on the recommendation of the Nominating Committee of the Board, appoint a member from the relevant constituency to hold office until the following June 30th.

When a vacancy on the Board is that of a member whose term has more than six months remaining in it and the member has been elected under Section 8 (1) (f), or 8 (1) (i) of the 1976 Act, a special election shall be held as soon as practicable to fill the vacancy for the period remaining. Except as to the date of such election, the election procedures shall be those established in the Board By-laws for a regular election.

# FACILITY SERVICES **CAPITAL PLAN UPDATE** 2021/2022



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**BRIGHTER WORLD**

Facility Services



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## 1 EXECUTIVE SUMMARY

This 2021/2022 Capital Plan is an update of Version 4, published by McMaster University Facility Services in May 2019.

Based on the most recently published 2016-17 Inventory of Physical Facilities of Ontario Universities, the amount of classroom space on campus is close to 86% of what is needed by COU Space Standards. Recent capital projects, including the Peter George Centre for Living and Learning, have helped to close the gap, however full-time student enrolment and the subsequent critical demands for space is increasing. As such, McMaster University needs to identify and take advantage of opportunities for physical growth, seeking out off-campus expansion opportunities and taking advantage of the area available for development on the main campus. It will be essential to increase efficiencies in the utilization of space on campus, either by improved optimization of existing spaces or increased vertical densification of key areas.

Over its rich history, McMaster has accumulated a wealth of physical assets. The challenge today is to manage this inventory of aging buildings and infrastructure as best suits anticipated needs. To this effect, McMaster University has increased the deferred maintenance funding for the academic portfolio and is allocated to spend \$16.99 million (including funds from the Ministry of Colleges and Universities) in 2021/22. This investment will maintain control of the top priority deferred maintenance items in the short term.

The transition to remote teaching and learning effectuated by the pandemic is anticipated to have an impact on the University's approach to capital improvement planning in the future. Recommendations from the Virtual Learning Task Force established by the Provost during the Fall 2020 semester include holding an ongoing discussion forum that will help advise the development of a Teaching and Learning Strategy and Digital Strategy. The University needs to ensure technological and physical infrastructure supports the needs set out in these strategic plans. The full report from the Task Force can be found at [https://www.mcmaster.ca/vpacademic/documents/Taskforce/Fall\\_VLT\\_Final\\_Recommendations\\_Report.pdf](https://www.mcmaster.ca/vpacademic/documents/Taskforce/Fall_VLT_Final_Recommendations_Report.pdf)

In addition, McMaster needs to further embrace sustainable construction and energy management practices. Accessibility needs to be increased for compliance with today's standards, including new installations of barrier-free ramps, washrooms, fire alarm strobe lights, water fountains, etc.

Numerous documents and reports have been produced to inform McMaster's efforts. Primary among them are McMaster President and Vice-Chancellor Patrick Deane's 2011 letter, "Forward with Integrity" (FWI), his 2012 letter, "Forward with Integrity: The Emerging Landscape" and the follow up document "Forward with Integrity: Next Phase" issued in October 2015.

As McMaster's new President David Farrar releases his strategic vision in 2021, every effort will be made to ensure the Capital Plan reflects the priorities set out therein.

The Strategic Mandate Agreements have been prominent in outlining priorities and principles which help shape the University's development. Also, McMaster has joined the world's health-promoting universities and colleges in signing the Okanagan Charter, dedicated to advancing human and societal health and well-being.

## **2 INTRODUCTION**

### **2.1 Scope of the Capital Plan**

McMaster University's 2021/2022 Capital Plan is a planning document that is intended to guide the growth of physical assets at McMaster University and includes planning through fiscal year 2025/2026. The Capital Plan encompasses all buildings under the purview of McMaster University, both on and off the main campus.

The Capital Plan is a Board of Governors-approved document helping to guide the University's priority-setting and planning of capital projects over a period of time. It is intended to be responsive to the University's strategic vision both at present and in future. As a result, the Capital Plan is viewed as a dynamic document that is subject to change in order to align itself with the shifting priorities and opportunities of the University. According to the capital planning process, this plan is updated annually. Additionally, the plan is supported by detailed documents that elaborate on various concepts and initiatives related to infrastructure such as academic and enrolment plans, research priorities, the Campus Master Plan, the Campus Capacity Study, the Asset Management Plan, the Campus Accessibility Action Plan and the Energy Management Plan.

### **2.2 What is a Capital Plan?**

The Capital Plan represents McMaster University's existing approved priorities and a number of additional projects (funded, partially funded, or unfunded) for capital investment. It will set forth a framework to guide the growth of physical assets such as buildings, land and infrastructure. The IT Strategy 2019-21, which sets the strategy for information systems, is a separate document which helps inform the Capital Plan.

The Capital Plan provides an overview of the capital needs, issues and projects in various stages of development. Additionally, the plan summarizes the status of current and planned capital activities that are directly related to various planning processes. Furthermore, the Capital Plan encompasses other capital projects' activities related to the current condition of the University's building infrastructure, energy management capital projects and building accessibility capital investments.

Table 1 illustrates the relationship of the Capital Plan within the hierarchy of key capital plans and other documents prepared for the University.

**Table 1 – Key Plans & Reports**

<b>Level of Planning/Reporting</b>	<b>Key Capital Plans and Reports at McMaster University</b>	<b>Audience</b>	<b>Review</b>
<b>Strategic:</b> University's overall philosophy and approach to managing capital; highest level of planning; fundamental decisions and actions directed to achieving institutional goals	<b>McMaster Capital Plan</b>	<b>Public</b>	<b>Annual</b>
	Campus Master Plan	Public	Every 5 -10 years
	Asset Management Plan	Public	Annual
	Energy Management Plan	Public	Annual
	Campus Accessibility Action Plan	Public	Annual
	Campus Capacity Study	Public	2011
<b>Portfolio Governance:</b> Updates/funding status of capital projects for Board; delineate McMaster's management, oversight and monitor capital projects approved/under construction	McMaster Capital Plan	Public	Annual
	Capital Funding and Expenditure Report	Planning and Resource Committee	Every meeting
<b>Project Management:</b> Identify strategic and specific capital requirements along with plans and strategies intended to resolve the most urgent and highest priority needs	Key Technical/Management Documents (Asset Reports)		
	Asset Management Plan	Public	Annual

### **3 BACKGROUND AND CURRENT STATE OF CAPITAL INFRASTRUCTURE**

#### **3.1 The First 30 Years in Hamilton**

In 1930, the University moved from Toronto to Hamilton, the forty-first academic session opening on the present site. The University's lands and new buildings were secured through gifts from graduates, members of the churches of the Baptist Convention of Ontario and Quebec and citizens of Hamilton.

### 3.2 Buildings Procured 1960 – 2020

For detailed information about the development of McMaster facilities during this period, refer to “McMaster University, Facility Services, Planning and Infrastructure Development History: 1960 – 2020” posted at <https://facilities.mcmaster.ca/app/uploads/2019/05/2019-04-16-History.pdf>.

In the past 60 years McMaster has not only acquired infrastructure through new build construction and renovation/addition projects but has also procured the use of various existing off-campus buildings. The opening of the David Braley Health Sciences Centre in 2015 has been an anchor to future development opportunities in the City core, including the planned Graduate Student Residence (“10 Bay”). Off-campus buildings owned by the University include:

- McMaster’s family practice teaching unit, established in the early 1970’s at Henderson Hospital, was relocated in the early 1990’s to the south mountain as the Stonechurch Family Health Centre
- McMaster Innovation Park (procured for use in 2004)
- 100 Main St West (David Braley Health Science Centre opened in 2015)
- 88 Forsyth Avenue (purchased in 2015).
- 47 Whitton Road (acquired in May 2015 and used for research purposes)
- 182 Sterling Street (purchased in 2015)
- 96 Forsyth Avenue North (purchased in 2017)
- Existing houses bound by Forsyth Avenue South, Traymore Avenue, Dalewood Avenue and Main Street West (purchased in 2017)
- 106 Forsyth Avenue North (purchased in 2018)
- 132 Mayfair Crescent (purchased in 2019)
- 8 Mayfair Crescent (purchased in 2019)
- 30 South Street West, Dundas “Osler House” (purchased in 2020)

Furthermore, McMaster has expanded to house remote campuses in space procured or leased in municipalities other than Hamilton:

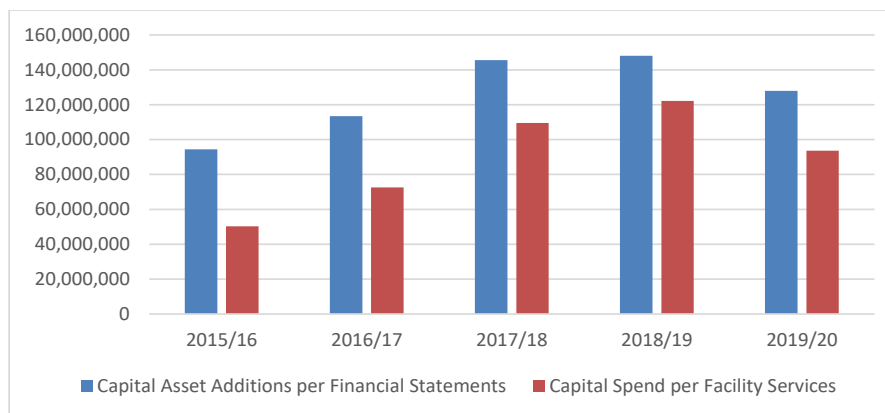
- The Waterloo Regional Campus was established by McMaster at the University of Waterloo in 2007 and focuses on Health and Medical Sciences.
- In 2012, McMaster opened the Niagara Regional Campus in St. Catharine’s at Brock University’s Cairns Family Health and Bioscience Research Complex.
- In 2010, McMaster built the Ron Joyce Centre in Burlington.
- The Welland McMaster Family Health Team has been in operation since 2011.

### 3.2.1 Summary

Since 1960, McMaster has added a total of 42 buildings on campus to its existing infrastructure through new construction. These buildings total 4,952,836 gross square feet of added infrastructure, during the past 60 years. McMaster has also invested in several renovation/addition projects to existing infrastructure since 1960. During this time, McMaster has completed major renovations/additions, totaling 1,029,656 square feet, on 21 campus buildings. Renovations and additions were often completed in order to update technological, electrical and utility infrastructure as well as add usable space. These construction projects have been supplemented with infrastructure growth off campus, particularly in the last decade, through the procurement of buildings and property.

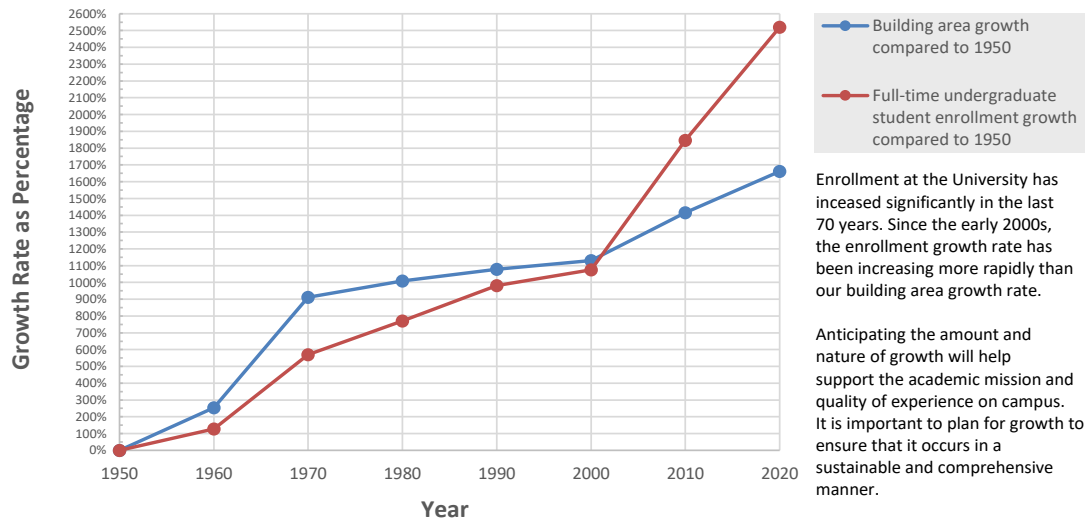
Facility Services has undertaken significant growth in projects over the last 5 years with the capital spend on new building expansion and renovation; this is depicted in the chart below compared to capital asset additions per our audited financial statements.

**Chart 1 – Capital Spending**



In addition to the above, the following chart below indicates the growth in student population and the comparative amount of new space added to McMaster.

**Chart 2 – 70 Years of Growth in Space and Undergraduate Enrollment**



### 3.3 Existing Usage, Ownership and Condition of McMaster’s Physical Assets

In the 2019/2020 academic year, McMaster University was home to a total enrolment of 34,267 students (undergraduate and graduate, full-time and part-time). The University employs more than 11,500 staff and 1,050 full-time instructional faculty<sup>1</sup>. Concerning the critical space categories, space is dispersed as indicated in Table 2, current as of August 1, 2020 and reported to the Council of Ontario Universities (COU) Committee on Space Standards and Reporting to inform the triennial “Inventory of Physical Facilities of Ontario Universities” report. An updated report is expected to be released later this year.

When the last report was published, based on space inventory as reported during the 2016/17 cycle, the University’s classroom inventory was close to 86% compared to recommended space requirements as measured by COU Space Standards. Addition of new classroom space, including three large lecture auditoriums in the Peter George Centre for Living and Learning, has helped mitigate academic space needs. However, with an increase of more than 3,000 in student enrollment between 2016 and 2019, critical demands for space continue to rise.

Other deficient categories include Class Labs at 54% and Academic Office Space for Research Appointments at 51% when compared to COU Space Standards. The recent completion of the ABB Tower Addition has also helped to offset some of the space needs in these categories.

<sup>1</sup> McMaster University Fact Book 2019/2020

Table 2: 2020 Space by Category

Category	Area (net assignable square feet (NASF))	Area (net assignable square metres (NASM))
1 Classrooms	377,791	35,098
2 Class Labs	204,045	18,956
3 Research Labs	578,594	53,753
4 Office Academics	722,055	67,081
5.1 Library Collections	91,414	8,493
5.2 Library Office Space	35,690	3,316
5.3 Library Support	10,526	977
5.4 Library Study	96,416	8,957
6 Athletics	190,929	17,738
9 Maintenance Shop	37,002	3,438
10 Office Administration	200,195	18,595
11 Non-Library Study Space	100,253	9,314
7,8,12,13,14,15 Central Services	287,912	26,748
<b>Total</b>	<b>2,932,784</b>	<b>272,464</b>

McMaster has 56 buildings on the main campus, including 13 residences, a nuclear reactor, a stadium complex and a hospital. McMaster owns or otherwise operates out of several more buildings throughout Hamilton and the province, such as the Ron Joyce Centre in Burlington and the David Braley Health Sciences Centre in downtown Hamilton. The main campus itself sits on 377 acres of land with approximately 686,367 gross square meters of building area. *Appendix D* includes a list of McMaster properties.

Chart 3 and Chart 4 show the breakdown of McMaster's building age and areas (buildings and areas as listed in *Appendix C*).

Chart 3 – Number of Buildings Based on Age

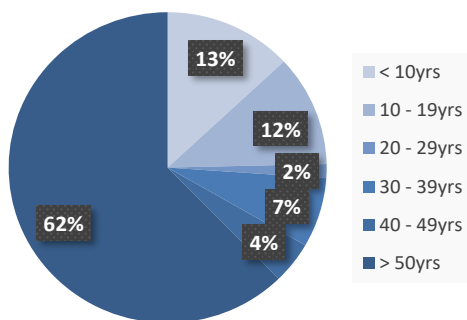


Chart 4 – Building Gross Area Based on Age

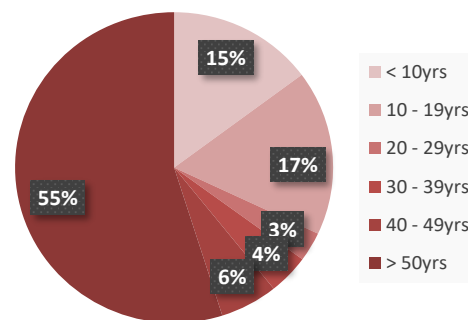
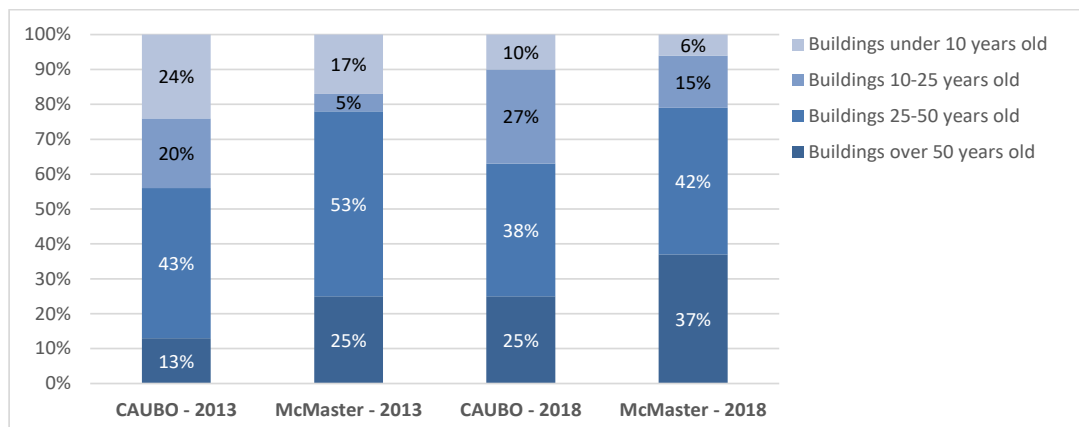


Chart 5 shows building age (as a percentage of total building area) at Canadian campuses compared to that at McMaster during the 2013-14 and 2018-19 cycles.

**Chart 5 – Building Age: Canadian Campuses compared with McMaster**



*Note: Chart 5 data comes from the Canadian Association of Business Officers, showing comparative data from 2013 and 2018. More recent data will be included as it becomes available through CAUBO.*

The Deferred Maintenance backlog was identified in 2012 as a high-risk item. Facility Services developed an Asset Management Plan which is updated on an annual basis.

Currently the University funds deferred maintenance from the operating budget. The asset management base was increased by \$2 million in each of 2013/14, 2014/2015, 2015/16 and 2016/17; i.e., until the allocation reached an annual base increase of \$8 million per year. This allocation continued for years 2017/18 and 2018/19. In 2019/2020 McMaster allocated \$600,000 for DM requirements at MUMC, however, after reviewing the DM requirements of MUMC, the annual allocation was increased by another \$700,000 for a total of \$1.3 million per year. In 2020/21, an additional \$1.0 million was approved on a continued basis, dedicated initially to the tunnels, buried utilities and other failing infrastructure upgrades.

The total budget for deferred maintenance for 2021/22 is \$16.99 million, which includes the \$10.59 million base allocation, along with \$5.06 million from the Ministry of Colleges and Universities for deferred maintenance needs, \$1 million in additional operating funding within Facilities Services and \$337,000 from CAAP funding. Ontario universities continue to discuss with the Ministry the total amount of funding provided to universities for deferred maintenance (recent decisions have underfunded these needs within universities as compared to our college counterparts). We also continue to discuss an appropriate methodology to distribute funding between schools. The 2021/22 approved project list for deferred maintenance items is attached as *Appendix E*.



### **3.4 Computerized Maintenance Management System**

PeopleSoft's Maintenance and Asset Management modules are used to maintain McMaster University's facilities and grounds. These modules integrate with McMaster's Finance landscape (Asset Management, Project Costing, Expenses, Procurement and Payables and General Ledger). Proper maintenance of an organization's asset infrastructure is key to ensuring safety, complying with regulations and achieving the financial and operational targets that are established by the leadership team. This software enables the organization to create work orders, schedule resources and track costs associated with asset maintenance and repair. In addition, McMaster employees can create an online self-service request to report or request maintenance, repairs, renovations, cleaning, moves and other service activities. When required, a work order is generated from the service request and associated costs can be billed back to the requestor. Business process mapping of the work order process is underway to ensure the most efficient process is in place.

### **3.5 Land Assets, Physical Growth Opportunities**

The McMaster University Campus Master Plan was originally prepared in 2002 and updated in 2008 and again in 2017. The 2017 process included the sourcing of campus user input by way of on-campus visioning stations, online polling and meetings with stakeholders in a working committee that included students, staff and faculty. Facilities Services will be undertaking an update of the plan in 2021/22, with consultant selection in the summer/fall of 2021. Development of the updated plan will follow a similar process to previous updates: identification of issues and opportunities, stakeholder engagement at all levels within the University and consolidation of the findings to develop the updated plan.

This updated will have a focus on post-pandemic space needs and incorporation of President David Farrar's strategic vision for the University. The transition to remote teaching and learning effectuated by the pandemic is anticipated to have an impact on the University's approach to capital improvement planning in the future. Post-pandemic space needs are anticipated to include integration of new future-focused technologies and changes to physical infrastructure requirements to accommodate new blended learning models currently being developed.

The Campus Master Plan provides an overall physical framework for campus growth and renewal. The Plan outlines a vision for the campus and recommends that this be updated every five to ten years. Specifically, it establishes a framework for future development that extends the structure of the campus' historic core to its periphery while respecting the surrounding built and open space context. Although it does not advocate for growth, it identifies area for potential new development, with supporting open space amenities and infrastructure initiatives. The current capacity available for new development is estimated to be 3,000,000 gross square feet ( close to 279,000 square meters) of floor area on the main campus. As outlined in the Campus Master Plan, physical capacity on McMaster's main campus has been largely determined by its

physical structure, which contains a well-established hierarchy of streets and natural features. This clear structure has provided a strong setting and logic for development and infrastructure investments to continue to evolve in an integrated manner.

The Campus Master Plan is intended to be flexible, to accommodate the changing needs of various departments and Faculties and to enhance learning by providing the physical environment in which to gain knowledge, live and work.

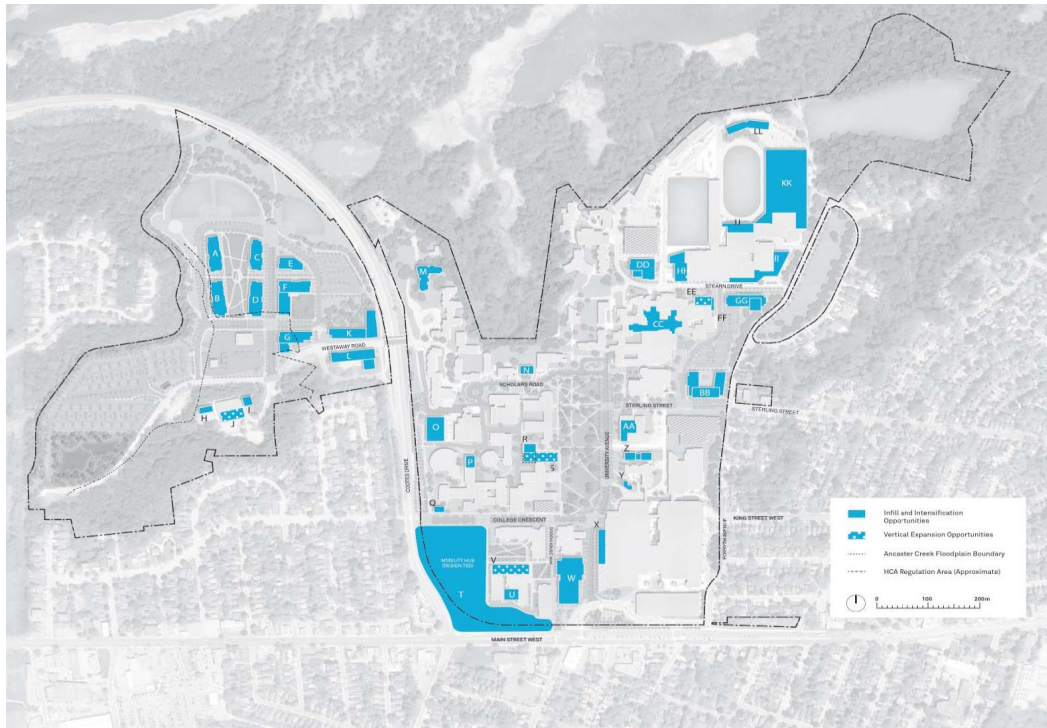
An important component of the implementation of the vision outlined in the Campus Master Plan was the identification of several potential development sites that could support incremental growth throughout the University campus. However, it is understood that some of these sites may not be developed and that McMaster may need to consider further off-campus development in appropriate locations.

The identified development sites are primarily within the Core Campus, North Campus and West Campus:

- Within the Core Campus, there are several opportunities to introduce new buildings and/or building additions: north of Bates Residence beside the President's Residence, Forsyth Avenue frontages and a significant gateway/landmark development site at the location of existing building to be removed, T-13. Parking Lot 'I' at Cootes Drive and Main Street was being planned for development of a transit hub with the LRT development. The University awaits decisions by the City on the future of rapid transit.
- Even with years of substantial building activity in the North Campus (the David Braley Athletic Centre, Stadium and Les Prince Hall), there remains development potential in the area. The Peter George Centre for Living and Learning opened in 2019 at the location of previously demolished buildings T28, T29 and T18. The October 2016 McMaster Athletics and Recreation Complex Facility Assessment and Master Plan Study identified a number of potential additions that are either under consideration for future development or otherwise are already underway, (i.e. the Student Activity and Fitness Expansion "SAFE" project).
- West Campus has substantial potential to accommodate new buildings, subject to more detailed investigations. There is current interest in developing the West Campus as a potential living laboratory. The development of a strategy for this area of campus, and connecting it to the Campus Master Plan, will be a focus of the master planning process.

Figure 1 below highlights areas on campus where potential development can occur.

**Figure 1 – Potential Development Sites**



Off campus, McMaster has acquired the land adjacent to the Ron Joyce Centre in Burlington, which would allow for more construction in an expansion of that campus. In downtown Hamilton, McMaster has built the David Braley Health Sciences Centre; the site also includes an existing parking lot at the south-east corner of King Street West and Bay Street South, which remains vacant and could be developed. Also, McMaster's property at Lower Lions Club Road, currently used in part by the Faculty of Science, could see limited future development to further that Faculty's efforts.

McMaster has recently acquired seven existing houses in the Westdale neighbourhood; 88 Forsyth Avenue North has been transformed into the new Home of the Bertrand Russell Archives and Research Centre. The Faculty of Engineering is using 47 Whitton Road as a "Smart House", i.e., as a space to monitor elderly health in a typical home; 182 Sterling Street is now being used by Student Affairs for recipients of the Wilson Leadership Scholar Award; both 106 and 96 Forsyth are managed by the University (Housing and Conference Services and the President's Office) for small meetings. In 2019, McMaster purchased 132 Mayfair Avenue (under construction) and 8 Mayfair Avenue, both of which will be managed by Housing and Conference Services.

Towards the end of 2020, McMaster purchased 30 South Street West in Dundas (Osler House) for use by the Faculty of Health Sciences.

McMaster also owns land and a grouping of houses bound by Main Street West, Traymore Avenue, Dalewood Avenue and Forsyth Avenue South. This is a prime development location, immediately adjacent to the main campus. The University has received Board approval to build an undergraduate student residence at this location as part of a P3 partnership. It is anticipated that this building will be open in 2024.

McMaster also received Board approval to build a Graduate student residence (“10 Bay”) on the south-west corner of King Street West and Bay Street South in downtown Hamilton; this is also part of a P3 partnership. The University anticipates construction to begin in the spring of 2021 and completion in the summer of 2024. These projects form part of a developing real estate strategy for the University.

### **3.6 Accessibility**

#### **3.6.1 McMaster University Accessibility Plan 2012-2025**

In September 2012, the McMaster Accessibility Council (MAC) published the McMaster University Accessibility Plan 2012-2025 in order to comply with the evolving Accessibility for Ontarians with Disabilities Act (AODA). This plan reflects a commitment by the University to engage in incremental initiatives in accordance with the AODA and the expectation that the University will be free of attitudinal, physical and social barriers by the year 2025.

#### **3.6.2 Campus Accessibility Action Plan (CAAP)**

The Campus Accessibility Action Plan (CAAP) Phase 2 (2018-2023) is a multi-year plan to address the identified accessibility issues on campus buildings. The Plan is posted at: <https://facilities.mcmaster.ca/app/uploads/2018/10/Campus-Accessibility-Plan-2018-2013-V5-20Apr2018.pdf>. Funding for the plan is provided by an operating allocation.

### **3.7 Building Sustainability**

The 2020/21 Energy Management Plan identifies and recommends 11 energy-saving projects. More information about Sustainability, including LEED and Energy Management, is included in the Energy Management Plan posted on the Facility Services website and Section 5.3, Energy Management Projects and Sustainability.

### 3.7.1 LEED®

McMaster currently has seventeen LEED® certified, or anticipated to be certified, projects. New buildings and major additions at McMaster are to be constructed according to McMaster's Sustainable Building Policy, which in turn references the LEED® Rating System. The LEED® Rating system has recently undergone some revisions, which will need to be reflected in an updated Sustainable Building Policy moving forward.

**Table 3 – LEED® Certified Projects**

<b>Building</b>	<b>Construction / Renovation Date</b>	<b>Gross Area (S.F.)</b>	<b>Attained/ Anticipated LEED® Certification Level</b>
<b>New Construction</b>			
Les Prince Hall	2006	106,016	LEED® Certified
David Braley Athletic Centre	2007	140,479	LEED® Certified
Engineering Technology Building	2009	125,600	LEED® Gold
Ron Joyce Centre (Burlington)	2010	105,745	LEED® Gold
CANMET Materials Technology Laboratory (MIP)	2010	145,000	LEED® Platinum
Halton McMaster Family Health Centre (Burlington)	2014	10,647	LEED® Gold
David Braley Health Sciences Centre (downtown Hamilton)	2014	192,081	LEED® Gold
L. R. Wilson Hall	2015	177,927	LEED® Gold
Peter George Centre for Living and Learning (PGCLL)	2019	335,167	LEED® Silver*
<b>Total New Construction</b>		<b>1,338,662</b>	
<b>Renovation/Addition</b>			
C.E. Burke Science Building	2005	196,401	LEED® Silver
Nuclear Research Building	2011	23,605	LEED® Gold
Ivor Wynne Centre	2012	20,010	LEED® Silver
McMaster Automotive Resource Centre (MARC)	2013	85,000	LEED® Silver*
Gerald Hatch Centre for Engineering Experiential Learning	2017	28,007	LEED® Silver*
ABB Chemistry Wing Renovation	2018	44,939	LEED® Silver*
ABB Tower Addition	2018	63,173	LEED® Silver*
Student Activity and Fitness Expansion (SAFE)	2021	104,033	LEED® Silver*
<b>Total Renovation/Addition</b>		<b>565,168</b>	
<b>TOTAL New Construction + Renovation/Addition (gross square feet)</b>		<b>1,903,830</b>	

\* denotes anticipated certification level

### **3.7.2 Trends of Energy Consumption**

See link below to the Energy Management Plan 2020/2021:

<https://facilities.mcmaster.ca/app/uploads/2020/09/McMaster-EMP-Report-2020-.v11-1.pdf>

Facility Services has also recently completed a study on a path for McMaster to achieve a net zero carbon footprint by 2050. Early stages of implementation are underway.

### **3.8 Environmental Compliance**

McMaster University retained the services of an external environmental consultant in late 2012 to survey all campus buildings in terms of their compliance with the Ontario Ministry of Environment (MOE) air and noise emission regulations. A multi-year Environmental Compliance Action Plan (ECAP) was developed in the fall of 2013.

The approved Phase 1 of the plan authorized spending of \$400,000 per year for 5 years (2014/15 to 2018/19) from the deferred maintenance funds to achieve compliance for all buildings on campus except the E.T. Clarke building. While this was ongoing, in 2017, as part of the co-gen project Environmental Compliance Approval (ECA) process, the MOE asked McMaster to apply for a campus-wide ECA. This changed the mitigation requirements and a re-audit of all campus buildings was undertaken again in 2017. A campus wide ECA application was made in June 2017 and McMaster received a conditional ECA in November of 2017. The ECA requires McMaster to replace the non-compliant cooling towers at the E. T. Clarke building and achieve compliance before 2028.

Phase 2 of the ECAP is for 2019/20 – 2027/28. Facility Services engaged mechanical, structural and environmental consultants to prepare a feasibility report for replacing the cooling towers. The consultant report estimates \$15.19 million in 5 phases for replacing the ten existing cooling towers, roof replacement, additional structural reinforcements and the acoustical sound barrier. This will be funded from the deferred maintenance funds of years 2020/21 to 2027/28 (8 years).

## **4 RESEARCH PRIORITIES GUIDING FUTURE CAPITAL DEVELOPMENT**

McMaster University continues to submit applications to the Canada Foundation for Innovation's (CFI) competitions and to the Province of Ontario seeking funding for new construction and renovation projects to support McMaster's innovative and transformative research and technology development activities.



Following the results of the 2020 CFI Innovation Fund Competition, McMaster was awarded more than \$35 million in project funding to provide McMaster researchers with the infrastructure they require to achieve advances in a variety of strategic research areas.

McMaster recently received funding from the CFI Major Science Initiatives (MSI) program in support of the Canadian Centre for Electron Microscopy (CCEM) and the Canadian Research Data Centre Network (CRDCN). The CCEM has been recognized by the CFI as a national facility and, as such, was awarded over \$6 million in funding through the 2014 and 2017 competitions for operation and maintenance of the more than \$50 million in state-of-the-art infrastructure that it houses. CFI MSI funding to the CCEM was recently increased by \$2 million following a successful mid-term review of the current award. The additional funding will assist with the operation and maintenance of \$11 million in new infrastructure to be installed in the CCEM following renovations of approximately \$1 million. The anticipated completion date for the project is 2021.

The CRDCN was also recognized by the CFI as a national facility with an award of almost \$6 million in 2017. Like the CCEM, the CRDCN succeeded in securing more than \$2 million in additional CFI MSI funding following favorable review of its mid-term review report. The additional funding will assist with operation and maintenance of the high-performance computing infrastructure which constitutes the \$10 million “Canadian Research Data Centre Network Transition to High Performance Computing: Liberating Data for Research and Policy” project. In 2017 the multi-institutional infrastructure project was awarded \$2.8 million from CFI and \$2.6 million from various provincial governments across Canada. The project includes minor security upgrades to L.R. Wilson Hall and has an anticipated completion date of 2023.

## **5 PLANNING AND GROWTH ASSUMPTIONS**

### **5.1 Enrolment Growth**

McMaster has experienced rapid growth in recent years in part due to population increases in the Greater Toronto Area and Hamilton Region. This institutional growth has been further accelerated because of the rising prominence of many of the University's diverse academic offerings, particularly in the fields of Health Sciences and Engineering. With continued enrolment growth expected and the ongoing development of new academic programs, McMaster is ideally positioned to become one of North America's most prominent universities.

International student enrolment has been steadily increasing. In 2006, 1,714 international students made up 7.8% of the McMaster student population. In 2019, 4,075 international students made up 13.5% of the McMaster student population. This trend of growth will continue in the short-term.

## **5.2 Technological Development**

The McMaster IT Strategic Plan 2019-2021 was published in January 2019. The Plan is focused on the strategic pillars of a connected McMaster community, a seamless foundation and transformative information technologies and services. This new IT strategy addresses classroom and technology needs for the future. The full plan can be found at: <https://cto.mcmaster.ca/app/uploads/2019/02/McMaster-IT-Strategic-Plan.pdf>.

## **5.3 Efficient Space Management**

In order to actively and responsibly plan for future growth, McMaster is presently reviewing its current space management practices. The McMaster University Space Management Policy was last approved in 1987 and will be reviewed in 2022, taking into consideration data on space usage (Campus Capacity Study from 2011). Space processes such as maintenance of the space inventory database, control of scheduling, maintenance of facilities, new project approval, evaluation of space requests, etc., will be reviewed through this policy revision.

In early 2019, the Board of Governor's approved a \$2 million annual allocation for 5 years to renovate classrooms on campus. Classrooms have been prioritized based on data from a survey completed in 2018 of faculty and students along with health, safety and legislative requirements. Funding will be used to replace seating, upgrade lighting, flooring, electrical, accessibility and audio visual in classrooms identified. To date, classrooms in Togo Salmon Hall and Chester New Hall have been renovated. A prominent classroom in Burke Sciences is on the list for 2021, along with ensuring classrooms provide flexible space for blended teaching models as some in-person classes are currently set to resume September 2021.

## **5.4 Student Residences**

In May of 2017, The Government of Ontario released an update to the June 16, 2006 Growth Plan for the Greater Golden Horseshoe, under the terms of the provincial Places to Grow Act, 2005. A core objective of the Growth Plan policies is accommodating and directing new population and employment growth to built-up areas through intensification. Directing growth in this manner is intended to create complete communities that offer options for living, working, shopping and playing; providing greater choice in housing types; and curbing development sprawl.

McMaster's objective is to guarantee all first-year entrants a space in residence if they so desire. Currently, admission is given using an incoming average percent cut-off. This cut-off percentage changes from year to year based on factors including number of applicants, existing capacity and department cut-off percentages.



Since 2012, configurations to campus residences – such as changing bunk and loft rooms to double rooms – have impacted total capacity. McMaster has thirteen different residence buildings on campus, with a variety of room types and lifestyle themes for a total capacity across all buildings of 4,298 students living on campus. Given enrolment growth as noted above, more capacity is needed. To this end, new residence buildings (approved by Board) are being planned which includes the following:

- A new Main Street Undergraduate student residence bordering Main Street West, Traymore Avenue, Forsyth Avenue and Dalewood Avenue and is now moving through the approval stages with the City of Hamilton. This new residence will include 1,366 beds and is part of a P3 partnership.
- A new 30-storey Graduate Student Residence also working in partnership with a P3 developer and an integrated McMaster parking garage, will be located on the south-west corner of King Street West and Bay Street South in downtown Hamilton. This new residence, 10 Bay, will be home to 630 graduate students.

Research shows that students who stay in residence develop stronger relationships and support networks, leading to a more positive overall student experience. McMaster is one of only two universities in Ontario that cannot guarantee residence to all first-year students, for lack of space.

## **5.5 Planning for Return to Campus**

Facilities Services is working in collaboration with the office of the Provost and Vice-President (Academic) to ensure teaching spaces for September 2021 that will support enhanced blended teaching.

Planning is also in the process of creating a new role which will provide in-house consultation for preparing academic and administrative spaces for return to campus.

## **6 PROJECTS AND INITIATIVES TO SUPPORT THE CAPITAL PLAN**

### **6.1 Addressing Research, Program and Enrolment Growth**

Space at McMaster is tracked relative to its need. McMaster's inventory vs. generated (I/G) ratio represents the amount of net assignable space that McMaster has versus how much is ideal based on standards set by the Council of Ontario Universities. The construction of new buildings and additions, the fluctuation in the number of students and professors and consideration of different needs for different types of spaces are some of the factors that impact this ratio.

The Council of Ontario Universities (COU) last published the results of the triennial report on space in 2017. Facilities Services compared these results to those from 2013

and completed the survey again in late 2020. Once the survey results have been analyzed, we will update comparisons of McMaster to our peer institutions.

As noted in part in the Campus Capacity Study, the most critical space needs at McMaster in 2016 were for administrative offices, graduate student offices, assembly facilities, service space, classrooms, labs, research space, recreation space and quiet study space. The new Peter George Centre for Living and Learning (PGCLL) has addressed some of the need for new large classrooms. A new addition has recently been completed on the A. N. Bourns Science Building (ABB) as part of a Strategic Innovation Fund (SIF) project. Another project is underway to increase athletics and recreation space (SAFE) and is set to partially open later this year.

### **6.1.1 Projections of Growth in Research**

Recent trends (five years of McMaster's financial statements as reported to the Canadian Association of University Business Officers (CAUBO)) indicate a sponsored research income of approximately \$205 - \$220 million per year, not including intake for affiliated hospitals. During the 2109/20 Fiscal, Research funding increased by \$2.7 million (1.4%) to \$196.4 million compared to \$193.7 million in 2018/19<sup>2</sup>

### **6.1.2 Ongoing Projects and Initiatives**

The following summarizes the ongoing major capital projects at McMaster. These are also summarized in *Appendix A*. Note that projects that are now substantially complete are not included in the list below.

- Innovation Hub – The Clinic
  - “The Clinic” will occupy 3,315 square feet of space on the first floor of the Health Sciences Library and a further 1,585 square feet will need to be renovated in order to accommodate the programming. The space will house full time staff, and the space will be available for use through the Michael G. DeGroote Initiative for Innovation in Healthcare office.
- Athletics and Recreation – Pulse and Student Space Expansion
  - In March 2017 students voted in a referendum to have a significant expansion and improvement of campus activity and athletic recreation space, including adding nearly 100,000 square feet of fitness studios, study areas, multi-faith prayer space and meeting facilities. The plan calls for the expansion of the Pulse fitness area, providing all students with Pulse memberships, a small grocery store and rooms for events and meetings. The expanded facilities will contribute to a revitalization of the north end of campus, which is also the site of the Peter George Living and Learning Centre.

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<sup>2</sup> Annual Financial Report 2019-2020

- The McLean Centre for Collaborative Discovery (DSB Expansion)
  - To address the need for new administrative and academic space at the DeGroote School of Business, this \$87.84 million, 160,000 sq. ft. project will allow for additional floor levels to be built to the North of the existing DSB building.
- Classroom Reconfiguration Plan
  - At the March 7, 2019 meeting of the Board of Governors, the Board approved a \$2 million allocation per year, from the McMaster Strategic Reserve, beginning in 2018/19 for a five-year period, or up to a total commitment of \$10 million, for classroom renovations. The Classroom Renovation Committee, chaired by the Assistant Vice-President and Chief Facilities Officer, is recommending the renovation of Burke Sciences Building room 147 in the summer of 2021.
- Research Capital Commercialization Project (at McMaster Innovation Park)
  - McMaster is investing \$63 million into the renovation of the warehouse at 200 Longwood at MIP. This space will be sublet by McMaster to research intensive companies in the next phase of commercialization of research. This space will allow for a continued commitment to research by the University.
- Advanced Manufacturing Centre (at McMaster Innovation Park)
  - The McMaster Manufacturing Research Institute (MMRI) is being relocated from their current location in the John Hodgins Engineering building, over to newly renovated space at the McMaster Innovation Park (MIP) warehouse. This project will build a space for the MMRI of 15,000 SF on the ground floor of the warehouse, with an estimated cost of \$6 million. Additionally, this project will construct a concrete slab for a future second level of approximately the same size as the MMRI renovation, with an estimated cost of \$3.06 million.
- CFI 2017 Projects (University Contributions)
  - Include 20% project contribution from the Strategic Capital Reserve to match all successful CFI submissions.
- Global Hub - International Affairs & Student Services
  - Includes relocation of International Affairs to the first floor of Gilmour Hall, relocation of Recruitment and Admissions to the north-east side of the Arts Quad, within Togo Salmon Hall and the relocation of various student services to be consolidated on the 4<sup>th</sup> floor of the new McLean Centre for Collaborative Discovery. These renovations and moves will be phased over multiple years.

- McMaster Main Street Residence (P3)
  - The University, in partnership with Knightstone Capital, continues to work with stakeholders as plans progress for a proposed undergraduate student residence on Main Street West. The proposal is for a mixed-use student residence building on a site owned by the University, on Main Street between Forsyth and Dalewood. The current plan envisions a two-phased project housing approximately 1,366 students.
- Graduate Student Residence Partnership and Parking Structure (P3) – 10 Bay
  - In partnership with Knightstone Capital, a new Graduate Residence will support student recruitment and retention and will also further enhance the student experience at McMaster. A total of 630 new graduate student beds and 265 parking spaces will be housed in a 30-storey building located in downtown Hamilton. This project's integrated parking structure has been designed to meet the needs of the building and provide public parking in the downtown core.
- Greenhouse and Phase One LSB Renovation
  - This \$21.9 million project involves demolishing the existing Greenhouse and relocating it to the west side of LSB, adjacent to University Ave. Renovations to some interior common space of the Life Sciences Building on levels B and 1 will also likely be required.
- Lot K Parking Structure
  - This \$17 million project will build a parking structure on the current Lot K parking footprint. The University is in need of additional parking spaces off central campus. The University currently leases land at Ward Ave and this lease is set to expire in Fiscal 2024 with no option to renew.
- CCEM/CALM Renovation
  - The Departments of Engineering, Science, and Health Sciences, along with the Canadian Centre of Electron Microscopy are renovating existing space within the basement of the Arthur Bourns Building (ABB) which will create two new distinct labs, CCEM and CALM. The CCEM lab space will be designed for a new ultrahigh resolution transmission electron microscope complete with adjoining control room and equipment service room. The CALM lab space will be a new Optical Microscopy BSL2 facility with an adjoining anti-chamber office. The estimated project total is \$3.86 million.
- Energy Management Projects and Sustainability
  - Projects included with listing of other projects in *Appendix A*. The Energy Management Plan is updated annually. See the most recent report, posted on the Facility Services website, for more details:  
<https://facilities.mcmaster.ca/app/uploads/2020/09/McMaster-EMP-Report-2020-v11-1.pdf>

- Existing Building Infrastructure Asset Management and Renewal
  - See the Asset Management Plan, posted on the Facility Services website, for details:  
<https://facilities.mcmaster.ca/app/uploads/2020/09/Asset-Management-Plan-Update-on-Implementation-2019-2020.pdf>
- Environmental Compliance
  - The Cogeneration project completed at the E.T. Clarke Centre required an Environmental Compliance Approval (ECA) and the Ministry of the Environment asked McMaster to submit a campus wide ECA application. Some of the major noncompliance noise sources such as cooling towers will be mitigated as part of a multi-year plan. McMaster is implementing a 9-year phased plan given that most of the non-compliant sources are at the end of their service life and are identified for replacement as part of the deferred maintenance/Asset Management Plan.
- Campus Accessibility Action Plan (CAAP)
  - The approved Campus Accessibility Action Plan (CAAP) now invests \$337,000 annually for accessibility-related improvements to McMaster buildings. The CAAP Phase 1 ran from 2012-2013 through to 2016-2017. Phase 2 of CAAP (2018-2023) is underway. See the report, posted on the Facility Services website, for details:  
<https://facilities.mcmaster.ca/app/uploads/2020/09/Campus-Accessibility-Plan-2018-2013-V5-20Apr2018.pdf>

### **6.1.3 Planned Major Projects and Initiatives** *(see Appendix B)*

*Appendix B* provides a summary of potential future capital projects for the University in several categories of prioritization. These projects are at various stages of planning/development and available funding. *Appendix B* includes a description of each project, along with anticipated cash flows and timelines. All projects will flow through appropriate governance as the projects evolve.

## **6.2 Design Principles and Standards**

All projects will be executed in accordance with appropriate campus planning principles, design standards, code compliance and functional requirements; and all major projects are to adhere to McMaster policy on sustainable buildings.

The overall planning policies for the McMaster Campus follow from the twelve principles as detailed in Section 2.2 of the McMaster University Campus Master Plan.

The Campus Master Plan Update can be found here:

<https://facilities.mcmaster.ca/app/uploads/2018/10/Campus-Master-Plan-2017-Update1.pdf>

The policies are intended to guide the University's growth and renewal over time and are supplemented by area-specific policies for the campus found elsewhere in the Campus Master Plan. In all cases, the policies are intended to reflect the intent of the University's Environmental Policies, including its Sustainable Building Policy, the City of Hamilton's Official Plan and Zoning By-law, the principles of Hamilton's Vision 2020 document and the planning and environmental policies of the Hamilton Conservation Authority and Royal Botanical Gardens.

Also, the space standards from the McMaster Space Management Policy (1987) need to be reviewed and revised, to more appropriate and up-to-date minimum standards, based on current minimum space standards outlined by the Council of Ontario Universities and the analysis of McMaster's current spatial data to reflect how space is actually being used on campus.

## **7 CONCLUSIONS AND RECOMMENDATIONS**

McMaster has recently successfully completed a great deal of new construction, addition and renovation projects. As identified by the Campus Master Plan areas for development still exist on the main campus, and these locations need to be the focus of future growth. McMaster's many ongoing addition and renovation projects and plans for new residence buildings and new teaching facilities, will help support existing needs and new growth over the next few years.

Facility Services will be undertaking a strategic planning process in 2021 to ensure alignment between the direction of the department and the goals of the President. Development of goals in Sustainability, along with executing the Net Zero Carbon Strategy will be a primary focus of the department. As we move into 2021, a focus on the Campus Master Plan will allow us to think about how we use our campus in a post-pandemic world, and ensure we are prepared for the coming years with our facilities and alignment with the academic direction of the University.

## Appendix A: 2020/21 Governance Approved Capital Projects

Active Projects at August 2020 (greater than \$2M)

Description	Value
Innovation Hub - The Clinic	3,100,000
Athletics and Rec - Pulse and Student Space Expansion (SAFE)	64,000,000
McLean Center For Collaborative Discovery (DSB Expansion)	87,840,000
Classroom Reconfiguration Plan	10,000,000
Research Capital Commercialization Project (@ MIP)	63,000,000
Advanced Manufacturing Centre (@ MIP)	9,060,000
CFI 2017 (University contribution)	4,664,976
Global Hub - International Affairs - One-Stop Shop (Student Affairs) Reno	9,000,000
McMaster Main Street Residence (P3)	12,900,000
Graduate Student Residence & Parking Garage Partnership	30,900,000
Greenhouse and Phase One LSB Renovation	21,935,333
Lot K Parking Structure	17,000,000
CCEM/CALM Renovation	3,860,000
*Energy Management Projects and Sustainability	27,830,778
*Existing Building Infrastructure Asset Management and Renewal	8,700,000
*Deferred Maintenance Projects	5,561,800
*Environmental Compliance	400,000
*Campus Accessibility Action Plan (CAAP)	337,000
**Peter George Centre for Living and Learning	122,320,000
**ABB - SIF (Renovation, addition, DM)	56,220,000
**Mayfair Properties	5,600,000

*\*The green highlighted lines represent long-term, ongoing projects with annual allocations or loans. The amount denotes the 20/21 allocated amount.*

*\*\*The above table includes any project that was open/active during May 1, 2019 to April 30, 2020 with a budget greater than \$2M. In addition, the yellow highlighted projects are substantially complete.*

## Appendix B: 2021/22 Subject to Approval Capital Projects

Summary Table:

Item	Description	Value
<b>High Priority and Partially Funded:</b>		
1	NEXUS	280,000,000
2	MCCD Fit Out Floors 4 and 5	8,800,000
3	Bates Retrofit	44,000,000
4	JHE Interior Renovation	10,000,000
5	JHE Tower – The PIVOT	89,000,000
6	Peak Shaver Installation and Boiler Replacement	29,000,000
7	Psychology Building Atrium Addition	6,630,000
8	MRI Installation at IAHS	4,000,000
<b>High Priority Unfunded:</b>		
9	Life Sciences Building Deep Renovation (Phases 2-4)	59,500,000
10	Thode Library – Major Renovation and high-density shelving	8,000,000
11	Central Animal Facility (CAF) Renovation	36,000,000
12	Athletics & Recreation – Aquatic Centre/Pool Replacement	66,100,000
13	Sterling St entrance redesign and pedestrian route from Traymore Residence	3,500,000
14	Arts Quad Renovation	63,000,000
<b>Medium Priority Unfunded:</b>		
15	Watershed Trust – redevelopment of west campus	2,000,000
16	Transit Hub – Parking and transit consolidation (Phase 1)	22,000,000
<b>Low Priority Unfunded:</b>		
17	Transit Hub - Academic and Commercial Building (Phase 2)	34,900,000
18	Transit Hub - Academic Classroom (Phase 3)	56,250,000
19	Athletics and Recreation – Expansion	37,900,000
20	MAC Forest (Ancaster) - proposed teaching and research building	4,000,000
21	IAHS Expansion with Mohawk	20,000,000
<b>MIP Funded Projects:</b>		
	Hotel	23,000,000
	ETC#1 (Gowlings)	35,000,000
	44 Frid Street (Hamilton Spectator)	200,000,000
	Park Complete Build-out	TBD



**Detail Table: Current Project Title/Subject Matter**

<b>Item</b>	<b>Description</b>	<b>Priority</b>
<b>1</b>	<p><b>NEXUS</b></p> <p><b>Champion:</b> Dr. David Farrar, President and Vice-Chancellor</p> <p><b>Description:</b> To be constructed at 606 Aberdeen Avenue (Glass Warehouse building at MIP). The Global Nexus is poised to become a world-leading, evidence based, community-embedded, and solutions-driven innovation hub dedicated to ensuring the world is better prepared for the arrival of future pandemics and biological threats. The building will house some of McMaster's growing research programs in Health Sciences and other collaborative areas with a focus on pandemic planning.</p> <p><b>Total estimated cost:</b> \$280,000,000</p> <p><b>Cash outflow timing:</b> 2023-2027</p> <p><b>Sources of funding:</b> TBD</p>	High - Unfunded
<b>2</b>	<p><b>MCCD Fit Out Floors 4 and 5</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic) and Dr. Paul O'Byrne, Dean and Vice-President, Faculty of Health Sciences</p> <p><b>Description:</b> The McClean Centre for Collaborative Discovery was approved with two shelled floors. As we prepare final documents for tendering, occupants for these two floors have been confirmed (One Stop Shop for Floor 4 and Faculty of Health Sciences for Floor 5). Fit-out costs and shell costs are being provided by these areas to the project.</p> <p><b>Total estimated cost:</b> \$8,800,000</p> <p><b>Cash outflow timing:</b> 2021-2022</p> <p><b>Sources of funding:</b> Fully funded from University Fund and Faculty of Health Sciences.</p>	High - Funded

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| 3 | <p><b>Ancillary Project: Bates Residence – Retrofit</b></p> <p><b>Champion:</b> Roger Couldrey, Vice-President (Administration)</p> <p><b>Description:</b> This multi-year, multi-phase project calls for major upgrades to nearly all building systems at Bates Residence and includes interior finish replacements and suite re-arrangements. Funding that was set aside for this project has been redirected to the Housing deficit as a result of Covid. A new funding plan for this retrofit will need to be established.</p> <p><b>Total estimated cost:</b> \$44,000,000</p> <p><b>Cash outflow timing:</b> 2023-2025</p> <p><b>Sources of funding:</b> TBD</p>   | High - Partially Funded |
| 4 | <p><b>JHE Interior Renovation</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic) and Dr. Ishwar Puri, Dean, Engineering</p> <p><b>Description:</b> The Faculty of Engineering has initiated the planning of upgrades to JHE in a series of steps over the coming years. This includes some much-needed upgrades to washrooms, which will be funded with some deferred maintenance funding as much as feasible. Upgrades to corridors and the addition of collaborative spaces are part of the long-term project.</p> <p><b>Total estimated cost:</b> \$10,000,000</p> <p><b>Cash outflow timing:</b> 2022-2024</p> <p><b>Sources of funding:</b> Faculty reserves</p>  | High - Funded           |
| 5 | <p><b>JHE Tower – The PIVOT</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic) and Dr. Ishwar Puri, Dean, Faculty of Engineering</p> <p><b>Description:</b> The Faculty of Engineering is planning the development of the McMaster Innovation Hub (MIH), a pivotal new space for integrating teaching, research and innovation. The new space will be an interdisciplinary, open-design, multi-floor teaching, research and innovation hub that would join the John Hodgins Engineering Building (JHD) to the Burke Science Building (BSB). The tower is 8 stories, at 105,498 sf with 4 shelled levels.</p> <p><b>Total estimated cost:</b> \$89,000,000</p> <p><b>Cash outflow timing:</b> 2023-2026</p> <p><b>Sources of funding:</b> \$25M has been secured in Faculty reserves. Remaining balance from fundraising and TBD.</p> | High - Partially Funded |

6	<p><b>Peak Shaver Installation and Boiler Replacement</b></p> <p><b>Champion:</b> Roger Couldrey, Vice-President (Administration)</p> <p><b>Description:</b> This project anticipates the purchase of Peak Shavers (electrical generators that are fuelled by natural gas). The peak shavers' electrical output is synchronized with the electrical grid. The peak shaver generators would only be operated at times when the IESO is experiencing the potential of a coincidental peak demand. With the operation of the peak shavers, this would reduce McMaster's typical 9-11MW electrical demand down to approximately 6 MW, resulting in a reduction of GA costs by 30%. This savings stream will provide payback to central bank to purchase and install 2 electric boilers that would replace the current 1962 boiler that is at the end of its useful life.</p> <p><b>Total estimated cost:</b> \$29,000,000</p> <p><b>Cash outflow timing:</b> 2023-2024</p> <p><b>Sources of funding:</b> \$24M Internal Loan to be paid back from energy savings</p>	High - Partially Funded
7	<p><b>Psychology Building Atrium Addition</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and VP (Academic) and Dr. Maureen MacDonald, Dean, Faculty of Sciences</p> <p><b>Description:</b> The Faculty of Science is intending to build an atrium off the front of the Psychology building. The atrium is intended to be approximately 6,400 sf double-height space. The area will be used for gatherings as well as for a memorial garden. The full scope is being finalized with the Faculty.</p> <p><b>Total estimated cost:</b> \$6,630,000</p> <p><b>Cash outflow timing:</b> 2022-2023</p> <p><b>Sources of funding:</b> Fully funded from Faculty of Science.</p>	High - Funded

8	<p><b>MRI Installation at IAHS</b></p> <p><b>Champion:</b> Dr. David Farrar, President and Vice-Chancellor and Dr. Paul O'Byrne, Dean and Vice-President, Faculty of Health Sciences</p> <p><b>Description:</b> An MRI unit is being planned for installation at the Institute for Applied Health Sciences. This project is a joint initiative with McMaster and Mohawk College. The MRI will be used for research purposes and long-term may be used for clinical purposes.</p> <p><b>Total estimated cost:</b> \$4,000,000</p> <p><b>Cash outflow timing:</b> 2022-2023</p> <p><b>Sources of funding:</b> Fully funded \$2M from President's Strategic Support Fund and \$2M from Mohawk College.</p>	High - Funded
9	<p><b>Life Sciences Building Deep Renovation (Phases 2-4)</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic) and Dr. Maureen MacDonald, Dean, Faculty of Science</p> <p><b>Description:</b> Revitalization of the buildings envelope, systems and infrastructure. The proposed deep retrofit will solve existing building envelope deficiencies of barrier leaks, thermal bridging, and roof leaks. Student study space and an identifiable entrance is lacking within the current configuration. With a growing enrolment for the programs, additional space is needed to increase capacity and must be located within close proximity to required services. Overall this project would offer a platform for future development and growth of life sciences research and education. It would also bring an aging building in line with current industry standards for both research and operations.</p> <p><b>Total estimated cost:</b> \$59,500,000</p> <p><b>Cash outflow timing:</b> 2023-2026</p> <p><b>Sources of funding:</b> TBD</p>	High - Unfunded
10	<p><b>Thode Library – Major Renovation and high-density shelving</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic)</p> <p><b>Description:</b> This is a multi-phase project to thoroughly renovate and expand library space on campus.</p> <p><b>Total estimated cost:</b> \$8,000,000</p> <p><b>Cash outflow timing:</b> 2022-2024</p> <p><b>Sources of funding:</b> TBD</p>	High - Unfunded

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| 11   | <b>Central Animal Facility (CAF) Renovation</b> | High -<br>Unfunded |
| <p><b>Champion:</b> Dr. Paul O’Byrne, Dean and Vice-President (Health Sciences)</p>  |   |                    |
| <p><b>Description:</b> The Central Animal Facility (CAF), located in the MUMC building, is in need of a complete renovation in order to meet accreditation requirements by the Canadian Council on Animal Care. The facility has undergone minor renovations in the past several years, including an overhaul of the ventilation system, but a more extensive complete renovation is now an urgent need. An external consultant has been engaged and the current estimate is a \$20M investment in order to meet the current requirements. It is anticipated that the new NEXUS Pandemic Research Centre will house a significant animal facility, which will in large part replace the CAF in MUMC.</p> |   |                    |
| <p><b>Total estimated cost:</b> \$36,000,000</p>   |   |                    |
| <p><b>Cash outflow timing:</b> 2022-2024</p>   |   |                    |
| <p><b>Sources of funding:</b> TBD</p>  |   |                    |
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| 12  | <b>Athletics &amp; Recreation – Aquatic Centre/Pool Replacement</b> | High -<br>Unfunded |
| <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic)</p>  |   |                    |
| <p><b>Description:</b> This phase includes the demolition and re-construction of the pool, to be known potentially as the Bay Area Community Pool and Aquatic Centre at McMaster University (BACPAC@MAC). Further this phase includes a new student gym and major retrofits. A total of 23,190SF of new/renovated space is included in this project. This project is outlined in the Athletics and Recreation Business Case (November 3, 2017).</p> |   |                    |
| <p><b>Total estimated cost:</b> \$66,100,000</p>  |   |                    |
| <p><b>Cash outflow timing:</b> 2022-2025</p>  |   |                    |
| <p><b>Sources of funding:</b> TBD</p>   |   |                    |

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| 13 | <p><b>Sterling St entrance redesign and pedestrian route from Traymore Residence</b></p> <p><b>Champion:</b> Roger Couldrey, Vice-President (Administration)</p> <p><b>Description:</b> A redevelopment of the entrance to campus at Sterling Street is being considered in conjunction with work on Forsyth to accommodate the new student residence at Main/Traymore. The entrance to campus will be modified to allow for easier pedestrian and vehicular access to campus, including consideration of access to the Wilson Building and bus routes on campus. Pedestrian access from the new student residence will encompass new, expanded sidewalks, redevelopment of the road to slow vehicles and a pedestrian walkway over the entrance to the hospital underground parking lot at King Street.</p> <p><b>Total estimated cost:</b> \$ 3,500,000</p> <p><b>Cash outflow timing:</b> 2023-2024</p> <p><b>Sources of funding:</b> TBD</p> | High -<br>Unfunded   |
| 14 | <p><b>Arts Quad Renovation</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic)</p> <p><b>Description:</b> L. R. Wilson Hall (phase 1), allowed for the migration of teaching and learning spaces from the Arts Quad to this new building. Phase 2 – Arts Quad Renovation is to allocate \$63 million toward critically needed design and construction renovation improvements in the teaching and learning spaces within the existing Arts Quad.</p> <p><b>Total estimated cost:</b> \$63,000,000</p> <p><b>Cash outflow timing:</b> 2022-2024</p> <p><b>Sources of funding:</b> TBD; Government funding and/or donor needed.</p>   | High -<br>Unfunded   |
| 15 | <p><b>Watershed Trust – redevelopment of west campus</b></p> <p><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic)</p> <p><b>Description:</b> Potential redevelopment of components of west campus, in conjunction with the Campus Master Plan. May include the development of a living laboratory and optimizing green space near Coldwater Creek.</p> <p><b>Total estimated cost:</b> \$2,000,000</p> <p><b>Cash outflow timing:</b> 2024</p> <p><b>Sources of funding:</b> TBD</p>   | Medium -<br>Unfunded |

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| 16 | <b>Transit Hub – Parking and transit consolidation (Phase 1)</b><br><br><b>Champion:</b> Roger Couldrey, Vice-President (Administration)<br><br><b>Description:</b> The Board of Governors has previously approved the LRT Transit Hub at Main/Cootes on Lot I. The University awaits a revised plan for transit in Hamilton, which may include elements of the original LRT plans. A transit hub is still ideal in this location, along with an expansion to parking. A revised project will come forward for consideration once City decisions are confirmed.<br><br><b>Total estimated cost:</b> \$15,000,000<br><b>Cash outflow timing:</b> 2023-2024<br><b>Sources of funding:</b> TBD   | Medium -<br>Unfunded |
| 17 | <b>Transit Hub - Academic and Commercial Building (Phase 2)</b><br><br><b>Champion:</b> Roger Couldrey, Vice-President (Administration)<br><br><b>Description:</b> The Transit Hub (Phase 1) may incorporate a mixed-use McMaster building with programs appropriate to the accommodation of transit users (students, faculty, and staff). A mixed use building incorporating classrooms for population flow throughout the day along with mixed support and commercial services for users (healthy clinics, eye glasses/contacts, foot care, hair, nails, food, etc., etc.). Non-academic services would be either run by ancillary services using a full-cost recovery model or involve commercial leases using a cost plus model.<br><br><b>Total estimated cost:</b> \$34,900,000<br><b>Cash outflow timing:</b> 2024-2026<br><b>Sources of funding:</b> TBD; likely a series of loans for ancillary units or recoveries from commercial leases involve upfront central bank investment. Academic space would need to be funded by the UF/McMaster Capital Reserve. | Low -<br>Unfunded    |
| 18 | <b>Transit Hub - Academic Classroom (Phase 3)</b><br><br><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic)<br><br><b>Description:</b> The Transit Hub may incorporate a mixed-use McMaster building with classroom spaces to accommodate growth.<br><br><b>Total estimated cost:</b> \$56,250,000<br><b>Cash outflow timing:</b> 2025-2027<br><b>Sources of funding:</b> TBD  | Low -<br>Unfunded    |

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| 19 | <b>Athletics and Recreation – Expansion</b><br><br><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic)<br><br><b>Description:</b> This phase includes a proposed new Field House (covered playing field) and a high-performance centre (totaling 111,000SF and a cost of \$25.8M) and covered parking (totaling 71,700SF costing \$12.1M). Additional information is available upon request to Financial Affairs within the Athletics and Recreation Business Case (November 3, 2017).<br><br><b>Total estimated cost:</b> \$37,900,000<br><b>Cash outflow timing:</b> 2026-2030<br><b>Sources of funding:</b> TBD | Low -<br>Unfunded |
| 20 | <b>MAC Forest (Ancaster) - proposed teaching and research building</b><br><br><b>Champion:</b> Dr. Karen Mossman, Vice-President (Research)<br><br><b>Description:</b> This is a planned 5,000SF building, which includes extensive mandatory site assessments and permitting. The property is owned by McMaster, on Lower Lions Club Road.<br><br><b>Total estimated cost:</b> \$4,000,000<br><b>Cash outflow timing:</b> 2022-2024<br><b>Sources of funding:</b> TBD   | Low -<br>Unfunded |
| 21 | <b>IAHS Expansion with Mohawk</b><br><br><b>Champion:</b> Dr. Susan Tighe, Provost and Vice-President (Academic) and Roger Couldrey, Vice-President, Administration<br><br><b>Description:</b> This building is a partnership with Mohawk College. In the Mohawk capital plan and in the University master plan, there is a wing to be constructed on IAHS to support future growth. If built in similar shape/size to the current arm of the building, it would be 60,000 sf of space. Use TBD.<br><br><b>Total estimated cost:</b> \$20,000,000<br><b>Cash outflow timing:</b> 2023-2025<br><b>Sources of funding:</b> TBD           | Low -<br>Unfunded |



### Appendix C: Schedule of Facilities

Bldg. Code	Building Name	Building Section	Construction / Renovation / Acquisition Date	Current Total Building Gross Area (Square Feet)	Current Total Building Gross Area (Square Metres)
1	University Hall		1929	48,652.83	4,520.00
		Addition	1991		
2	Hamilton Hall		1929	51,865.81	4,818.49
4	Refectory		1929	23,365.44	2,170.72
		Addition	1965		
5	Edwards Hall		1929	25,025.44	2,324.94
6	Wallingford Hall		1929	23,461.70	2,179.66
7	Alumni House (Formerly President's Residence)		1929	6,523.90	606.09
8	Alumni Memorial Building		1949	14,062.10	1,306.41
		Addition	2003		
9	Nuclear Research Building		1950	66,814.39	6,207.26
		Addition	1957		
		Addition	2001		
		Addition	2011		
		Addition	2017		
10	Mills Memorial Library/Alvin A. Lee Building		1950	238,624.05	22,168.90
		Addition	1962		
		Addition	1968		
		Addition	1990		
11	Burke Science Building		1953	196,401.35	18,246.28
		Addition	1958		
		Addition	1961		
		Addition	1963		
		Addition	1969		
12	E. T. Clarke Centre		1954	53,465.93	4,967.15
		Addition	1958		
		Addition	1965		
		Addition	1968		
		Addition	1996		
		Addition	2002		
15	Nuclear Reactor		1957	24,332.68	2,260.58
16	John Hodgins Engineering Building		1958	278,377.00	25,862.06
		Addition	2017		
		Addition	1989		
		Addition	2001		
		Addition	2016		
		Addition	2017		
17	Divinity College		1959	38,148.20	3,544.08
18	Moulton Hall		1959	58,692.50	5,452.71
19	Whidden Hall		1959	69,989.40	6,502.23
20	Gilmour Hall		1959	90,127.80	8,373.15
22	General Sciences Building		1962	59,583.20	5,535.46

23	Chester New Hall		1964	87,870.01	8,163.39
24	Ivor Wynne Centre		1964	246,954	22,942.77
		Addition	1972		
		Addition	2011		
25	Arthur N. Bourns Building		1968	352,648.00	32,762.07
		Addition	2003		
		Addition	2006		
		Addition	2019		
26	Matthews Hall		1964	61,808.30	5,742.18
27	McKay Hall		1964	66,824.30	6,208.18
28	Commons Building		1965	56,448.90	5,244.27
		Addition	1968		
29	Togo Salmon Hall		1965	146,039.68	13,567.53
		Addition	2000		
		Addition	2015		
30	Biology Greenhouse		1967	8,377.60	778.30
31	Campus Services Building		1968	51,935.60	4,824.98
32	Tandem Accelerator Building		1966	36,493.00	3,390.31
		Addition	2002		
		Addition	2011		
33	Applied Dynamics Laboratory		1967	21,480.00	1,995.56
34	Psychology Building		1970	102,691.5	9,540.3
		Addition	2013		
35	Woodstock Hall		1968	64,341.30	5,977.50
36	Brandon Hall		1968	118,354.70	10,995.51
37	Health Sciences Centre <sup>1</sup>		1970	1,273,021.74	118,267.59
		Addition	2005		
38	Kenneth Taylor Hall		1971	126,990.70	11,797.82
39	Life Sciences Building		1970	106,851.52	9,926.83
40	Bates Residence		1971	164,055.40	15,241.25
		Addition	1972		
42	H. G. Thode Library		1976	87,793.70	8,156.30
43	Communications Research Laboratory		1983	28,862	2,681.36
		Addition	1989		
44	Health Sciences Parking Garage		1986	N/A	N/A
45	Hedden Hall		1989	104,279.10	9,687.85
46	DeGroote School of Business		1990	74,422.44	6,914.07
		Addition	1999		
		Addition	2001		
48	Institute for Applied Health Sciences*		2000	177,444.25	16,485.11
49	Information Technology Building		1955	123,725.60	11,495.00
		Addition	1959		
		Addition	2001		
50	Mary E. Keyes Residence		2002	146,195.20	13,581.98
51	McMaster University Student Centre		2002	145,427.75	13,510.68
			2016		
52	Michael G. Degroote Centre for Learning and Discovery		2004	304,365.61	28,276.49
		Addition	2005		

		Addition	2017		
53	Les Prince Hall		2006	106,016.20	9,849.23
54	David Braley Athletic Centre		2007	139,451.41	12,955.46
55	Ron V. Joyce Stadium		2008	56,941.95	5,290.08
56	Engineering Technology Building		2009	138,682	12,884.00
57	Ron Joyce Centre (Burlington)		2010	103,591.87	9,624.00
58	MIP - MARC		2013	105,000.00	9,754.82
		Addition	2019		
59	MIP – Atrium Building		2009	104,992.98	16,722.55
73	St. Paul's Anglican Church (Hamilton) – Leased Space		2013	5,808	539.5
74	L.R Wilson Hall		2016	178,605.13	16,592.96
82	88 Forsyth Avenue North		2015	4,754.00	429.92
83	David Braley Health Sciences Centre		2015	232,843.00	21,631.82
85	One James North – Leased Space <sup>1</sup>		2015	54,195.96	5,034.97
86	47 Whitton Road		2015	3,587.00	358.33
87	182 Sterling Street		2015	3,937.00	345.39
89	Peter George Centre for Living and Learning (PGCLL)		2019	335,165.00	31,137.85
90	Halton McMaster Family Health Centre/JBH		2013	31,107.70	2,890.00
91	Canadian Martyrs – Licensed Space		2016	8,049.47	747.82
92	Cairns Research Complex- (Brock University)		2012	10,176	967.53
94	96 Forsyth Avenue North		2017	3,611.29	335.50
95	106 Forsyth Avenue North		2018	3,087.09	286.80
96	132 Mayfair Crescent		2019	4,543.02	422.06
97	8 Mayfair Crescent		2019	3,315.28	308.00
TBD	30 South Street West, Dundas		2020	TBD	TBD
T13	Preliminary Laboratory		1967	23,066.60	2,142.96
TB26	Temporary Building, Multi-use (Formerly Scourge Building)		1989	2,112.00	196.21
T31	Stone Church Family Health Care Centre		N/A	15,726.01	1,460.00
T32	Temporary Portables (Offices)		2013	6,031.56	560.35
T33	Temporary Portables (McMaster Children's Centre)		2013	7,805.02	725.11
T34	Temporary Classroom/Offices		2019	5,000.00	464.51
200	Integrated Health Building (Waterloo)		2010	59,816.34	5,557.12
<b>Grand Total:</b>				<b>7,387,987.95</b>	<b>686,366.54</b>

\* values for IHAS (Bldg#48) show McMaster space in shared building

## **Appendix D: Schedule of Properties**

Of McMaster's on-campus buildings, the following have unique ownership arrangements:

- Divinity College – owned by College of Divinity
- Health Sciences Centre – owned by McMaster and leased to Hamilton Health Sciences (HHS then leases approximately 38% of the building back to the Faculty of Health Sciences).
- Institute for Applied Health Sciences – owned jointly by McMaster and Mohawk.
- McMaster University Student Centre – operated by McMaster Students Union under the direction of a management committee.
- David Braley Athletic Centre – owned by McMaster and operated by Athletics and Recreation; construction paid for from external sources, operating expenses paid for by McMaster and the students.

Additionally, off campus, the University owns or leases the following:

- 4350 South Service Road, Burlington – Ron Joyce Centre (east side)
- 4350 South Service Road, Burlington – Farmland (west side)
- 200 Longwood Rd South, Hamilton – McMaster Automotive Resource Centre (MARC) Warehouse (MIP)
- 175 Longwood Rd South, Hamilton – The Atrium Building at McMaster Innovation Park (MIP), aka The Atrium@MIP (Various Suites)
- 155 Chatham Street, Hamilton – (MIP) (undeveloped)
- 270 Longwood Road South, Hamilton – BEAM (Fraunhofer)
- 565 Sanatorium Road, Hamilton – Chedoke Hospital (leased space)
- 25 Charlton Avenue East, Hamilton, Suites: 300, 303, and 702 – Family Medicine
- 30 Birge Street, Hamilton – David Braley Research Institute (leased space)
- 237 Barton Street East, Hamilton – Hamilton General Hospital (leased space)
- 699 Concession Street, Hamilton – Juravinski Cancer Centre (leased space)
- 100 West 5th Street, Hamilton – Juravinski Centre for Integrated Healthcare (leased space)
- 711 Concession Street, Hamilton – Juravinski Hospital (leased space)
- 1475 Upper Ottawa St, Hamilton – Stonechurch Family Health Centre
- 2757 King Street East, Hamilton – St. Joseph's Community Health Services (leased space)
- 50 Charlton Avenue East, Hamilton – St. Joseph's Healthcare (leased space)

- 1140 King Street West, Hamilton – St. Paul's Anglican Church in Westdale (leased space)
- 10B Victoria Street, Kitchener – McMaster Michael G. DeGroote School of Medicine in the Integrated Health Building, Waterloo Regional Campus, Education Services, Faculty of Health Sciences
- 304 Victoria Avenue, Hamilton – Victoria Medical Center (leased space)
- 25 Main Street West – (leased space)
- 88 Forsyth Avenue North, Hamilton
- 100 Main Street West, Hamilton – David Braley Health Sciences Centre (south side)
- 100 Main Street West, Hamilton – Parking (north side)
- One James North, Hamilton – (previously known as The Downtown Centre, i.e., DTC) (leased space at Lloyd D. Jackson Square):
  - The Centre for Continuing Education (CCE),
  - Finance,
  - University Advancement (UA),
  - Institutional Research and Analysis (IRA)
- 47 Whitton Road, Hamilton
- 182 Sterling Street, Hamilton
- Existing houses bound by Forsyth Avenue South, Traymore Avenue, Dalewood Avenue, and Main Street West
- 1221 Lakeshore Road, Burlington – Halton McMaster Family Health Centre at Joseph Brant Hospital
- 1355 Main Street West, Hamilton – Canadian Martyrs (licensed space)
- Brock University, Level 200 @ 500 Glenridge Ave., St. Catharines – (leased space, Education Services)
- 96 Forsyth Avenue North, Hamilton
- 106 Forsyth Avenue North, Hamilton
- 110 King Street West, Hamilton – (leased space)
- 199 James Street North, Unit 2, Hamilton – (leased space, Sociology)
- 1205 Rymal Road East, Hamilton – (leased space, Faculty of Health Sciences)
- 142 Queenston Street, St. Catharines – (leased space)
- 16-24 Ontario Street, St. Catharines – (leased space, Medical Clinic)
- 180 James Street South, Hamilton – (leased space)
- 249 Caroline St S, Unit A, Hamilton – (leased space, School of Nursing)
- 293 Wellington Street North, Hamilton - (leased space, Family Medicine - Surgery), Suites: 110, 111

- 3155 Harvester Rd., Burlington – (leased space, Family Medicine), Suites: 207, 208, 209
- 495 Woodward Avenue, Hamilton – (leased space)
- 1960 Main Street West, Ancaster – (leased space)
- 555 Prince Charles Drive North, Suite 201, Welland – (leased space)
- 700 Bay Street, Suite 2303, Toronto – (leased space)
- 701 Main St. West, Suite 101, Hamilton - Family Medicine – Maternity Centre (leased space)
- 162 Ward Avenue, Hamilton - Parking lot (leased lot)
- Lot 56, of Hamilton Plan 1475 – (MIP)
- 245 James Street North, Hamilton – (leased space)
- 200 Victoria Street, Toronto, unit 1506 (leased space)
- Property on the north side of Lower Lions Club Road, east of Louise Drive, Ancaster – (undeveloped 115 acres)
- 120 Forsyth Avenue North, Hamilton – (The Oval at Mayfair Crescent: 5.5 acres)
- Grant Boulevard at Barrie Street, Hamilton – (undeveloped)
- 1190 Main Street West, Hamilton – (between Forsyth Avenue South and Dalewood Avenue) (undeveloped)
- 1480 Sandhill Drive, Ancaster – (leased space) Suites: 9A
- 777 Bay Street, Toronto – Capital Hill Group (leased space)
- 459 Hume Street, Collingwood – Collingwood General and Marine Hospital (leased space)
- Osler Drive, south side, east of University Plaza (undeveloped)
- Osler Drive, north side, east of University Plaza (undeveloped)
- 132 Mayfair Crescent, Hamilton
- 8 Mayfair Crescent, Hamilton
- 30 South Street West, Dundas (Osler House)

## Appendix E: 2020/21 Approved Project List for Deferred Maintenance Items

Bldg.#	Building Name	Scope	Est. Cost
Structure			
9	Nuclear Research Building	Structural repairs to loading dock	\$100,000
Sub-Total			
Exterior Enclosure			
10	Mills Memorial Library	South east block - windows and screen wall replacement	\$5,320,900
T13	Prelim. Medical Building	Roof replacement	
22	General Sciences Building	Exterior precast panel repairs	
29	Togo Salmon Hall	Low roof replacement - north side	
Various		UH, HH, Refectory, JHE, CNH & DBAC exterior Door replacements and study of UH stained windows	
28	Commons Building	Main door and store front windows replacement	
T33	McMaster Children's Centre	Roof repairs and reinsulate the ceiling	
Sub-Total			
Conveyance and Interior Finishes			
16	John Hodgins Engineering	Common washrooms and corridor upgrades. Multi year project	\$400,000
T33	McMaster Children's Centre	Interior finishes upgrades	
Sub-Total			
Mechanical			
12	E.T.Clarke	Cooling tower replacement project- multiphase project	\$6,500,000
39	Life Science Building	Deferred maintenance contribution to Greenhouse addition and LSB renovation	
24	Ivor Wynne Centre	Air Handling Unit replacement and control upgrades	
T13	Prelim. Medical Building	Boiler replacement	
46	DeGroote School of Business	Pneumatic control upgrades to digital	
34	Psychology Building	Domestic Hot Water recirculation lines replacement	
23,29,38	Chester New Hall, Togo Salmon Hall and Kenneth Taylor Hall	Pneumatic control upgrades to digital for the basement and main floors	
7	Alumni House	Main water supply line replacement	
15	Nuclear Reactor	Heating system replacement and control upgrades	
12	E.T.Clarke	Chiller replacement - Phase 1 - Design	
Sub-Total			
Electrical			
12	E.T.Clarke	Electrical upgrade - switchgear replacement	\$740,000
33	McMaster Children's Centre	MCC replacement	
31	Campus Services Building	MCC replacement	
Sub-Total			
Fire Safety			
34	Psychology Building	Replace fire alarm system	\$400,000
Sub-Total			

Bldg.#	Building Name	Scope	Est. Cost
<b>Infrastructure</b>			
Campus	Tunnels	Repairs to tunnels and replacement of buried cables and utilities - multi-phase	
<b>Sub-Total</b>			\$1,000,000
<b>McMaster University Medical Centre (MUMC)</b>			
37	MUMC	Facility contribution to pay for the outstanding central bank loan	\$200,000
37	MUMC	Infrastructure projects at MUMC	\$1,100,000
<b>Sub-Total</b>			\$1,300,000
<b>Emergency Funds</b>			
Various		Contingency fund	
<b>Sub-Total</b>			\$893,000
<b>Campus Accessibility Action Plan (CAAP) Fund</b>			
Various		For accessibility projects on campus	
<b>Sub-Total</b>			\$337,000
<b>Total</b>			<b>\$16,990,900</b>