



UNIVERSITY  
OF ALBERTA



# CAPITAL PLAN Infrastructure

2022-2023



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***The University of Alberta respectfully acknowledges that we are situated on Treaty 6 territory, traditional lands of First Nations and Métis people.***

# Message from the President

A leading comprehensive research university in Canada and the world, the University of Alberta is home to state-of-the-art infrastructure and equipment. Our students learn in technologically advanced classrooms, libraries and labs, while our research infrastructure supports activities as diverse as nanofabrication, cell manufacturing, printmaking and soil remediation. We come together with community and industry partners in spaces as unique as the University of Alberta Botanic Garden and the Elko Engineering Garage.

Making the best possible use of the assets we need for excellence in teaching, research and community engagement is a key part of University of Alberta of Tomorrow. The U of A has over 480 buildings and 1.7 million gross square metres of space, a footprint that is one of the largest of any post-secondary institution in Canada. This Capital Plan sets the stage to right-size our footprint and infrastructure, optimize space usage, and plan for maintenance, renewal and, when appropriate, decommission and removal of buildings and other assets.

Guided by the university's core mission and Integrated Asset Management Strategy, this plan sets a strong foundation of financial and environmental sustainability. Through data-driven analysis and decision-making, it ensures that we will have the right buildings and lands in place to support future growth and continue to serve the university and the broader community well.

A handwritten signature in black ink that reads "Bill Flanagan". The signature is written in a cursive style with a long, sweeping tail on the final letter.

Bill Flanagan  
President and Vice-Chancellor

# Message from the Vice President, Facilities and Operations

This Capital Plan identifies how we will build a stronger foundation in managing, maintaining, and right-sizing our infrastructure assets. It will position us to better respond to the growing needs of students, faculty, staff and the community, while achieving greater sustainability now and into the future. We will also focus on the impacts to our climate and the role our buildings play. We are proud of the work we do and what's been accomplished, and look forward to the growth and prosperity in the future.

The reductions to our base operating grant were significant and the institution's burgeoning deferred maintenance liability is on a trajectory to reach \$1 billion within five years. It is time to be more purposeful in our decisions that contribute to strong financial sustainability as well as reducing the risk of failure in some of our key teaching and research infrastructure. Through analytics and evidence-informed decisions, communication across the institution, and injections of sparse funds in targeted ways, we can right-size the infrastructure of the institution. With the appropriate space and facilities being optimized, it is my belief that we may meet not only the needs of today, but the future needs of increased enrollment and an expanded and robust research programs while still reducing our ecological and physical footprint.

I am confident that as you read through this Capital Plan and its various initiatives that you too will see the connections between, and opportunities for, strategic stewardship of our critical infrastructure and the improved outcomes for the academic and research mission, the student experience and our community. This capital plan is a legislated, annual accountability requirement of the Government of Alberta. The report must adhere to government guidelines, including demonstrating alignment with the strategic directions of the institution, the approved university capital budget, and identification of priority infrastructure for government investment.



Andrew Sharman  
Vice-President, Facilities and Operations



# Background

The University of Alberta is renowned for its world-leading research, strength of academic programs, and excellence of its students. To ensure our responsive, relevant, and leading-edge research is successful, we must continue to attract strong students, researchers, faculty, and staff.

*A key component of success is the quality of our infrastructure and equipment, ensuring it meets the needs of today, but also our future.*

Infrastructure and equipment has a key role in recruitment of students, faculty and staff. The buildings, equipment, and grounds allow partnerships with other post-secondary institutions, organizations, and businesses. These partnerships are mutually beneficial to industry, public organizations, and our community as they explore, create, and innovate on our campuses while contributing to Alberta's economy, social fabric and culture.

The U of A's rolling three-year capital plan aligns with the U of A's [Integrated Asset Management Strategy \(IAMS\): Taking Care of our Campuses](#). This strategy sets the direction for the University of Alberta's infrastructure assets while defining a long-term roadmap. It describes the current state and the conditions that created some current challenges while also identifying future direction and action. Lastly, it outlines how the institution intends to be effective and efficient stewards of its physical assets (buildings, roads, grounds, and utility infrastructure) through risk-based maintenance, triaging critical deferred maintenance, strategic investments, and appropriate partnerships.

In the past three years, the institution has faced increasing fiscal constraints and reductions to base operating grants. This fiscal reality required a new approach to many aspects of the institution's operations. As a result, two strategic endeavours were launched in 2020-2022: the University of Alberta for Tomorrow (UAT) project and the Service Excellence Transformation (SET) initiative. Both were bold in setting the foundation for living within the institution's means and making sustainable organizational changes. Both UAT and SET also required the institution to right-size its infrastructure. Operating and maintaining the volume of assets currently managed is no longer affordable and the University of Alberta must find a way to work within a smaller physical footprint.

IAMS, coupled with UAT and SET, situates all students, staff, faculty, visitors, and community members as stewards of the university's buildings and grounds. How each uses the institution today has a direct impact on its future state. These guiding documents set the collective mission, vision, principles, goals, and actions to future-proofing the university's infrastructure. They also help guide decisions to meet the needs of learners, faculty, staff and community today, while balancing the risks, opportunities, and fiscal environment. The university will continue to address emergent priorities, through a range of physical infrastructure opportunities, including: supporting our growing research agenda, renovating space to meet student needs, environmental sustainability and stewardship of our buildings, and ensuring support for the United Nations Declaration of the Rights of Indigenous Peoples.



# Historical Context

The University of Alberta is Alberta's oldest and largest post-secondary institution, managing more than 1.5 million square metres of very complex facilities across five distinct campuses. The institution emerged from a period of significant growth in formal learning and research spaces, and some of its infrastructure predates World War I. More than 50 per cent of our buildings were built in the post-war (1951-1975) or modern (1976-1990) periods, both of which are known for lower standard construction practices. These buildings were built with a projected lifespan of 50 to 60 years and many of their critical systems (mechanical, electrical, and building envelope) are at or near their end of life. Catastrophic building failures are imminent. We have also experienced critical failures in newer and highly complex buildings, which is cause for concern given funding levels.

In 2022, Alberta continues to be impacted by considerable economic turmoil: the after-effects of the global pandemic, supply chain issues, inflationary impacts, increasing carbon tax and climate change legislation, changing non-renewable resource policies in the United States, and the overall effect on the local economy. These have impacted employment, reduced operating revenues for public institutions, and affected the demand and expectations from students and their families from post-secondary institutions. The U of A has developed plans and is working through these impacts. However, even in times of greater restraint, failure to invest in maintaining existing infrastructure will only lead to a larger deferred maintenance deficit, directly impacting teaching and research.

To operate and maintain its buildings, the U of A relies on grants from the Government of Alberta, with support from the Campus Alberta grant to offset general operational and maintenance costs (e.g. custodial, limited routine maintenance, utilities, and insurance). The government has also historically provided a variable grant under the Capital Maintenance Renewal (CMR) program, intended to help manage deferred maintenance liability. Given the size and complexity of the university's infrastructure assets, the reality is that these allocations alone are unable to meet critical needs. While crucial, these allocations do not allow for adequate investments in preventative or reactive maintenance, resulting in increasing deferred maintenance liabilities across the institution. The U of A's current deferred maintenance liability (as at May 3, 2022) is \$349.5 million and our 5-year projected liability is \$1.035 billion.





# Infrastructure Planning

Over the years ahead, the U of A will grapple with competing demands in how it allocates, uses, operates, and maintains its space and buildings. The institution strives to support an additional 10,000 full load equivalent students, while also growing its research excellence and innovation agenda. There is also a need to support key priorities, including the vision for the Maskwa House of Learning and how Indigenous students can be best supported on North Campus. While a number of Indigenous initiatives are already underway, ranging from repurposing existing space to providing healing and ceremony space across our campuses, the desire for a Maskwa House of Learning remains. While it is not in the capital plan at this time, it remains an area of continued interest with a full design in place for construction once funding is secured. Other priorities relating to sustainability, equity, and accessibility will also be considered as space and facilities are evaluated for programming and the needs of users.

Evidence will need to drive decisions about how space and buildings are used. The University of Alberta is unique amongst its U15 peers in having access to detailed analytics of each of its buildings. By leveraging robust data streams, significant subject matter expertise, a network of partners, and internal analytical capabilities, the university can best identify insights and directions on the full life cycle of buildings, land, and assets.



## Space Optimization Strategy

In 2021/22, a Space Optimization Strategy (SOS) was developed to identify outcomes, goals and actions to best right-size buildings and space. This strategy falls under the broader focus on the IAMS and has been shared across many faculties and departments and has been implemented in various stages to move towards a 15% reduction in the institution's physical footprint. The strategy identified many key areas where the U of A is anomalous to its U15 peers. For example, the U of A has 50% more lab space, almost 50% greater average of the size of its administrative offices, and 30% more classroom space than its peer institutions. As a result of this comparative data and the financial constraints facing the institution, the SOS is a bold approach to right-sizing buildings while enabling continued excellence in the quality of teaching, learning, and research activities. By reducing our overall physical footprint, the institution can save significantly on operational costs that can be concentrated towards maintaining and renewing our remaining assets. Additionally, reductions in our physical footprint also mean that the institution can take the lead in the decarbonization of post-secondary institutions by reducing emissions, and will continue to pay dividends with reduced utility costs where carbon prices are expected to continue increasing significantly over time.

The SOS identified the need for a time-limited institutional governance structure that communicated, advocated for, and supported decisions related to the use of space and buildings. An Executive Oversight Committee and Implementation Team were established to provide direction and analysis. They are implementing initiatives that set strategic direction for space optimization across the institution. In addition to a governance structure, the strategy identified the need for financial and environmental sustainability, and a requirement to update space policies and standards to prioritize space use and allocation.

Lastly, space and how people use it is very personal. Many faculty, students, and staff identify themselves by the space they work or spend time in, meaning the university will need a comprehensive and collaborative approach to the decisions made over time. The U of A cannot afford the space and buildings it has and the time is now to continue reducing this volume of assets.



# Goals and Actions

Throughout this rolling three-year capital plan, the following goals and actions will drive many infrastructure decisions at the University of Alberta. They are relevant to the four stages of the life cycle of assets: 1) planning and programming; 2) creating and acquiring; 3) operating and maintaining; and 4) renewing or disposing. They are highly interdependent, suggesting the rigor and quality of each stage impacts the subsequent one. There are specific goals and actions that occur in each phase that are regularly monitored and reported. Each of these stages are impacted by a number of different drivers, ranging from functionality; safety and health; operating and maintenance costs; and equity, diversity, inclusion, and indigeneity. These drivers impact how each asset is reviewed and the resultant decisions that are proposed.

## Planning and Programming

Planning cycles are co and interdependent with many functional inputs across the institution, including: academic, research, operational, risk, equipment maintenance, deferred maintenance, and capital disposal. Aligning programming, planning, and functional design principles supports academics and research and is crucial to a good user experience.

Over the next three years, reducing the physical footprint of the institution will be a priority. Consolidation of space and cultural shifts from discrete 'ownership' to multi-use 'sharing' are key to right-sizing the infrastructure.

- **Current space is optimized through the collection, analysis, and reporting of space data across the institution.**
- **Space is reduced by a faculty, department, or unit as they shift to modernized or alternate space.**
- **Space policies and standards are updated to align with best practice and institution's needs, recognizing that multi-use and shared space is an increasing priority.**
- **Third parties on campus have a consistent approach to their agreements and the best interests of the university are the priority.**

Where a building no longer meets the university's mission and the operational and maintenance costs are too high, thoughtful and beneficial partnerships with other organizations will be considered.

- **The condition, operating and maintenance costs, and deferred maintenance liability of each building will be assessed with the data being made available more broadly.**
- **Buildings that no longer meet the research, academic and student success mission will be identified as a potential opportunity for a third-party partnership. This will occur through partnership arrangements.**
- **Opportunities for partnerships with industry, community, public sector organizations and others will increasingly be assessed related to the institution's infrastructure and lands.**

## Creating and Acquiring

At any given time, students, faculty, and staff will express a desire for new, expanded, or repurposed space. Over the next three years, it will be increasingly unlikely that the university will build new or expanded buildings. Repurposing is far more amenable to the broader institutional goals and will be the area of priority as emerging needs or new strategic directions require different space.

- **Projects that require government funding support will be prioritized, benchmarked, and submitted for consideration within the BLIMS and/or federal government submission processes.**

## Operating and Maintaining

Operating and maintaining the institution's assets can account for up to 90 per cent of the total cost of building ownership. It typically includes: routine and preventative maintenance, minor repairs, custodial services, fire protection services, pest control, snow removal, grounds care, environmental operations, and utilities. Through reducing the institution's physical footprint through removing assets, these costs will be reduced, as will targeted maintenance investments in buildings.

- **Advance sustainable operations practices and regularly report on impact.**

## Renewing or Disposing

Over the next three years, the institution will continue to move out of externally-leased space to better use existing campuses and reduce lease costs. In addition, we will reduce the physical footprint and volume of buildings through the ongoing identification of potential buildings for decanting, partnerships with other organizations, or demolition. These are never easy decisions, and will be driven by evidence, the best available data, and comparative good practices of other post-secondary institutions, public sector, and industry.

- **Reduce external lease spaces and consolidate operations onto one of the institution's five campuses.**
- **Demolition of buildings that are not viable for partnerships and too costly to continue to operate and maintain.**



# Summary

Over the course of the next ten years, the U of A has the opportunity to simultaneously reduce, modernize, and optimize its space with a goal of improving conditions, creating capacity for increased enrolment and expanded research, and also reducing the operational costs associated with the large infrastructure portfolio.

To do that, several initiatives aligned within the capital plan will come together to create a positive feedback loop of renewal and reduction:

## Integrated Asset Management Strategy

This strategy will continue to invest in, and renew our priority buildings for retention –leveraging opportunities for partnerships with government, our academic partners, and others. Partnerships for our space, that have value to the institution, will have an increased lens applied to how and who uses space. As space is consolidated and available for others’ use, it will need to increasingly have a value proposition to the Institution and consideration for revenue back to the U of A.

## Space Optimization Strategy

This strategy will create good space governance, improve space standards, as well as prioritizing buildings for retention, disposal, or sale. The strategy is bringing partners across the university and externally together to invite collaboration and engagement. Cost savings from building reductions and lease exits will be directed towards renewal and optimization that enables further reductions. This work has started, with the university having already exited key lease agreements and re-directing those savings to enhancements of other buildings. This positive cycle of re-investment, while consolidating, will grow over the years ahead.

With a dedication to evidence-informed decision-making with analytics and modeling to support our decisions, and a spirit of collaboration across the university, this capital plan seeks to provide the roadmap toward a more sustainable, resilient and supportive infrastructure portfolio for the university.

*Photo credit: GEC Architecture / Michael Wach*



# Appendix 1

## University of Alberta Capital Requests

The Government of Alberta requires the university to include a prioritized list of projects that support its mandate as well as student enrollment forecasts, research, and program plans. In determining its priorities, the university carefully evaluates its known and projected academic program requirements to ensure that capital investments contribute to institutional needs. Priority investments aim to support an increased utilization of existing infrastructure, which may include identifying functionally inadequate spaces that can be reasonably renewed to meet the needs of today and tomorrow.

In descending order, these “top ten” infrastructure priorities represent the university’s greatest opportunities to right-size its infrastructure assets, reduce our deferred maintenance liability, and, most importantly, create spaces that will serve the academic and research interests of the institution in the decades to come. Even though these projects are aspirational and pending funding, they fully reflect the university’s broader objectives of reducing the quantity of buildings while improving the functionality and use of space.

Each of these projects has been costed with considerable design work already completed meaning each could proceed in relatively short order once funding is identified.



*Biological Sciences*



## Biological Sciences Complex Modernization

### Project Scope

This project seeks to completely renew, modernize, and optimize the Biological Sciences Complex into a purpose-built, modular, and robust high service laboratory building. Wet labs are very expensive to construct, operate, and maintain and this project will enable the institution to reduce the number of buildings with high service labs by at least 20%. On a per-capita basis, the University of Alberta has the highest quantity and lowest utilization of wet labs in the U15. Additionally, the long-ago practice of constructing labs in so many buildings has significantly increased its operating costs, increased the university's risk profile, and exacerbated its deferred maintenance liability. With a concerted effort to consolidate teaching and research laboratories into fewer buildings, a multitude of strategic outcomes can be realized. The outcomes that place this project at the top of the priority list include:

- Laboratory space will be significantly optimized, reducing the overall number of labs to maintain and lessening the demand on base building systems necessary to support these labs.
- Specifically, labs in Earth Sciences, Human Ecology, and the Research Transition Facility would be decommissioned creating opportunities for these buildings to contribute to the university in other ways.
- Consolidating laboratories in one complex; agnostic to their disciplines, greater opportunities for interdisciplinarity and intersectionality of teaching and research are realized. We would aim to rename this renewed asset to reflect its value as a high service lab building, not specifically for a single faculty or department.
- The Biological Sciences Complex accounts for the university's largest source of current and projected deferred maintenance.

Total project cost

#### Phase 1

\$100M

#### Phase 2

\$150M

#### Phase 3

\$150M

#### Phase 4

\$100M

Six years

### IAMS/SOS Alignment

- Compression and optimization of very high-cost laboratory space.
- Eliminate \$81.9 million in five-year deferred maintenance liabilities (2022).

# 2

## Education Complex Redevelopment

Total project cost

\$124M

1–2 years

### Project Scope

Located at the heart of North Campus, the Education Complex is proximal to a number of existing programs and services from a number of faculties. Additionally, by introducing modern design elements, the capacity of the buildings can be greatly increased. The project consists of three components, including fully renewing the buildings' base operating systems, modernizing and optimizing all internal spaces, and renewing the buildings' end of life envelope. Similar to Biological Sciences, these buildings create an opportunity to consolidate dry labs and offices creating numerous downstream benefits in buildings south of 87 Avenue.

### IAMS/SOS Alignment

- Compression/optimization of office space, a significant source of excess space.
- Development of right-sized teaching spaces in a central location, which increases utilization and access by more users, and the corresponding repurposing of underutilized teaching space elsewhere on campus.
- Eliminate \$49.4 million in five-year deferred maintenance liabilities (2022).



# 3

## Medical Sciences Building Redevelopment

Total project cost

\$162M

4–5 years

### Project Scope

The Medical Sciences Building's long-term functionality remains crucial in the university's growth in both the volume and quality of health-related research. Fully modernizing this building's base operating systems and redeveloping internal spaces will allow for a greater quantity of teaching and research in a more-efficiently utilized space.

- The project will also allow for the eventual transition of highly complex and high-cost labs from the Clinical Sciences Building. Once completed, the Clinical Sciences Building would be considered for disposition.

### IAMS/SOS Alignment

- Significant compression and optimization of very high-cost laboratory space.
- Eventual disposition of the Clinical Sciences Building.
- Eliminate \$50.1 million in five-year deferred maintenance liabilities (2022).



# 4

## Central Academic Building Retrofill

Total project cost

\$30M

1–2 years

### Project Scope

By design, Mathematical Sciences' relocation into University Commons frees up the upper floors of the Central Academic Building (CAB) to be reimagined to include student study space which will allow for a phased repurposing of the Cameron Library.

CAB already serves as a central gathering space for students from every corner of North Campus and includes amenities such as food and retail. Integrating student study spaces into a building already so central to the campus fabric provides an opportunity to use existing spaces more efficiently.

- To remain viable, the Cameron Library would require significant investments to address both deferred maintenance (\$21 million) and a failing building envelope (\$24 million). Additionally, the pedagogy of student study space has evolved considerably since the Cameron Library was constructed in 1964. Students require amenities such as power receptacles and breakout space that would be prohibitively expensive to introduce into a failing building.

### IAMS/SOS Alignment

- Retrofit and modernization of CAB's upper floors in a way that also creates modern student study space in a central, amenity-rich location.
- Eventual repurposing of the Cameron Library
- Reduce deferred maintenance liability by \$8.2 million (2022) (\$2 million CAB + \$6.2 million Cameron Library, assuming building envelope is renewed).



## Computing Science Centre/Athabasca Hall Redevelopment

Total project cost

\$90M

2–3 years

### Project Scope

The Computing Sciences Centre (CSC) and Athabasca Hall are physically connected as one larger complex. As part of the University Commons redevelopment, the occupants of the CSC are slated for relocation to the new space. Decanted space in the CSC / Athabasca Hall offers the opportunity for redevelopment into a new classroom and office building that is space-optimized to accept new occupants.

Optimized and compressed classroom and office space will allow for densified occupancy leading to consolidation opportunities of other buildings with worse building condition and utilization.

Modernizing classrooms is paramount to meeting the needs of today's teaching pedagogy. As a result, classroom utilization will be improved as right-sized classrooms for today's lectures and seminars will become available compared to outdated classrooms that are either too large or too small to serve their intended purpose.

### IAMS/SOS Alignment

- Consolidation opportunity of other classroom and office space into optimized and modern buildings.
- Compressed and optimized classroom and office space are useful given that these two categories are noted as having considerable excess.
- Reduce five-year deferred maintenance liabilities by \$2 million (2022).



# 6

## South Academic Building Retrofill

Total project cost

\$30M

1–2 years

### Project Scope

As the various office and administrative offices move into University Commons, portions of the South Academic Building (SAB) can be redeveloped into modernized, purpose-built space that supports the backfill space necessary to realize the objectives of the Space Optimization Strategy.

In particular, SAB houses several laboratory spaces, and the ability to create decant laboratory space is critical to the Space Optimization Strategy's initiatives to modernize and right-size laboratory space.

### IAMS/SOS Alignment

- Retrofill and space optimization of Levels 1 to 3 will create additional backfill space necessary for SOS initiatives to take place.
- Reduce five-year deferred maintenance liabilities by \$200,000 (2022).



# 7

## Chemistry East Teaching Lab Renewals

Total project cost

\$50M

1–2 years

### Project Scope

A multi-year series of projects has seen the full renewal of the base building systems and the research labs in Chemistry West. To fulfill the vision, the teaching labs of Chemistry East are next.

Redeveloped floor plates will allow for more densified lab spaces resulting in an overall increase in available teaching labs to support additional student population growth. Additionally, renewed lab spaces will be modern, reliable, and will improve teaching outcomes.

### IAMS/SOS Alignment

- Significant compression and optimization of high-cost laboratory space, which is the category with the most excess space.
- Reduce five-year deferred maintenance liabilities by \$1 million (2022).



## Animal Research Lab Renewals

Total project cost

\$7.2M

1 year

### Project Scope

Several animal research laboratories require modernization to maintain compliance with national animal research requirements and to ensure continued robust research outcomes. Although this also provides an opportunity to densify and optimize these labs' design and location, ensuring compliance is the principal driver.

- The Canadian Council on Animal Care (CCAC) is the national peer-review organization responsible for setting, maintaining, and overseeing the implementation of high standards for animal ethics and care in science throughout Canada. Ensuring the university remains compliant with CCAC standards is crucial in achieving our research outcomes and to protect the university's reputation.

### IAMS/SOS Alignment

- Renewed labs will be compressed and right-sized as appropriate, and will be consolidated to a common, more appropriate location.
- Reduce 5-year deferred maintenance liabilities by \$100,000 (2022).





## Fine Arts Studio Space Consolidation and Renewal

Total project cost

\$30M

2–3 years

### Project Scope

This project would see the optimization and modest expansion of the Fine Arts Building (FAB) to consolidate the fine arts research studio and workshop space from across North Campus. By creating modern, well-ventilated, and optimized space in FAB, spaces in several buildings (e.g. Industrial Design Studio, Varsity Trailers, North Power Plant and HUB Mall) could be vacated for future considerations.

### IAMS/SOS Alignment

- Optimized and consolidated space on North Campus.
- In particular, the space in HUB Mall has inherent potential to generate external revenue to support its own operation.
- Reduce five-year deferred maintenance liabilities by \$2.4 million, assuming the removal of Industrial Design Studio (2022).



The university has one additional priority project as it is as much a priority for the citizens of Alberta as it is for the institution. The Universiade Pavilion, also known as the Butterdome, has been used to provide emergency support to wildfire evacuees as well as to Alberta Health Services for enduring periods of Alberta's COVID-19 pandemic response.

## Universiade Pavilion (Butterdome) Building Envelope Renewal

Total project cost

\$22M

1–2 years

### Project Scope

The Universiade Pavilion has supported many large-scale initiatives, at times at the request of the Government of Alberta. The building has been called into service to support Alberta's pandemic response and to serve populations impacted by natural disasters. Additionally, as the largest and most versatile building of its nature in the region, it has become the natural location for a wide array of community-based events.

The building envelope has been failing for years and its degradation continues. It is tremendously inefficient from an energy-efficiency perspective and its very design creates a hazard in the winter with ice accumulations falling onto pedestrian walkways.

### IAMS/SOS Alignment

- This project is our provincial priority project as the Universiade Pavilion has become a significant part of emergency response situations for Northern Alberta.
- Reduce 5-year deferred maintenance liabilities by \$2.1 million (2022).



The following table provides a summary of the university's priority projects and projected annual funding requirements.

(\$ million)

Priority	Project	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
1	Biological Sciences	75	75	85	85	90	90	500
2	Education	65	59					124
3	Medical Sciences	40	42	40	40			162
4	Central Academic Building	20	10					30
5	Computing Sciences	40	35	15				90
6	South Academic Building	20	10					30
7	Chemistry East	30	20					50
8	Animal Laboratories	7.2						7.2
9	Fine Arts Studios	1.5	10					30
*	Universiade Pavilion	12	10					22

## Appendix 2

# University Buildings - Current and Exploratory Initiatives

University of Alberta campuses are often ever-changing, adapting as the research, teaching, and learning needs evolve. In alignment with the university's Integrated Asset Management Strategy (IAMS), all university land and building assets are continuously evaluated to assess the degree to which they are capable of serving the teaching, research, and service mission of the institution. With over 480 buildings on five campuses - buildings ranging from simple offices to complex research facilities - it is critical that investments are made in support of continued excellence in education and research.

Every campus building that is approaching end-of-life is assessed as to whether it is reasonably capable of supporting the learning and/or research mandate of the university. Acknowledging that every building is unique as is its need for maintenance, repairs, and renewals, an iterative yet still robust decision-making process guides the university in determining whether a building is suitable for further investment or whether our limited financial resources would achieve more if invested in higher potential buildings. Both financial and environmental sustainability are important consideration factors if the building is determined to no longer fully support the academic and/or research needs of the institution.

With this in mind and in the context of a concerted effort of the university to achieve its goal of reducing its overall building footprint, several buildings have been identified for partnerships, closures, and in some instances disposition and/or demolition. These plans are at various stages for the buildings, with some having firm plans underway and others continuing to be in the exploration stage. The exploration stage can take three to five years to move into having firm plans in place, but in the spirit of transparency, all buildings are identified in this Capital Plan. The thirteen buildings identified below fall into categories of: 1) Initiatives Underway; and 2) Exploratory Initiatives.

## Initiatives Underway

### Administrative Building

- Annual operating and maintenance costs - \$150,885
- Five-year deferred maintenance liability - \$2.23 million

## **East Campus Village Houses (6)**

- Annual operating and maintenance costs - \$N/A
- Five-year deferred maintenance liability - \$725,000
- Purpose-built as single-family homes. They have been used for a variety of purposes, ranging from space for professors emeriti, to fraternity use, to university social groups, etc. Each of the homes is functionally incapable of supporting academic or research needs and have significant maintenance needs, making them unsustainable for the university to retain.
- In a purchase agreement that included the ring houses, two homes were also purchased by Primavera Development Group for relocation and one further home was purchased by a fraternity group for relocation. The remaining three homes will be taken down in the summer of 2022.

## **Human Ecology Building**

- Annual operating and maintenance costs - \$400,913
- Five year deferred maintenance liability - \$5.42 million
- The Human Ecology Building is partially vacant, with high-service labs remaining only until a suitable alternate location is found.
- The building houses a textile research collection in less-than-ideal preservation space given the building's ongoing infrastructure issues such as intermittent flooding.

## **Research Transition Facility**

- Annual operating and maintenance costs - \$774,150
- Five-year deferred maintenance liability - \$10.5 million
- The building was originally constructed as a nurses residence and has been altered over many years. It has poor functionality for modern needs, safety and security concerns, and significant deferred maintenance and operating cost liability.
- The building is only partially occupied and plans to relocate the remaining occupants are underway. The goal is to vacate it by 2024, though efforts are being made to fast-track that timeline.
- The majority of remaining occupants are with the Faculty of Medicine and Dentistry and they will be relocated to existing health sciences buildings which takes time to create space for these users.

## **Ring Houses (4)**

- Annual operating and maintenance costs - \$150,885
- Five-year deferred maintenance liability - \$2.23 million
- Purpose-built as single-family homes. Functionally, they are incapable of supporting the university's teaching and research mission and ongoing costs needed to make and keep them safe are unsustainable.

# Exploratory Initiatives

## Cameron Library

- Annual operating and maintenance costs - \$1.1 million
- Five-year deferred maintenance liability - \$23.9 million + \$24 million (failing building envelope)
- Cameron Library is a mixed-use building including the Centre for Teaching and Learning, Technology Training Centre, Library executive offices, stacks housing collections, student study, Digital Initiatives, and the Digital Scholarship. Working together with each of the stakeholders, each function would be relocated to alternate optimized locations that continue to serve students and staff.
- Given the building's condition, and particularly the failing building envelope, the relocation of these activities to other spaces is preferable over significant investment.

## Clinical Sciences Building

- Annual operating and maintenance costs - \$2.1 million
- Five-year deferred maintenance liability - \$25.5 million
- This building is uniquely situated adjacent to the Walter C. Mackenzie Health Sciences Centre and its primary occupants are a blend of U of A and Alberta Health Services employees.
- Through other space consolidation initiatives, the university occupants could be appropriately re-located in existing health precinct buildings on North Campus, enabling the building to be available to AHS. Joint appointments between both organizations will require flexibility with the space, therefore requiring a focus on engagement between both organizations in this exploratory phase.

## Earth Sciences Building

- Annual operating and maintenance costs - \$1.46 million
- Five-year deferred maintenance liability - \$29.8 million
- Houses high service labs and research collections for geological and land research.
- A master planning study would need to be employed to understand the value and potential for this structure and alternate possibilities.
- For what is a relatively small building, its operating costs and deferred maintenance liabilities are very high, making it a candidate for review.

## Humanities Building

- Annual operating and maintenance costs - \$944,255
- Five-year deferred maintenance liability - \$16.4 million
- The Humanities Centre Building has been problematic to occupants with concerns ranging from temperature control, and exposed asbestos, to maintenance issues. A space and occupancy plan endeavours to bring the Faculty of Arts into more co-located and consolidated spaces (currently spread over nine buildings), resulting in the eventual decanting of the building.
- Classrooms that are still used would need to be scheduled in alternate locations. The Office of the Registrar is currently assessing ways to entice faculties to use the full teaching window rather than only primetime hours. The system requires right-sized classrooms that reflect current pedagogy and the future Humanities classroom replacement would be part of that assessment.
- The university has explored partnerships with the K-12 education sector for use of the building via a lease agreement. No plans are currently in place.

Other buildings that are currently being programmed for densification and to support our core teaching and research mission include University Commons, with subsequent backfill work being conducted in the South Academic Building, Central Academic Building, and Athabasca Hall.

Building	Operating Cost (\$/Year)	Deferred Maintenance Liability				Proposed Use
		Current (\$000)	5-Year (\$000)	10-Year (\$000)	20-Year (\$000)	
<b>Initiatives Underway</b>						
Administration	563,313	2,400	7,900	8,000	8,400	Removal
ECV Houses (6)	N/A	705	725	725	725	Removal
Human Ecology	400,913	1,070	5,420	6,880	7,740	Removal
Research Transition Facility	774,150	8,030	10,470	11,880	14,770	Removal or Partnerships
Ring Houses	150,885	1,130	2,230	2,430	2,540	Removal
<b>Exploratory Initiatives</b>						
Cameron Library	1,110,000	14,610	23,890	24,420	29,890	Removal/Repurpose
Clinical Sciences	2,131,000	15,610	25,460	26,350	28,000	Partnerships
Earth Sciences	1,458,000	44	29,810	34,320	37,370	Modernize
Humanities Centre	944,255	7,900	16,400	17,520	20,570	Partnerships
<b>Total</b>	<b>7,352,516</b>	<b>51,329</b>	<b>122,305</b>	<b>132,525</b>	<b>150,005</b>	

## Appendix 3

# Capital Budget

The following projects are reflected in the 2022-23 capital budget and overall institutional consolidated budget.

Project	2022–23 Budget (\$000's)	2023–24 Projection (\$000's)	2024–25 Projection (\$000's)
Dentistry Pharmacy renewal and repurpose	48,971	39,732	-
Biological Sciences - Zoology Wing	8,500	7,200	180
UA District Energy System	6,228	976	-
Lister Centre Classic Towers - Kelsey Hall	5,123	-	-
CAB Renovation (East)	3,850	-	-
Morrison Structures Lab	3,747	-	-
Health Science Infrastructure Optimization	3,741	1,000	-
Diwan Pavilion	2,370	-	-
HUB Mall Phases 7, 8 and 9	2,000	4,750	-
Lister Centre Classic Towers - Henday Hall	1,134	-	-
<b>Subtotal</b>	<b>85,664</b>	<b>53,658</b>	<b>180</b>
Other capital projects	18,439	1,800	41,250
CMR capital	29,803	4,634	14,904
<b>Total tangible capital acquisitions</b>	<b>133,906</b>	<b>60,092</b>	<b>56,334</b>



Project	2022–23 Budget (\$000's)	2023–24 Projection (\$000's)	2024–25 Projection (\$000's)
Biological Sciences - Aquatics Lab Z-023	48,971	39,732	-
Construction of North Tower CME core and shell. (ICE) Innovation Centre Engineering	8,500	7,200	180
UABG Islamic Garden	6,228	976	-
ECERF/ETLC smart-grid solar photovoltaic and storage technology pilot and demonstration	5,123	-	-
Energy management renovations	3,850	-	-
Envision Year 3	3,747	-	-
Envision Year 3	3,741	1,000	-
Envision Year 4	2,370	-	-
Envision Year 4	2,000	4,750	-
Envision Year 4	1,134	-	-
Infrastructure Optimization	85,664	53,658	180
Lister Community Plan	18,439	1,800	41,250
Lister Dining Hall	29,803	4,634	14,904
NREF renewal and renovation (Level 3 and 4)	133,906	60,092	56,334
Project Management for UABG Islamic Garden	2,000	4,750	-
Replacement of obsolete and failed HVAC system	1,134	-	-
Replacement of obsolete and failed make up air units	85,664	53,658	180
Replacement of obsolete and failed make up air units	18,439	1,800	41,250
Replacement of obsolete and failed unit heaters	29,803	4,634	14,904
Schaffer elevator modernization	133,906	60,092	56,334
Science infrastructure optimization	1,509.3	-	-

<b>Project</b>	<b>2022–23 Budget (\$000's)</b>	<b>2023–24 Projection (\$000's)</b>	<b>2024–25 Projection (\$000's)</b>
Strategic Infrastructure Fund - ECERF (2 & 7)	48,971	39,732	-
School of Business student collaboration space	8,500	7,200	180
South Campus Arena	6,228	976	-
South Campus Greenhouse	5,123	-	-
South Campus infrastructure development	3,850	-	-
Tory Tower mechanical upgrade	3,747	-	-

## CRM Capital Projects Listing

Project	2022-23 Budget (\$000's)	2023-24 Projection (\$000's)	2024-25 Projection (\$000's)
ACC VFD replacement/ Heating Plant VFD MC13	125	-	-
AgForestry LV breaker replacement	250	-	-
Athabasca Hall electrical upgrade	797.1	-	-
Biological Sciences elevator 92 and 96 modernization	725	146.9	-
Boiler #4 burner management system and combustion equipment	1,500	-	-
Breaker replacement	375	-	-
Cameron Library elevator 39, 40 and 42 modernization	800	123.4	-
Cameron Library roof repairs/replacement	-	-	1,200
Chem Mat elevator replacement	39.3	-	-
ChemEast exhaust upgrade to North Wing	2,950	-	-
Chemistry Centre - east roof repair/replacement	-	-	1,000
ChemWest array air fan and water plant upgrade	3,800	-	-
Computing Science - replacement of high voltage distribution buildings	1,444.6	-	-
Education electrical distribution upgrade	1,697.6	-	-
F4 Poultry Building roof repairs/replacement	400	-	-
HP DG control replacement	1,875	-	-
HP TX2 replacement	-	386	-
Katz roof repair/replacement	-	-	2,000
Li Ka Shing roof repairs/replacement	-	-	1,100

<b>Project</b>	<b>2022–23 Budget (\$000's)</b>	<b>2023–24 Projection (\$000's)</b>	<b>2024–25 Projection (\$000's)</b>
National Institute of Nanotechnology roof repairs/ replacement	-	-	1,400
Replace breakers	300	-	-
Replacement of essential elevator	-	10	540
Replacement of essential elevator	-	10	540
Replacement of supply air handling units	2,300	-	-
Retrofit supply ventilation	-	500	3,750
Roofing repairs/replacement	1,300	-	-
SUB New electrical vault	5,600	318.8	-
University Terrace elevator modernization	650	265	-
Utilities-wide medium voltage cable replacement program	-	-	500
WS06 CP river water intake repair	2,873.6	2,873.6	2,873.6





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