#### Board of Governors PENSION & BENEFITS COMMITTEE Friday 11 March 2022 9:30 a.m. to 12:00 noon

#### This meeting will be held via Microsoft Teams

Non-members may arrange to join the open session of the electronic meeting by contacting Diana Goncalves, <u>d3goncalves@uwaterloo.ca</u>

| OPEN | SESSION |
|------|---------|
|      |         |

| 9:30  | 1.        | Approval of the 18 February 2022 Minutes (Open Session)* and Business Arising   | Decision   |
|-------|-----------|---|--|
| 9:35  | 2.        | Execution Against the Work Plan* [Grivicic]   | Information  |
| 9:40  | 3.        | Update on Government Pension Plan Initiatives [Aon]   | Information  |
| 9:45  | 4.        | Actuarial Valuations (RPP and PPP) and Review of Caps* [Aon]  | Discussion/Decision  |
| 10:15 | 5.        | <ul> <li>Group Benefits Program – Annual Renewal* [Joan Kennedy]</li> <li>a. Life Insurance – Premium Rate</li> <li>b. Long Term Disability <ol> <li>Premium Rate</li> <li>Premium Rate</li> <li>Maximum Insured Salary (Indexing)</li> </ol> </li> <li>c. Healthcare Benefits – ASO Fees/Charges</li> <li>d. Healthcare Benefits - Budget Rates</li> </ul> | Decision<br>Information<br>Decision<br>Information<br>Decision |
| 10:30 | 6.        | Report from Pension Investment Committee* [Sheryl Kennedy]<br>a. Responsible Investment Policy, Fund Implementation Procedures*   | Decision   |
|       | 7.        | Other Business<br>a. Committee Self-Assessment – sent via email with agenda   | Completion   |
|       |           | CONFIDENTIAL SESSION  |  |
|       | 8.        | Report from the Pension Investment Committee [Kennedy]<br>a. Infrastructure Investment: Recommendation+   | Information<br>Decision  |
|       | 9.        | Approval of the 18 February 2022 Minutes (Confidential Session)+ and Business Arising   | Decision   |
|       | 10.       | Request – Seeking Update/Clarification on Benefit Eligibility for Staff Who Are on Temporary Appointment with Extensions+ (Hua)   | Discussion   |
|       | <u>Ne</u> | ext Meeting: Friday 20 May 2022, 9:30 a.m. – 12:00 noon   |  |

\*attached \*\* to be distributed + distributed separately

8 March 2022

Mike Grivicic Associate University Secretary

ACTION

#### Please convey regrets to Diana Goncalves at <u>d3goncalves@uwaterloo.ca</u>

#### Future Agenda Items

- a. Pension Contribution for Members on LTD
- b. Level of LTD coverage vs. practical requirements
- c. EFAP Report Data Requirements
- d. Presentation re: the UPP
- e. Communication Plan re: Handling of Member Questions/Feedback
- f. Policy 23/59 Update

#### University of Waterloo Board of Governors PENSION & BENEFITS COMMITTEE Minutes of the 18 February 2022 Meeting [in agenda order]

**Present:** Peter Barr, Sara Cressman, Tony Giovinazzo, Lily Hua, Dennis Huber, Ranjini Jha, David Saunders, David Taylor, Marilyn Thompson, Ken Vetzal, Rebecca Wickens (secretary)

Regrets: Terrence Birmingham, James Rush

Guests/Resources: Anata Alphonso, Linda Byron, Diana Goncalves, Sarah Hadley, Lee Hornberger, Joan Kennedy, Ally Knepper-Woods, Allan Shapira, Michelle St-Amour, Chelsea St-Hill

**Organization of Meeting**: Peter Barr took the chair, and Rebecca Wickens acted as secretary. The secretary advised that a quorum was present. The agenda was accepted as distributed.

## **OPEN SESSION**

**1. APPROVAL OF THE 14 JANUARY 2022 MINUTES (OPEN SESSION) AND BUSINESS ARISING** There was a motion to approve the minutes as distributed. Giovinazzo and Jha. Carried.

**Future presentation on the University Pension Plan (UPP).** Members indicated interest in the following: retirement trends across the university sector and other data collected by the UPP that could provide information on trends particular to the sector; investment strategies and approach to responsible investing; having the session jointly with the Pension Investment Committee. Members heard: the UPP is gathering feedback on its draft policies, which are posted online; they may be a source of sector data in the future, but not at this stage in their operations; the UPP team is giving presentations to Boards and groups of university administrators on the organization, administration and value proposition; given members' expressed interests, a presentation later in the year may be more feasible. Staff agreed to take this away and come back with a proposal to a later meeting. Aon offered to do a presentation on sector trends related to retirement, if the committee is interested.

## 2. EXECUTION AGAINST THE WORK PLAN

This item was received for information.

## **3. UPDATE ON GOVERNMENT PENSION PLAN INITIATIVES**

There was nothing new to report under this item.

## 4. PENSION RISK MANAGEMENT DASHBOARD Q4

Byron took members through the dashboard, highlighting: the plan is in a surplus position on a going concern and solvency basis as of 31 December 2021; investment returns have had a positive impact; the risk-free deficit increased because of bond yields; the risk premium has increased; there are no compliance or funding issues. Aon noted that the scale for the funded status graph on p.7 needs to be changed – an updated chart will be provided. Discussion included: the transfer ratio – what is a good target (70-75%); the graphs on p. 13 – whether a wider range or different scale is necessary (Aon will consider and come back to the committee).

## **5. ANNUAL ADJUSTMENTS**

**COLA for Pensions in Pay.** McGrath took members through the calculation of the cost of living adjustment, indicated that it is 3.40%, and reported the impact for pensions in pay as of 1 May 2022. Members received the report for information.

**COLA for Deferred Pensions.** McGrath reminded members of decision required and informing principles, and took members through the recommendation and its impact. There was a motion to apply the COLA to deferred pensions as outlined in the report, effective 1 May 2022. Jha and Huber. Carried.

**Pensionable Earnings for Members on LTD.** McGrath reminded members: pensionable earnings can be adjusted annually for members on long-term disability, subject to approval of the committee; the committee takes into account factors such as the COLA for pensions in pay and salary increases for active faculty and staff. Members

heard that salary increases for active employees are limited to 1% per annum. There was a motion to increase pensionable earnings for members on long-term disability by 1%, effective 1 May 2022. Giovinazzo and Huber. Carried.

## 6. INVESTMENT STATUS OF THE PAYROLL PENSION PLAN

Hadley reminded members of the nature of the payroll pension plan, and provided a break down of the asset mix and an update on the performance of the payroll pension plan assets for the year ended 31 December 2021. Members received the report for information.

## 7. ANNUAL REPORT TO THE COMMUNITY

Wickens spoke to the history behind the report, updates made from the 2020 report, and feedback already received regarding corrections to be made and timing. Discussion included: timing for the report and whether its publication should follow shortly after the presentation of the actuarial valuation results; the contents and whether they are useful to the community; whether the committee should look at alternative communication plans for significant and ongoing items of business. Members commented: some of the items simply report that the committee is fulfilling its workplan, while others are so technical in nature that few will be interested; it is helpful having all the major committee business summarized in one document for reference and the benefit of new committee members/interested community members; if we add a line requesting feedback on the bottom of the document, then the community members can tell us what they would like to see. The secretary agreed to update the document with the feedback provided.

#### NEXT MEETING

The next regular meeting is scheduled for Friday 11 March 2022, 9:30 a.m. - 12:00 noon.

19 February 2022

Rebecca M. Wickens Associate University Secretary

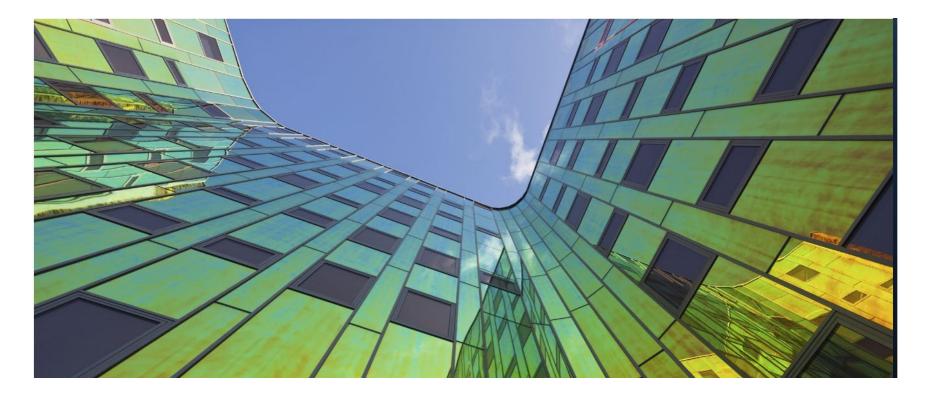
## Execution against Work Plan

## Pension & Benefits Committee, Board of Governors, University of Waterloo

The below represents the annual responsibilities of the P&B Committee and has been prepared as an aid to planning only. The committee's activities are much broader, however, and include: legislative changes, plan changes and improvements; selection of managers and service providers; and requests from the UW community regarding pension and benefits plans.

| Task  | Frequency<br>(Target<br>month) | 12 Mar<br>2021 | 14 May<br>2021 | 18 June<br>2021 | 10 Sept<br>2021 | 22 Oct<br>2021 | 19 Nov<br>2021 | 10 Dec<br>2021 | 14 Jan<br>2022 | 18 Feb<br>2022 | 11 Mar<br>2022 |
|---|--------------------------------|----------------|----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Approval of Actuarial Valuation Assumptions                               | Annual (Jan)                   |                |                |                 |                 |                |                |                | $\checkmark$   |                |                |
| Investment Status of PPP  | Annual (Feb)                   |                |                |                 |                 |                |                |                |                | $\checkmark$   |                |
| Cost-of-living Increase for Pensioners                                    | Annual (Feb)                   |                |                |                 |                 |                |                |                |                | $\checkmark$   |                |
| Pensions for Deferred Members   | Annual (Feb)                   |                |                |                 |                 |                |                |                |                | $\checkmark$   |                |
| Salaries for Pension Purposes for Individuals on Long-term Disability     | Annual (Feb)                   |                |                |                 |                 |                |                |                |                | $\checkmark$   |                |
| Actuarial Valuations (RPP and PPP), with posting to website once approved | Annual (Mar)                   | ~              |                |                 |                 |                |                |                |                |                | ~              |
| Review of Contribution and Protocol Caps<br>(RPP and PPP)                 | Annual (Mar)                   | ~              |                |                 |                 |                |                |                |                |                | ~              |
| Benefits Plan Premium Renewals  | Annual (Mar)                   | $\checkmark$   |                |                 |                 |                |                |                |                |                | $\checkmark$   |
| Indexing of Long-term Disability Plan Benefits and Maxima                 | Annual (Mar)                   | ~              |                |                 |                 |                |                |                |                |                | ~              |
| Annual Committee Self-Assessment  | Annual (Mar)                   | $\checkmark$   |                |                 |                 |                |                |                |                |                | $\checkmark$   |
| Budget Overview   | Annual (May)                   |                | $\checkmark$   |                 |                 |                |                |                |                |                |                |
| Previous Years' Fees and Expenses   | Annual (May)                   |                | $\checkmark$   |                 |                 |                |                |                |                |                |                |
| Annual Audit of the Pension Plan Fund Financial Statements                | Annual (May)                   |                | ~              |                 |                 |                |                |                |                |                |                |

| Task  | Frequency     | 12 Mar<br>2021 | 14 May<br>2021 | 18 June<br>2021 | 10 Sept<br>2021 | 22 Oct<br>2021 | 19 Nov<br>2021 | 10 Dec<br>2021 | 14 Jan<br>2022 | 18 Feb<br>2022 | 11 Mar<br>2022 |
|---|---------------|----------------|----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Benefits Utilization Report   | Annual (June) |                |                | $\checkmark$    |                 |                |                |                |                |                |                |
| Annual review re: benefits added/removed from insured plans in the market                       | Annual (June) |                |                | $\checkmark$    |                 |                |                |                |                |                |                |
| Review of Committee Terms of Reference  | Annual (June) |                |                | $\checkmark$    |                 |                |                |                |                |                |                |
| Indexing of Plan Maxima – Health, Dental,<br>Retiree Life Insurance                             | Annual (Nov)  |                |                |                 |                 |                | $\checkmark$   |                |                |                |                |
| Employee and Family Assistance Program – report on utilization                                  | Annual (Nov)  |                |                |                 |                 |                | $\checkmark$   |                |                |                |                |
| Maximum pension limits and caps adjustments,<br>based on average industrial wage increase (AIW) | Annual (Dec)  |                |                |                 |                 |                |                | $\checkmark$   |                |                |                |
| Total Fund Overview   | Quarterly     | $\checkmark$   |                | $\checkmark$    | $\checkmark$    |                |                | $\checkmark$   |                |                |                |
| Investment Manager Review   | Semi-annually |                |                |                 |                 |                |                | $\checkmark$   |                |                |                |
| Approval of the Statement of Investment Policies<br>and Procedures (SIPP)                       | Annual        |                |                |                 |                 |                |                | $\checkmark$   |                |                |                |
| Annual Report to the Community  | Annual        |                |                |                 |                 |                |                |                |                | $\checkmark$   |                |
| Actuarial Filing - Minimum every three years<br>Most recent filings: 2017, 2018, 2020, 2021     |               |                |                | <u>.</u>        |                 |                |                |                | <u>.</u>       |                |                |



# Actuarial Valuation Results as of December 31, 2021/ January 1, 2022

Pension & Benefits Committee Meeting on March 11, 2022 Posted With Permission of Aon

**Prepared by Retirement Solutions** 



Presentation to University of Waterloo

## **Table of Contents**

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- Assets
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- Solvency and Wind Up Valuation Results
- Payroll Pension Plan Calculations
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# Background



## **Understanding the Actuarial Process**

- Ultimate cost of Pension Plan equals the sum of benefits paid
- Cost is funded by University and member contributions and investment earnings, net of expenses
- Actuarial process from a funding perspective:
  - Using actuarial estimates to make periodic funding contributions in a systematic manner to meet the ultimate cost



## Understanding the Actuarial Process (Cont'd)

Elements of an actuarial valuation:

| Pension Plan:          | Contractually promises to pay benefits defined by the plan formula(s) on retirement, death, disability and termination  |
|------------------------|---|
| Plan Members:          | Current employees, retirees and beneficiaries in this group will<br>be or are entitled to the benefits promised by the plan. Specific<br>data is gathered and validated for all members |
| Actuarial Assumptions: | Actuary uses these to estimate who will receive a benefit, what<br>the amount of benefit will be, when the benefit will start, and<br>how long it will be paid                          |
| Actuarial Cost Method: | Used to allocate the cost of the estimated benefits (determined using the member data and actuarial assumptions) to various time periods  |



## Actuarial Assumptions for Going Concern Valuation

| Assumptions to Estimate:  |  |  |   |  |  |  |  |  |
|---|--|--|---|--|--|--|--|--|
| When Pension  | Amount of  | How Long   | How Much  |  |  |  |  |  |
| Benefits  | Pension  | Pension Benefits                                       | Money   |  |  |  |  |  |
| Are Payable   | Benefits Payable   | are Payable  | to Set Aside  |  |  |  |  |  |
| <ul> <li>Termination Rates</li> <li>Disability Rates</li> <li>Preretirement Mortality<br/>Rates</li> <li>Retirement Ages</li> </ul> | <ul> <li>Increases in CPP Wage<br/>Base</li> <li>Increases in ITA<br/>Maximum Pension</li> <li>Increases in Salaries</li> <li>Inflation</li> </ul> | <ul> <li>Postretirement Mortality<br/>Rates</li> </ul> | <ul> <li>Investment Return on<br/>Pension Fund</li> </ul> |  |  |  |  |  |
| Demographic   | Economic   | Demographic  | Economic  |  |  |  |  |  |
| Assumptions   | Assumptions  | Assumptions  | Assumptions   |  |  |  |  |  |



## Pension Liability/Asset Relationship

| Growth in Liabilities From Year to Year   | Growth in Assets From Year to Year                         |
|---|--|
| Liabilities at beginning of year<br>(representing discounted present value of<br>pension benefits earned in respect of service<br>up to the valuation date) | Value of pension fund assets at beginning of year          |
| Plus  | Plus   |
| Interest on liabilities at rate used to<br>discount the liabilities   | Rate of return on pension fund assets                      |
| Plus  | Plus   |
| New liability for benefits earned by members<br>in the year (current service) and<br>increase/(decrease) in liability from<br>experience losses/(gains)     | Contributions made by members<br>and University            |
| Less  | Less   |
| Pension payments and lump-sum transfers   | Pension payments, lump-sum transfers,<br>fees and expenses |





# Highlights



# Highlights of December 31, 2021/ January 1, 2022 Valuation Results

- This material includes the going concern valuation results for the Registered Pension Plan (RPP) and the Payroll Pension Plan (PPP), as well as the solvency and hypothetical wind up valuation results for the RPP, at December 31, 2021
- Because of a change in policy regarding the calculation of Pension Benefits Guarantee Fund (PBGF) premiums, Aon recommends a change in valuation date from January 1, 2022 to December 31, 2021
  - This change has no impact on the University or member funding requirements but reduces the estimated PBGF premium that would be due September 30, 2022 by approximately \$3 million
- The going concern results have been determined using the set of assumptions discussed with the Pension & Benefits Committee on January 14, 2022; the solvency and wind up results are based on the December 31, 2021 prescribed assumptions
  - The solvency and hypothetical wind up liabilities are modestly lower on December 31, 2021 than on January 1, 2022 due to higher interest rates used for commuted values in December compared to January
- While not required to be filed, it is expected that this actuarial valuation of the RPP will be filed with the pension regulators (the Financial Services Regulatory Authority (FSRA) and Canada Revenue Agency (CRA))



# Highlights of December 31, 2021/ January 1, 2022 Valuation Results

 The impact of the following change to required member contributions is reflected in the current service cost:

| Date        | On Pensionable Earnings<br>Up to YMPE | On Pensionable Earnings<br>Above YMPE |
|-------------|---------------------------------------|---------------------------------------|
| May 1, 2021 | 7.40%                                 | 10.60%                                |
| May 1, 2022 | 7.80%                                 | 11.20%                                |



# Highlights of December 31, 2021/ January 1, 2022 Valuation Results

- At January 1, 2022, the *Income Tax Act* (ITA) maximum pension is \$3,420.00 per year of service
- No further benefits will accrue to active members in the PPP as the ITA maximum pension now exceeds the PPP Cap of \$3,400.00 per year of service
  - Certain benefits for inactive members will continue to be paid from the PPP
- The current RPP hard dollar cap is \$3,460.21 at January 1, 2022 and increases each year by 1/3 of the increase in the Average Industrial Wage (AIW)
  - It is anticipated the ITA maximum pension would overtake the RPP hard dollar cap in 2023 in the absence of any changes to the hard dollar cap
  - Aon has modelled an increase in the RPP hard dollar cap to \$4,000 at January 1, 2023 with an annual increase thereafter at 1/3 of the increase in the AIW
  - The protocol calculation also shows the impact of allowing the hard dollar cap to increase at ½ of the increase or the full increase in the AIW (effectively removing the hard dollar cap)



## Change in Valuation Date to December 31, 2021

- On September 30<sup>th</sup> of each year, the University pays a premium to the PBGF based on the solvency position of the pension plan
- The premium is risk-based and determined based on the size of the solvency liabilities and any solvency deficit
- In 2021, the University paid approximately \$3.5 million to the PBGF (an increase from \$2.0 million in 2020)
- Prior to 2022, the PBGF premium was determined using the most current valuation on file with the regulator prior to the Assessment Date (September 30<sup>th</sup> of each calendar year for the University of Waterloo Pension Plan)
  - For 2021 this means the January 1, 2021 valuation was used to determine the September 30, 2021 PBGF Assessment and contributed to the increase in premium over 2020
- On February 14, 2022 FSRA announced a change in policy regarding the calculation of PBGF premiums



## Change in Valuation Date to December 31, 2021

- FSRA will now require that the PBGF premium be determined using a valuation on file with an effective date no later than the last day of the Plan's fiscal year prior to the Assessment Date (the Plan's fiscal year is January 1 to December 31)
  - This means the September 30, 2022 PBGF assessment will be based on a valuation with a date no later than December 31, 2021
  - The solvency position of the RPP at January 1, 2022 has improved significantly since January 1, 2021 and would result in a decrease of approximately \$3.0 million in the PBGF premium
  - In previous years this would be recognized at September 30, 2022
  - Under the new policy, the January 1, 2022 improved position would not be reflected until September 30, 2023
  - Changing the valuation date to December 31, 2021 will allow the University to use this valuation for the purposes of determining the PBGF premium at September 30, 2022
  - There is no impact on the going concern assumptions or results or contribution requirements
  - The solvency and hypothetical wind-up valuations will reflect the December commuted value interest rates; there is no impact on the other solvency or hypothetical wind-up valuation assumptions





# Demographics



## Plan Members – Demographics

|   | <br>January 1, 2021 | J  | anuary 1, 2022 |
|---|---------------------|----|----------------|
| Active Members (Including Leaves)         |                     |    |                |
| Number                                    | 4,905               |    | 4,851          |
| Average age                               | 47.1                |    | 46.9           |
| Average years of credited service         | 10.2                |    | 10.3           |
| Average pensionable earnings <sup>1</sup> | \$<br>105,460       | \$ | 106,874        |
| Total pensionable earnings <sup>1</sup>   | \$<br>517,281,000   | \$ | 518,446,000    |
| LTD Members                               |                     |    |                |
| Number                                    | 104                 |    | 102            |
| Average age                               | 55.5                |    | 56.8           |
| Average years of credited service         | 17.7                |    | 18.0           |
| Average pensionable earnings <sup>1</sup> | \$<br>68,518        | \$ | 70,222         |
| Total pensionable earnings <sup>1</sup>   | \$<br>7,126,000     | \$ | 7,163,000      |
| Suspended Members                         |                     |    |                |
| Number                                    | 1                   |    | 1              |
| Average age                               | 33.9                |    | 34.9           |
| Average years of credited service         | 3.1                 |    | 3.1            |



<sup>&</sup>lt;sup>1</sup> Year following valuation date

## Plan Members – Demographics (Cont'd)

|   | January 1, 2021 |                         |    | inuary 1, 2022          |
|---|-----------------|-------------------------|----|-------------------------|
| Pensioners and Survivors                                |                 |                         |    |                         |
| Number  |                 | 2,176                   |    | 2.315                   |
| Average age   |                 | 74.7                    |    | 74.7                    |
| Average annual pension                                  | \$              | 32,149                  | \$ | 32,446                  |
| Total annual pension                                    | \$              | 69,956,000 <sup>1</sup> | \$ | 75,112,000 <sup>1</sup> |
| Deferred Members: Eligible for COLA on All Service      |                 |                         |    |                         |
| Number  |                 | 321                     |    | 331                     |
| Average age   |                 | 58.5                    |    | 58.8                    |
| Average annual pension                                  | \$              | 8,651                   | \$ | 8,676                   |
| Deferred Members: Eligible for COLA on Pre-2008 Service |                 |                         |    |                         |
| Number  |                 | 105                     |    | 101                     |
| Average age   |                 | 46.9                    |    | 47.5                    |
| Average annual pension                                  | \$              | 9,078                   | \$ | 9,772                   |
| Deferred Pensions: Not Eligible for COLA                |                 |                         |    |                         |
| Number  |                 | 204                     |    | 207                     |
| Average age   |                 | 41.4                    |    | 41.6                    |
| Average annual pension                                  | \$              | 4,073                   | \$ | 4,562                   |

<sup>1</sup> Does not reflect increase as of May 1, 2021 or 2022, as applicable





# Assumptions



# Actuarial Assumptions for Going Concern Valuation – Economic Assumptions

| Economic Assumptions  | January 1, 2021  | December 31, 2021 / January 1, 2022   | December 31, 2021 / January 1, 2022<br>Increase in Hard Dollar Cap  |
|---|--|---|---|
| Increase in Consumer Price Index<br>(CPI)                                       | 2.00% per year   | No change   | Same  |
| Increase in Year's Maximum<br>Pensionable Earnings under<br>Canada Pension Plan | 2.75% per year (CPI + 0.75%)   | No change   | Same  |
| Increase in <i>Income Tax Act</i> maximum pension                               | \$3,245.56 in 2021;<br>increased after 2020 at 2.75% per year<br>subject to dollar cap of \$3,400 which<br>increases at 0.92% per year beginning<br>in 2022 <sup>1</sup> | \$3,420.00 in 2022;<br>increased after 2022 at 2.75% per year<br>subject to dollar cap of \$3,460.21 in<br>2022 which increases at 0.92% per year<br>from 2023 <sup>1</sup> | \$3,420.00 in 2022;<br>increased after 2022 at 2.75% per year<br>subject to dollar cap of \$4,000.00 in<br>2023 which increases at 0.92% per<br>year from 2023 <sup>1</sup> |
| Increase in salaries <sup>2</sup>   | 3.00% per year for<br>3 years; 4.00% per year ultimate   | 3.00% per year for 2 years; 4.00% per year ultimate (CPI + 2.00%)   | Same  |
| Increase in salaries (disabled)   | 2.00% per year (CPI + 0.00%)   | No change   | Same  |
| Interest rate used to discount liabilities                                      | 5.30% per year (CPI + 3.30%)   | 5.50% per year (CPI + 3.50%)  | Same  |
| Interest rate used to calculate 50% rule  | 0.60% <sup>3</sup> per year for 10 years;<br>0.80% per year thereafter   | 0.80% <sup>3</sup> per year for 10 years;<br>1.20% per year thereafter  | Same  |
| Interest rate for crediting on<br>required member contributions                 | 2.50% per year   | 2.00% per year  | Same  |
| Loading for administrative expenses   | Explicit assumption of \$1,560,000 in 2021 added to current service cost   | Explicit assumption of \$1,606,000 in 2022 added to current service cost  | Same  |
| Provision for Adverse Deviation<br>(PfAD)                                       | 9.00% of non-indexed liabilities and<br>current service cost   | No change   | Same  |

<sup>&</sup>lt;sup>1</sup> PPP limit of \$3,400

<sup>2</sup> Across the board increases plus grid steps / merit / promotion

<sup>3</sup> 0.80% / 1.30% for 75% indexed benefits in 2021 and 1.20% / 1.70% for 75% indexed benefits in 2022





# Actuarial Assumptions for Going Concern Valuation – Demographic Assumptions

| Demographic Assumptions | January 1, 20 | 21  | December 31, 2021 / January 1, 2022 |
|-------------------------|---------------|---|-------------------------------------|
| Retirement age          | Retirement Ra | ates as follows:  | No change                           |
|                         | Age           | Rates Per 100   |                                     |
|                         | 60            | 5   |                                     |
|                         | 61            | 5   |                                     |
|                         | 62            | 25  |                                     |
|                         | 63            | 10  |                                     |
|                         | 64            | 10  |                                     |
|                         | 65            | 50  |                                     |
|                         | 66            | 25  |                                     |
|                         | 67            | 25  |                                     |
|                         | 68            | 25  |                                     |
|                         | 69            | 50  |                                     |
|                         | 70            | 100   |                                     |
| Mortality rates         |               | n Pensioners Public Table<br>blic") with Improvements under | No change<br>r                      |
| Termination rates       | Age           | Rates Per 100   | No change                           |
|                         | 20            | 10.0  | 5                                   |
|                         | 25            | 10.0  |                                     |
|                         | 30            | 5.6   |                                     |
|                         | 35            | 3.2   |                                     |
|                         | 40            | 2.2   |                                     |
|                         | 45            | 1.7   |                                     |
|                         | 50            | 1.2   |                                     |
|                         | 55            | 0.7   |                                     |
|                         | 60            | 0.2   |                                     |
|                         | 65            | 0.0   |                                     |





## **Assets**



## Reconciliation of Plan Assets (Market Value)

|   | Total           |
|---|-----------------|
| Market Value of Assets, January 1, 2021 (Unadjusted for In-transit items) | \$2,108,218,000 |
| Plus  |                 |
| Member contributions  | \$ 42,618,000   |
| University contributions  | 63,243,000      |
| Flex contributions  | 0               |
| Transfers in from other plans   | 859,000         |
| Investment income   | 264,555,000     |
| Net transfers from other accounts   | 0               |
|   | \$ 371,275,000  |
| Less  |                 |
| Pensions and lump-sum refunds paid  | \$ 86,989,000   |
| Expenses and fees   | 4,851,000       |
|   | \$ 91,840,000   |
| Market Value of Assets, December 31, 2021 (Unaudited)                     | \$2,387,653,000 |
| Rate of return (net of expenses and fees)                                 | 12.26%          |



## **Development of Actuarial Value of Assets**

 The Actuarial Value of Assets is set equal to the Market Value of Assets at that date, net of adjustments for amounts payable/receivable upon receipt of the audited financial statements



## Pension Fund Asset Mix as of December 31, 2021

| Asset Class         | Current Asset Mix | Target Asset Mix(Draft) |  |
|---------------------|-------------------|-------------------------|--|
| Cash and short term | 2%                | 2%                      |  |
| Fixed-income        | 31%               | 25%                     |  |
| Equities            | 58%               | 53%                     |  |
| Infrastructure      | 6%                | 10%                     |  |
| Real estate         | 3%                |                         |  |
| Total               | 100%              | 100%                    |  |





# **Going Concern Valuation Results**



# Going Concern Valuation Results as of December 31, 2021/ January 1, 2022—Registered Pension Plan – Past Service

|   | Ja | anuary 1, 2021          | ember 31, 2021/<br>January 1, 2022<br>ption Changes¹) | January 1, 2022<br>Hard Dollar Cap²) |
|---|----|-------------------------|---|--------------------------------------|
| Past Service                            |    |                         |   |                                      |
| Actuarial (Market) value of assets      | \$ | 2,105,435,000           | \$<br>2,381,963,000                                   | \$<br>2,381,963,000                  |
| Less: Accrued liability                 |    |                         |   |                                      |
| Active members                          | \$ | 1,117,509,000           | \$<br>1,111,551,000                                   | \$<br>1,151,871,000                  |
| Disabled and suspended members          |    | 24,076,000              | 23,839,000  | 23,910,000                           |
| Pensioners and beneficiaries            |    | 840,980,000             | 887,184,000   | 887,184,000                          |
| Deferred vested members                 |    | 46,683,000 <sup>3</sup> | 46,913,000 <sup>4</sup>                               | 46,913,000 <sup>4</sup>              |
| Additional voluntary contribution       |    |                         |   |                                      |
| balances                                |    | 413,000                 | 245,000   | 245,000                              |
| Members flex contribution balances      |    | 811,000                 | 723,000   | 723,000                              |
| Cost of living increase effective May 1 |    | 6,051,000               | <br>29,779,000  | <br>29,779,000                       |
| Total                                   | \$ | 2,036,523,000           | \$<br>2,100,234,000                                   | \$<br>2,140,625,000                  |
| Going concern position                  | \$ | 68,912,000              | \$<br>281,729,000                                     | \$<br>241,338,000                    |
| Provision for Adverse Deviation (PfAD)  |    | (158,269,000)           | <br>(161,472,000)                                     | <br>(164,656,000)                    |
| Funding Excess/(Unfunded Liability)     | \$ | (89,357,000)            | \$<br>120,257,000                                     | \$<br>76,682,000                     |
| Going Concern Funded Ratio (with PfAD)  |    | 96.0%                   | 105.3%  | 103.3%                               |

<sup>&</sup>lt;sup>1</sup> Reflects change in discount rate from 5.30% to 5.50%

<sup>3</sup> Reflects actual indexation as of May 1, 2021 of 0.72% (0.54% for 75% indexed benefits), and expected indexation in following two years

<sup>4</sup> Reflects actual indexation as of May 1, 2022 of 3.40% (2.55% for 75% indexed benefits), and expected indexation in following two years



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<sup>&</sup>lt;sup>2</sup> Reflects increase in Hard Dollar Cap to \$4,000 at January 1, 2023 and increased thereafter at 1/3<sup>rd</sup> of increase in AIW

# Going Concern Valuation Results as of December 31, 2021/ January 1, 2022—Registered Pension Plan – Current Service

|   | January 1, 2021 to Dece  | mber 31, 2021   | Jan     | uary 1, 2022 to D  | ecember 31, 2022  |
|---|--|---|---------|--|---|
|   | %  | of Pensionable  |         | ·  | % of Pensionable  |
|   | \$ Amount  | Earnings  |         | \$ Amount  | Earnings  |
| Current Service   |  |   |         |  |   |
| Total current service cost  | \$ 89,236,000  | 17.02%  | \$      | 85,905,000   | 16.34%  |
| Provision for non-investment expenses   | 1,560,000  | 0.30%   |         | 1,606,000  | 0.31%   |
| PfAD in respect of current service cost   | 7,223,000  | 1.38%   |         | 6,970,000  | 1.33%   |
| Less: Members' required contributions   | (44,027,000)   | <u>(8.40%)<sup>1</sup></u>  |         | <u>(46,353,000)</u>  | <u>(8.82%)</u> 1  |
| University Current Service Cost   | \$ 53,992,000  | 10.30%  | \$      | 48,128,000   | 9.16%   |
| As a % of members' required contributions   | 122.63%  |   |         | 103.83%  |   |
| Pensionable earnings  | \$ 524,407,000   |   | \$      | 525,607,000  |   |
|   |  |   |         |  |   |
|   | January 1, 2023 to Dece  | mber 31, 2023   | J       | anuary 1, 2024 to  | December 31, 2024   |
|   |  | mber 31, 2023<br>of Pensionable   | J       | anuary 1, 2024 to  | December 31, 2024<br>% of Pensionable   |
|   |  |   | J       | anuary 1, 2024 to<br>\$ Amount   | % of Pensionable  |
| Current Service   | %  | of Pensionable  | J       |  | % of Pensionable  |
|   | %  | of Pensionable  | J<br>\$ |  | % of Pensionable  |
| Total current service cost  | % \$ Amount  | of Pensionable<br>Earnings  |         | \$ Amount  | % of Pensionable<br>Earnings  |
| <b>Current Service</b><br>Total current service cost<br>Provision for non-investment expenses<br>PfAD in respect of current service cost                | <b>\$ Amount</b><br>\$ 88,482,000  | of Pensionable<br>Earnings<br>16.34%  |         | <b>\$ Amount</b><br>92,021,000   | % of Pensionable<br>Earnings<br>16.34%  |
| Total current service cost<br>Provision for non-investment expenses   | \$ <b>Amount</b><br>\$ 88,482,000<br>1,654,000                                     | of Pensionable<br>Earnings<br>16.34%<br>0.31%   |         | <b>\$ Amount</b><br>92,021,000<br>1,720,000                              | % of Pensionable<br>Earnings<br>16.34%<br>0.31%                               |
| Total current service cost<br>Provision for non-investment expenses<br>PfAD in respect of current service cost<br>Less: Members' required contributions | <b>\$ Amount</b><br><b>\$ 88,482,000</b><br>1,654,000<br>7,179,000                 | of Pensionable<br>Earnings<br>16.34%<br>0.31%<br>1.33%                                |         | <b>\$ Amount</b><br>92,021,000<br>1,720,000<br>7,466,000                 | % of Pensionable<br>Earnings<br>16.34%<br>0.31%<br>1.33%                      |
| Total current service cost<br>Provision for non-investment expenses<br>PfAD in respect of current service cost  | <b>\$ Amount</b><br><b>\$ 88,482,000</b><br>1,654,000<br>7,179,000<br>(48,523,000) | of Pensionable<br>Earnings<br>16.34%<br>0.31%<br>1.33%<br>( <u>8.96%)<sup>1</sup></u> | \$      | <b>\$ Amount</b><br>92,021,000<br>1,720,000<br>7,466,000<br>(50,464,000) | % of Pensionable<br>Earnings<br>16.34%<br>0.31%<br>1.33%<br>( <u>8.96%)</u> 1 |

<sup>1</sup> Reflects increase in members' required contributions at May 1, 2021 and May 1, 2022

Proprietary & Confidential | March 11, 2022



## Going Concern Valuation Results as of December 31, 2021/ January 1, 2022—Registered Pension Plan – Current Service Increase in Hard Dollar Cap to \$4,000 indexed at 1/3 of AIW

|   | Janua | ary 1, 2021 to Dec | ember 31, 2021             | Jar | nuary 1, 2022 to D  | ecember 31, 2022  |
|---|-------|--------------------|----------------------------|-----|---------------------|-------------------|
|   |       | 0                  | % of Pensionable           |     |                     | % of Pensionable  |
|   | -     | \$ Amount          | Earnings                   |     | \$ Amount           | Earnings          |
| Current Service                           |       |                    |                            |     |                     |                   |
| Total current service cost                | \$    | 89,236,000         | 17.02%                     | \$  | 89,150,000          | 16.96%            |
| Provision for non-investment expenses     |       | 1,560,000          | 0.30%                      |     | 1,606,000           | 0.31%             |
| PfAD in respect of current service cost   |       | 7,223,000          | 1.38%                      |     | 7,226,000           | 1.37%             |
| Less: Members' required contributions     |       | (44,027,000)       | <u>(8.40%)<sup>1</sup></u> |     | <u>(46,353,000)</u> | <u>(8.82%)</u>    |
| University Current Service Cost           | \$    | 53,992,000         | 10.30%                     | \$  | 51,629,000          | 9.82%             |
| As a % of members' required contributions |       | 122.63%            |                            |     | 111.38%             |                   |
| Pensionable earnings                      | \$    | 524,407,000        |                            | \$  | 525,607,000         |                   |
|   | Janua | ary 1, 2023 to Dec | ember 31, 2023             |     | lanuary 1, 2024 to  | December 31, 2024 |
|   |       | 9                  | % of Pensionable           |     |                     | % of Pensionable  |
|   |       | \$ Amount          | Earnings                   |     | \$ Amount           | Earnings          |
| Current Service                           |       |                    |                            |     |                     |                   |
| Total current service cost                | \$    | 91,825,000         | 16.96%                     | \$  | 95,498,000          | 16.96%            |
| Provision for non-investment expenses     |       | 1,654,000          | 0.31%                      |     | 1,720,000           | 0.31%             |
| PfAD in respect of current service cost   |       | 7,443,000          | 1.37%                      |     | 7,741,000           | 1.37%             |
| Less: Members' required contributions     |       | (48,523,000)       | <u>(8.96%)<sup>1</sup></u> |     | <u>(50,464,000)</u> | <u>(8.96%)</u>    |
| University Current Service Cost           | \$    | 52,399,000         | 9.68%                      | \$  | 54,495,000          | 9.68%             |
| As a % of members' required contributions |       | 107.99%            |                            |     | 107.99%             |                   |
|   |       | 541,375,000        |                            | \$  | 563,030,000         |                   |

<sup>1</sup> Reflects increase in members' required contributions at May 1, 2021 and May 1, 2022



# Going Concern Valuation Results as of December 31, 2021/ January 1, 2022— Development of Special Payments

 The annual special payments required under the January 1, 2021 valuation report are as follows:

| Effective Date                       | Annual Payment            | Present Value<br>as of January 1, 2021 |  |  |
|--------------------------------------|---------------------------|--|--|--|
| January 1, 2021 to December 31, 2021 | \$ 9,264,000 <sup>1</sup> | \$ 9,009,000                           |  |  |
| January 1, 2022 to December 31, 2031 | \$ 10,692,000             | 79,096,000                             |  |  |
|                                      |                           | \$ 88,105,000                          |  |  |

- Going concern deficits are amortized over 10 years, with any adjustment to the annual special payment deferred 12 months from the valuation date
- Since the going concern unfunded liability has been eliminated with this valuation, and the solvency ratio exceeds 85%, there will be no required special payments from a regulatory perspective upon the filing of this valuation report and no valuation filing required for three years



<sup>&</sup>lt;sup>1</sup> Special payment required under most recently-filed valuation at January 1, 2020

## Analysis of Experience – Past Service

|  | In \$ | Millions   |
|--|-------|--|
| Funding excess/(unfunded liability) as of January 1, 2021  | \$    | (89.4)   |
| Plus: University contributions for current service<br>Member contributions for current service<br>Special payments   |       | 52.2<br>42.6<br>11.0   |
| Less: Total current service cost   |       | (94.8)   |
| Plus: Interest at 5.30% per year   |       | (4.4)  |
| Equals: Expected Funding Excess/(Unfunded Liability) as of January 1, 2021   | \$    | (82.8)   |
| Plus:Gains (losses) due to:Return on actuarial value of assetsCOLA adjustment higher than assumedSalary increases lower than assumedChange in ITA maximum pension and YMPE higher than assumedMortality experienceRetirement experienceTermination experienceAdditional year of COLA for deferred membersData adjustmentsPfAD experienceMiscellaneous experience |       | 149.1<br>(18.6)<br>2.5<br>(2.8)<br>(6.4)<br>6.3<br>(1.4)<br>(0.7)<br>0.5<br>8.0<br>(0.8) |
| Equals: Funding Excess/(Unfunded Liability) as of December 31, 2021, Before Change in Assumptions  | \$    | 52.9   |
| Plus: Impact of change in discount rate from 5.30% to 5.50%  |       | 67.4   |
| Equals: Funding Excess/(Unfunded Liability) as of December 31, 2021  | \$    | 120.3  |





# **Cap/ Protocol Calculations**



## Past Service Liabilities – Impact of Indexing RPP Cap to Full Increase in ITA Limit – No Indexing of PPP Cap

 The chart below shows the increase in Accrued Liability at December 31, 2021/ January 1, 2022 if the current RPP hard dollar cap is increased to \$4,000 at January 1, 2023 and then indexed at either 1/3 of the increase in the ITA limit, <sup>1</sup>/<sub>2</sub> of the increase in the ITA limit, or the full increase in the ITA limit:

|                       | Current RPP Cap<br>Indexed at 1/3 of<br>AIW Increase <sup>1</sup> | \$4,000 RPP Cap<br>Indexed at 1/3 of AIW<br>Increase <sup>2</sup> | \$4,000 RPP Cap<br>Indexed at ½ of AIW<br>Increase <sup>3</sup> | Current RPP Cap<br>Indexed at full AIW<br>Increase <sup>4</sup> |
|-----------------------|---|---|---|---|
| RPP                   | \$ 2,100,234,000  | \$ 2,140,625,000  | \$ 2,152,516,000  | \$ 2,168,597,000  |
| Increase in Liability |   | \$ 40,391,000   | \$ 52,282,000   | \$ 68,363,000   |
|                       |   |   |   |   |
|                       |   |   |   |   |



<sup>&</sup>lt;sup>1</sup> Current \$3,420.00 RPP cap indexed annually subject to a dollar limit of \$3,460.21 which increases at 1/3 of the increase in the ITA limit

<sup>&</sup>lt;sup>2</sup> Current \$3,420.00 RPP cap indexed annually subject to a dollar limit of \$4,000 (in 2023) which increases at 1/3 of the increase in the ITA limit

<sup>&</sup>lt;sup>3</sup> Current \$3,420.00 RPP cap indexed annually subject to a dollar limit of \$4,000 (in 2023) which increases at ½ of the increase in the ITA limit

<sup>&</sup>lt;sup>4</sup> Current \$3,420 RPP cap indexed annually at the same rate of increase as the ITA limit

## Current Service Cost – Impact of Indexing RPP Cap to Full Increase in ITA limit – No Indexing of PPP Cap

 The chart below shows the increase in Current Service Cost at December 31, 2021/ January 1, 2022 if the current RPP cap is indexed at the full expected increase in the ITA limit rather than 1/3 of the increase in the AIW (based on preliminary assumptions):

| Current RPP Cap           | \$4,000 RPP Cap   | \$4,000 RPP Cap  | Current RPP Cap   |
|---------------------------|---|--|---|
| Indexed at 1/3 of         | Indexed at 1/3 of   | Indexed at ½ of  | Indexed at full AIW   |
| AIW Increase <sup>1</sup> | AIW Increase  | AIW Increase   | Increase  |
| \$ 94,481,000             | \$ 97,982,000   | \$ 99,296,000  | \$ 100,612,000  |
| 17.98%                    | 18.64%  | 18.89%   | 19.14%  |
|                           | 0.66%   | 0.91%  | 1.16%   |
|                           | Indexed at 1/3 of<br>AIW Increase <sup>1</sup><br>\$ 94,481,000 | Indexed at 1/3 of<br>AIW Increase <sup>1</sup> Indexed at 1/3 of<br>AIW Increase           \$ 94,481,000         \$ 97,982,000           17.98%         18.64% | Indexed at 1/3 of<br>AIW Increase <sup>1</sup> Indexed at 1/3 of<br>AIW Increase         Indexed at ½ of<br>AIW Increase           \$ 94,481,000         \$ 97,982,000         \$ 99,296,000           17.98%         18.64%         18.89% |



<sup>&</sup>lt;sup>1</sup> Includes PfAD and provision for expenses



## **Contribution Requirements**



### Contributions for 2022—Based on January 1, 2021 Filed Valuation

| Member Contributions:     | \$ 46,353,000        | 8.82% of pensionable earnings  |
|---------------------------|----------------------|--|
| University Contributions: | 1.412 x\$ 46,353,000 | 12.45% of pensionable earnings   |
|                           | = \$ 65,438,000      |  |
|                           | \$ 51,656,000        | Allocated to pay University current service cost under RPP in 2022 (111.44% of member contributions) |
|                           | 10,860,000           | Allocated to pay University statutory special payments to amortize unfunded liability                |
|                           | 2,922,000            | Additional contributions allocated to RPP  |
|                           | \$ 65,438,000        | Total University Contributions   |



## Contributions for 2022—Based on December 31, 2021 Filed Valuation

| Member Contributions:     | \$ 46,353,000        | 8.82% of pensionable earnings  |
|---------------------------|----------------------|--|
| University Contributions: | 1.412 x\$ 46,353,000 | 12.45% of pensionable earnings   |
|                           | = \$ 65,438,000      |  |
|                           | \$ 48,128,000        | Allocated to pay University current service cost under RPP in 2022 (103.83% of member contributions) |
|                           | 0                    | Allocated to pay University statutory special payments to amortize unfunded liability                |
|                           | 17,310,000           | Additional contributions allocated to RPP  |
|                           | \$ 65,438,000        | Total University Contributions   |



### Contributions for 2022—Based on December 31, 2021 Filed Valuation (Increase in Hard Dollar Cap)

| Member Contributions:     | \$ 46,353,000        | 8.82% of pensionable earnings  |
|---------------------------|----------------------|--|
| University Contributions: | 1.412 x\$ 46,353,000 | 12.45% of pensionable earnings   |
|                           | = \$ 65,438,000      |  |
|                           | \$ 51,629,000        | Allocated to pay University current service cost under RPP in 2022 (111.38% of member contributions) |
|                           | 0                    | Allocated to pay University statutory special payments to amortize unfunded liability                |
|                           | 13,809,000           | Additional contributions allocated to RPP  |
|                           | \$ 65,438,000        | Total University Contributions   |





# Solvency and Hypothetical Wind Up Valuation Results



## Solvency and Wind Up Valuations

- The solvency and wind up valuations are performed at December 31, 2021 using assumptions that are prescribed by legislation and actuarial standards
- The solvency and wind up valuations are both performed assuming the plan were to wind up on the valuation date and all benefits are settled either through an annuity purchase or the payment of lump-sum (commuted) values to members
- The solvency valuation excludes the value of indexation from the liabilities; solvency deficit is subject to funding requirements
- The wind up valuation represents the estimated liability of all benefits to be settled; wind up deficit is calculated for reporting purposes but is not required to be funded
- The wind up valuation is based on the premise that a market for fully-indexed annuities exists, which may not be practical for a pension plan of this size



## Actuarial Assumptions for Solvency and Wind Up Valuations

| Assumptions  | January 1, 2021  | December 31, 2021<br>No change   |  |  |
|--|--|--|--|--|
| Retirement Ages  | 50% at age between 55 and 65 that produces highest value and 50% at unreduced age 62                           |  |  |  |
| Mortality Rates  | CPM2014 Combined with Generational<br>Improvements Under Scale CPM-B   | No change  |  |  |
| Interest Rates—<br>Solvency Valuation (Per Year)                                   |  |  |  |  |
| Active Members Age 55 and Over,<br>Pensioners and Deferred Pensioners <sup>1</sup> | 2.50%  | 2.86%  |  |  |
| Active Members Under Age 55 <sup>2</sup>   | 1.20% for 10 years;<br>2.80% thereafter  | 2.30% for 10 years;<br>3.40% thereafter  |  |  |
| Interest Rates—<br>Wind Up Valuation (Per Year)                                    |  |  |  |  |
| Active Members Age 55 and Over,<br>Pensioners and Deferred Pensioners <sup>1</sup> | -0.78% (100% indexed)<br>0.04% (75% indexed)   | -0.54% (100% indexed)<br>0.31% (75% indexed)   |  |  |
| Active Members Under Age 55 <sup>2</sup>   | 0.60%for 10 years;<br>0.80% thereafter (100% indexed)<br>0.80% for 10 years;<br>1.30% thereafter (75% indexed) | 0.80%for 10 years;<br>1.20% thereafter (100% indexed)<br>1.20% for 10 years;<br>1.70% thereafter (75% indexed) |  |  |

<sup>1</sup> Settled through annuity purchase

<sup>2</sup> Settled through commuted value





# Solvency and Wind Up Valuation Results as of December 31, 2021

|  | January 1, 2021 |                                   |    |                                   | December 31, 2021 |                                   |    |                                   |  |
|--|-----------------|-----------------------------------|----|-----------------------------------|-------------------|-----------------------------------|----|-----------------------------------|--|
|  | Solv            | vency Valuation                   | Wi | nd Up Valuation                   | Solv              | vency Valuation                   | Wi | nd Up Valuation                   |  |
| Market Value of Assets<br>Less: Wind up expenses                 | \$              | <b>2,105,435,000</b><br>(500,000) | \$ | <b>2,105,435,000</b><br>(500,000) | \$                | <b>2,381,963,000</b><br>(500,000) | \$ | <b>2,381,963,000</b><br>(500,000) |  |
| Solvency/wind up assets  | \$              | 2,104,935,000                     | \$ | 2,104,935,000                     | \$                | 2,381,463,000                     | \$ | 2,381,463,000                     |  |
| Solvency/Wind Up Liabilities                                     |                 |                                   |    |                                   |                   |                                   |    |                                   |  |
| Active members   | \$              | 1,413,850,000                     | \$ | 1,836,115,000                     | \$                | 1,327,244,000                     | \$ | 1,725,513,000                     |  |
| Disabled and suspended members                                   |                 | 32,542,000                        |    | 42,911,000                        |                   | 30,873,000                        |    | 44,075,000                        |  |
| Pensioners and beneficiaries                                     |                 | 911,935,000                       |    | 1,245,784,000                     |                   | 942,238,000                       |    | 1,288,850,000                     |  |
| Deferred vested members  |                 | 64,138,000                        |    | 121,223,000                       |                   | 62,223,000                        |    | 122,232,000                       |  |
| Voluntary contribution balances                                  |                 | 413,000                           |    | 413,000                           |                   | 245,000                           |    | 245,000                           |  |
| Member flex contribution balances                                |                 | 811,000                           |    | 811,000                           |                   | 723,000                           |    | 723,000                           |  |
| Total  | \$              | 2,423,689,000                     | \$ | 3,247,257,000                     | \$                | 2,363,546,000                     | \$ | 3,181,638,000                     |  |
| Excess/(Deficiency)  | \$              | (318,754,000)                     | \$ | (1,142,322,000)                   | \$                | 17,917,000                        | \$ | (800,175,000)                     |  |
| Transfer ratio (market value of assets/<br>wind up liabilities)  |                 | N/A                               |    | 0.65                              |                   | N/A                               |    | 0.75                              |  |
| Solvency ratio (market value of assets/<br>solvency liabilities) |                 | 0.87                              |    | N/A                               |                   | 1.01                              |    | N/A                               |  |

#### Notes:

- Difference between Solvency and Wind Up Valuation is that Wind Up Valuation includes indexation under Plan, whereas Solvency Valuation excludes the indexation.
- If the January commuted value rates were used, then there would be a solvency deficiency of \$15.2 million and a wind up deficiency of \$835.4 million; No special payments would be required since solvency ratio exceeds 85%





## **Payroll Pension Plan Calculations**



# Going Concern Valuation Results as of December 31, 2021/ January 1, 2022—Payroll Pension Plan

|                                     | January 1, 2021 <sup>1</sup> | January 1, 2022 <sup>1</sup><br>(After Assumption Changes) |
|-------------------------------------|------------------------------|--|
| Past Service                        |                              |  |
| Market value of assets              | \$ 45,872,000                | \$ 49,732,000  |
| Less: Accrued liability             |                              |  |
| Active members                      | \$ 3,295,000                 | \$ 0   |
| Pensioners and beneficiaries        | 22,005,000                   | 22,917,000   |
| PfAD                                | N/A                          | N/A  |
| Total                               | \$ 25,300,000                | \$ 22,917,000  |
| Funding excess/(unfunded liability) | \$ 20,572,000                | \$ 26,815,000  |
| Current Service                     |                              |  |
| University current service cost     | \$ 26,000                    | \$0  |
| As a % of pensionable earnings      | 0.005%                       | 0%   |

• Annual pension payments from PPP are approximately \$1.8 million



<sup>&</sup>lt;sup>1</sup> Reflects maximum benefit in 2021 of \$3,400 per year of credited service; RPP Cap exceeds \$3,400 in 2022 and therefore no further benefits will be earned in the PPP

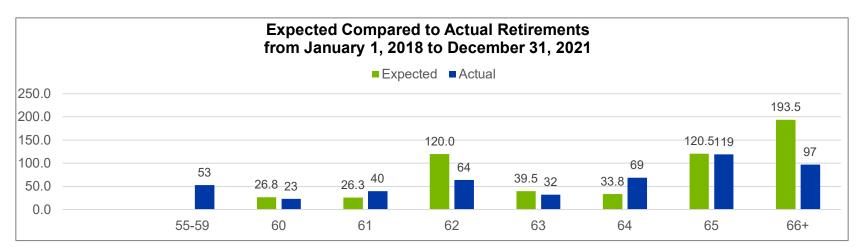


## Appendix



### **Retirement Age Experience**

 The following chart compares the actual retirements in the period January 1, 2018 to December 31, 2021 to the retirements that would have been expected during the period based on the assumed retirement rates adopted at the January 1, 2020 valuation:



| Ages  | Expected | Actual |
|-------|----------|--------|
| 55-59 | 0.0      | 53     |
| 60    | 26.8     | 23     |
| 61    | 26.3     | 40     |
| 62    | 120.0    | 64     |
| 63    | 39.5     | 32     |
| 64    | 33.8     | 69     |
| 65    | 120.5    | 119    |
| 66+   | 193.5    | 97     |



## **Mortality Rates**

- Since January 1, 2020 the mortality table being used is 2014 Canadian Pensioners' Public Sector Mortality Table with Improvements Under Scale MI-2017
- Following table shows actual versus expected deaths for members of the RPP for 2014 through 2021:

|  | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Total |
|--|------|------|------|------|------|------|------|------|-------|
| Actual Deaths  | 57   | 51   | 57   | 53   | 62   | 61   | 74   | 68   | 483.0 |
| Expected Deaths<br>(2014 CPM Public Table with<br>Improvements Under<br>Scale MI-2017) | 54.3 | 55.8 | 58.6 | 61.6 | 63.7 | 66.4 | 68.3 | 70.0 | 498.7 |

- Actual deaths over 8-year period (2014–2021) is 97% of expected deaths
- Mortality losses may result if demographic profile of pensioner deaths is different from expected



## **Definition of Terms**

| Definition                          |   |
|-------------------------------------|---|
| Accrued liability                   | The actuarial present value of the benefits earned by<br>members in respect of their service prior to the valuation<br>date. For active and disabled members, the accrued benefits<br>reflect anticipated future salary increases. For pensioners,<br>the accrued liability reflects the actuarial present value of<br>future benefit payments. |
| Actuarial value of assets           | The method for this valuation assumes the actuarial value of assets is set equal to the market value of assets.   |
| Funding excess/(unfunded liability) | Amount by which the actuarial value of assets exceeds/(is less than) the accrued liability.   |
| Funding reserve                     | The amount by which the market value of assets exceeds/(is less than) the actuarial value of assets.  |
| Members' pensionable earnings       | The covered earnings (see definition under<br>"Plan Provisions") for active and disabled members accruing<br>service at the valuation date.   |



## Definition of Terms (Cont'd)

| Definition           |   |
|----------------------|---|
| Current service cost | The actuarial present value of the benefits expected to be<br>earned by active and disabled members in respect of<br>service during the year following the valuation date. The<br>required member contributions are subtracted from the total<br>current service cost to derive the University current service<br>cost. For funding purposes, the University current service<br>cost is expressed as a percentage of the required member<br>contributions. This amount is also shown as a percentage of<br>members' pensionable earnings. |
| Solvency liability   | The actuarial present value of benefits earned for service<br>prior to the valuation date, determined as if the Pension<br>Plan were terminated on the valuation date. The solvency<br>liability excludes liabilities for future escalated adjustments<br>(indexation).   |
| Wind up liability    | Equal to the solvency liability, but including liabilities for future escalated adjustments.  |
| Transfer ratio       | The ratio of market value of assets to the wind up liability.   |



## Definition of Terms (Cont'd)

| Personnel Data                         |  |
|--|--|
| Active members                         | Members contributing to the Pension Plan as of the valuation date.<br>Includes both full-time and part-time members and members on a<br>paid or unpaid leave of absence who have elected to pay their<br>required member contributions.                                |
| Disabled members                       | Members who are certified to be totally disabled by a medical doctor<br>and in receipt of disability income under the University's long-term<br>disability income plan. Such members continue to accrue benefits but<br>do not make the required member contributions. |
| Pensioners and surviving beneficiaries | Members who have retired as of the valuation date, or surviving beneficiaries of such members, and are in receipt of a pension from the trust fund.  |
| Deferred vested members                | Members who have terminated employment as of the valuation date<br>and who are entitled to a monthly pension commencing at normal<br>retirement date.  |
| Suspended members                      | Members who have previously joined the Plan but elected to cease making further contributions to the Plan until age 35.  |



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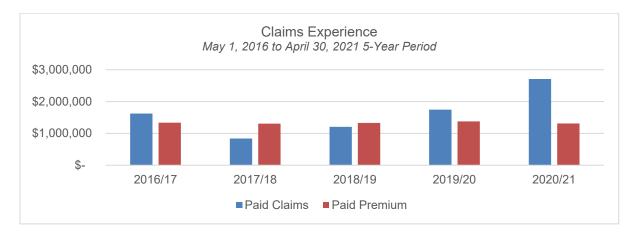
#### Group Benefits Program

Annual Renewal effective May 1, 2022

#### a. Life Insurance – Premium Rate

The University participates in the University Life Insurance Plan (ULIP) which is insured by Sun Life Financial (a competitive bidding proposal process will be required to confirm the vendor effective May 1, 2024). Premium rates are established based on experience and the participating universities have a share in the financial results.

Claims for life insurance can be volatile and as such, five years of experience is included in the analysis and calculation of the required premium rates.



Costs (paid claims plus expenses) exceeded premium paid during the May 1, 2020 to April 30, 2021 financial accounting period and the deficit of \$1,543,123 required a transfer from the Claims Fluctuation Reserve (CFR). The University's CFR was insufficient with a balance of \$149,542 as of May 1, 2020 and as such, the ULIP aggregate CFR was leveraged. The University's CFR has a balance of (\$1,392,309) as of April 30, 2021; a fully funded CFR amounts to 25% of premium (i.e. \$327,602 based on premium paid in the 2020/2021 year).

The Unrestricted Deposit Account (UDA) is \$1,584,668 as at April 30, 2021 (was \$1,851,603 at April 30, 2020; April 30, 2022 estimate is \$1,130,668). The full amount in the UDA is available for withdrawal; alternatively, a transfer could be made to the CFR and/or used to reduce the premium rate for the upcoming year. The University has been remitting premium to Sun Life Financial based on a rate that is subsidized by the UDA, the "paid rate".

Claims experience analysis as well as the financial accounting indicates that a 15% increase to the contract rate for Basic Life is required for the upcoming year. A rate guarantee continues to apply to the Optional Life rates and no change is required effective May 1, 2022; however, claims experience indicates that an increase will likely be required at the expiry of the rate guarantee effective May 1, 2023.

| Basic Life      | C                      | urrent      | Effective N            | Vlay 1, 2022 |               |    |
|-----------------|------------------------|-------------|------------------------|--------------|---------------|----|
| Volume          | Contract               | Annual      | Contract               | Annual       | Chang         | ge |
| volume          | Rate                   | Premium     | Rate                   | Premium      |               |    |
| \$1,029,976,800 | \$0.122 per<br>\$1,000 | \$1,507,886 | \$0.140 per<br>\$1,000 | \$1,730,361  | \$222,475 15% |    |

Note: Rates do not include any applicable taxes

At present, the paid rate of \$0.098 per \$1,000 is 20% lower than the 2021/22 contract rate. Due to the balance in the UDA, the University has flexibility with respect to the paid rate to be implemented effective May 1, 2022.

|               | •        | ion 1<br>1/22 Paid Rate | •        | ion 2<br>20% Subsidy | •        | otion 3<br>It 10% Subsidy |
|---------------|----------|-------------------------|----------|----------------------|----------|---------------------------|
|               | Rate per | Annual                  | Rate per | Annual               | Rate per | Annual                    |
|               | \$1,000  | Premium                 | \$1,000  | Premium              | \$1,000  | Premium                   |
| Contract Rate | \$0.140  | \$1,730,361             | \$0.140  | \$1,730,361          | \$0.140  | \$1,730,361               |
| Paid Rate     | \$0.098  | \$1,211,253             | \$0.112  | \$1,384,289          | \$0.126  | \$1,557,325               |
| Difference    |          | \$519,108               |          | \$346,072            |          | \$173,036                 |

Notes: "Difference" would be funded through the UDA; rates do not include any applicable taxes; the University pays 100% of the premium for a Basic Life benefit of 1 times earnings and 67% of the premium for 2 or 3 times earnings. Optional Life is 100% employee paid. All employer paid life insurance premium results in a taxable benefit for employees.

Last year, the Pension & Benefits Committee agreed to a transfer in the amount of \$146,000 from the UDA to the CFR. This was calculated as the difference between a 30% subsidy to the premium rate and the 20% subsidy that was implemented effective May 1, 2021. This transfer will be reflected in the financial accounting reporting next year for the 2021/2022 policy year.

#### Action Required: Decision (paid rate effective May 1, 2022; UDA direction)

#### b. Long Term Disability (LTD) – Premium Rate

The LTD benefit is currently insured by Canada Life (formerly Great-West Life) and as decided at the October 22, 2021 meeting, this benefit will transition to Sun Life Financial effective May 1, 2022. The underwriting method utilized is an experience-rated, non-refund arrangement. Premium rates are established based on claims experience but the University does not have a share in the financial results. The LTD benefit is fully paid for by employees and as a result, in the event of a claim, benefit payments are non-taxable.

The premium rate with Sun Life Financial effective May 1, 2022 was confirmed through the procurement process and is guaranteed for a 24 month period and as such, the first renewal with Sun Life Financial will be effective May 1, 2024. The maximum rate adjustment that can apply effective May 1, 2024 is 15% which will be guaranteed for another 24 months; thereafter, a rate adjustment cap does not apply and the contract will be subject to annual renewals.

|                  | Curr<br>Canad           |                   |                         | <b>May 1, 2022</b><br>Financial |               |        |
|------------------|-------------------------|-------------------|-------------------------|---------------------------------|---------------|--------|
| Insured Earnings | Rate (% of<br>earnings) | Annual<br>Premium | Rate (% of<br>earnings) | Annual<br>Premium               | Change        |        |
| \$38,568,076     | 1.457%                  | \$6,743,242       | 1.015%                  | \$4,697,592                     | (\$2,045,650) | -30.3% |

Note: Rates do not include applicable taxes; insured earnings based on projected 2021/22 volumes

|   |    | LTD Monthly Premium for Employees* |                     |            |  |  |  |
|---|----|------------------------------------|---------------------|------------|--|--|--|
| Sample Salary   |    | May 2021-April 2022                | May 2022-April 2023 | Difference |  |  |  |
| \$35,000  |    | \$42.50                            | \$29.60             | (\$12.90)  |  |  |  |
| \$65,000  |    | \$78.92                            | \$54.98             | (\$23.94)  |  |  |  |
| \$100,0   | 00 | \$121.42                           | \$84.58             | (\$36.84)  |  |  |  |
| \$125,0   | 00 | \$151.77                           | \$105.73            | (\$46.04)  |  |  |  |
| Maximum \$184,283                                       |    | imum \$184,283 \$223.75            |                     | (\$67.88)  |  |  |  |
| Insured Salary \$190,549 <sup>1</sup>                   |    | \$223.75**                         | \$161.17            | (\$62.58)  |  |  |  |
| *Description water that such do not smaller by the town |    |                                    |                     |            |  |  |  |

#### Illustration of Employee Impact

\*Based on rates that exclude any applicable taxes

\*\*Premium is capped at the insured earnings maximum of \$184,283

<sup>1</sup>The LTD plan design includes an annual indexing provision for the maximum insured earnings; the provision applies 100% of the COLA adjustment as calculated under the pension plan text methodology (i.e. COLA of 3.4% effective May 1, 2022).

#### Action Required: Decision (Indexed Maximum Insured Salary effective May 1, 2022)

#### c. Healthcare Benefits – ASO Fees/Charges

The healthcare benefits (i.e. prescription drugs, paramedical practitioners, out-of-country, hospital, medical services & supplies, and dental) are currently provided by Canada Life on an Administrative Services Only (ASO) basis. As decided at the October 22, 2021 meeting, these benefits will transition to Green Shield Canada effective January 1, 2023.

With an ASO arrangement, the University is responsible for paying the provider for all claims paid plus their charges. A pooling charge applies so that claims in excess of \$50,000 per year per individual are not charged to the University. Travel Assistance (Global Medical Assistance/GMA with Canada Life) provides individuals outside of the country with assistance in the event of a medical emergency (i.e. locating medical care, hospital admission, transportation services); these insurance elements are fully pooled.

As agreed through the procurement process, the current ASO fees/charges with Canada Life will be maintained through to the end of 2022. The ASO fees/charges with Green Shield Canada effective January 1, 2023 were confirmed through the procurement process and are guaranteed for a 60 month period with the exception of individual pooling/GMA which are guaranteed for a 24 month period. As such, the first renewal with Green Shield Canada will be effective January 1, 2025 for individual pooling/travel assistance and January 1, 2028 for claims settlement charges (to be adjusted to May 1 to align with the fiscal year).

|                    | ASO Fee/Charge                             |            | CurrentEffective January 1, 2Canada LifeGreen Shield Cana |        | hield Canada       | Change |                   |             |        |
|--------------------|--|------------|---|--------|--------------------|--------|-------------------|-------------|--------|
|                    |  |            |   | Charge | Annual Cost        | Charge | Annual Cost       |             |        |
| General            | Administr                                  | ation      |   | 0.75%  | \$154,701          | n/a    | \$0               | (\$154,701) | (100%) |
| Profit             |  |            |   | 0.41%  | \$84 <i>,</i> 570  | n/a    | \$0               | (\$84,570)  | (100%) |
|                    |  | Pay Direct | Drugs   | 2.70%  | \$240,180          | 2.75%  | \$244,628         | \$4,448     | 2%     |
| Claims<br>Settleme | ant  | Other Mee  | dical   | 5.79%  | \$289,717          | 2.75%  | \$137,603         | (\$152,114) | (53%)  |
| Settleme           |  | Dental     |   | 3.25%  | \$218,644          | 2.75%  | \$185,007         | (\$33,637)  | (15%)  |
| Drug Car           | Drug Card Mailing                          |            | \$1.18<br>per card  | TBD    | \$2.00<br>per card | TBD    | TBD               | 69%         |        |
| Individua          | al Pooling                                 |            |   | 5.50%  | \$764,463          | 3.70%  | \$528,417         | (\$236,046) | (31%)  |
|                    |  | GMA        |   | \$0.50 | \$45,348           | n/a    | \$0               |             |        |
| Travel As          | ssistance                                  | Single     |   | n/a    | \$0                | \$0.25 | \$6,462           |             |        |
|                    |  | Family     |   | n/a    | \$0                | \$0.50 | \$32,424          |             |        |
|                    | Active Em                                  | nployees   | Single  | n/a    | \$0                | \$0.85 | \$14,678          | 4           | /      |
| \$50K<br>Travel    | under age 70<br>(180 days per trip)        |            | Family  | n/a    | \$0                | \$1.70 | \$85 <i>,</i> 843 | \$245,059   | 540%   |
| Stop               | Retirees a                                 | and Active | Single  | n/a    | \$0                | \$4.05 | \$34,749          |             |        |
| Loss               | 5S Employees age 70+<br>(60 days per trip) |            | Family  | n/a    | \$0                | \$8.10 | \$116,251         |             |        |
|                    |  |            | Combined  | \$1,   | 797,623            | \$1    | ,386,062          | (\$411,561) | (23%)  |

Note: Charges are calculated as a percentage of paid claims except for Green Shield's pooling charge (percentage of paid claims plus administration fees) and GMA/Travel and DCM which are a monthly charge per covered member and estimate based on historical drug cards issued; exhibit is based on projected claims (approx. \$20.6M on a combined basis, 43% pay direct drug, 24% other medical, and 33% dental) and December 2021 headcounts

#### Action Required: None (information purposes only)

Pension & Benefits Committee March 11, 2022

#### d. Healthcare Benefits – Budget Rates

Budget rates are calculated each year by Aon using underlying claims experience, ASO fees/charges, recent plan amendments, and loss ratio against budget.

These budget rates are used to determine applicable cost sharing (with affiliates and parttime employees) and to generate funds in the account which is used to pay the monthly ASO bill. The healthcare benefits are fully employer paid with the exception of part-time employees who have a share in the cost relative to their full-time equivalency (e.g. an employee who works 50% of the standard workweek pays 50% of the monthly rate).

Projected claims analysis indicates changes to the budget rates for the extended health and dental benefits for the upcoming year. The trend factors used by Aon for extended health has decreased from 7.125% to 6% and for dental, has increased from 4% to 6%.

|          | Coverage          |              | C            | urrent       | Effective    | May 1, 2022  |             |       |
|----------|-------------------|--------------|--------------|--------------|--------------|--------------|-------------|-------|
| Benefit  | Coverage<br>Level | Participants | Monthly      | Aggregate    | Monthly      | Aggregate    | Chang       | e     |
|          |                   |              | ever         | Rate         | Annualized   | Rate         | Annualized  |       |
| Extended | Single            | 2,154        | \$74.05      | \$1,914,044  | \$71.24      | \$1,841,412  | (\$654,967) | -3.8% |
| Health   | Family            | 5,404        | \$236.31     | \$15,324,231 | \$227.33     | \$14,741,896 | (\$054,907) | -3.6% |
| Dontal   | Single            | 1,072        | \$48.00      | \$617,472    | \$48.72      | \$626,734    | 6112 276    | 1 50/ |
| Dental   | Family            | 3,956        | \$144.43     | \$6,856,381  | \$146.60     | \$6,959,395  | \$112,276   | 1.5%  |
| Combined |                   |              | \$24,712,128 |              | \$24,169,437 |              |             |       |

Note: Rates include a margin for tax; based on projected claims experience and December 2021 headcounts

#### Action Required: Decision (budget rates effective May 1, 2022)

#### Report to the Pension & Benefits Committee Pension Investment Committee 11 March 2022

The Pension Investment Committee (PIC) met on 4 March 2022 and agreed to forward the following items to the Committee for information or approval as noted below.

#### FOR DECISION

#### A. REVISIONS TO THE RESPONSIBLE INVESTMENT POLICY AND FUND IMPLEMENTATION PROCEDURES

Motion: That the Pension & Benefits Committee (P&B):

- 1. Recommend that the Board of Governors (Board) approve the Responsible Investment Policy (RIP) as provided in <u>Attachment 1</u>.
- 2. Approve the updates to the Fund Implementation Procedures (FIP) as provided in <u>Attachment 1</u>.

#### **Background and Rationale:**

The attachment reflects updates to the RIP to respond to feedback from the committee's consultations on the draft RIP and legal advice:

- make more explicit the legal responsibilities with respect to Ontario pension plans;
- integrate the policy with the other governing documents for the fund, and remind readers that the Statement of Investment Policies and Procedures (for the pension fund) (SIPP) is the primary governing document for investment;
- clarify the relative roles and responsibilities of staff versus investment managers with respect to ESG integration, monitoring and reporting; and
- clarify the university's intent with respect to the carbon footprint reduction plan

In order to integrate the recommended changes and maintain the University's plain language approach to drafting, there was quite a bit of reorganization of the existing language, although the substance is substantially consistent with the version previously reviewed by P&B.

Similarly, based on the committee's consultations on the draft FIP and legal advice, PIC also agreed to revisions to the FIP to:

- ensure the RIP and FIP are integrated and do not conflict with one another;
- integrate the policy with the other governing documents for the fund, and remind readers that the SIPP (for the pension fund) is the primary governing document for investment;
- clarify the intent with respect to roles and responsibilities of those involved in pension administration and investment, including specifying fiduciary duties of those involved in administration and investment using the precise language of Ontario law;
- clarify the due diligence for investment manager selection, specifically with respect to the responsibilities expected of them to undertake in relation to the RIP; and
- establish and consistently use defined terms in the document, e.g., Applicable Law.

#### INFORMATION

#### **Investment Reporting**

PIC reviewed the total fund and investment manager performance for the fourth quarter of 2021. The fund returned 5.18% (gross of fees) for the quarter, which was ahead of the benchmark by 3.52%. The fund also outperformed the benchmark for the one-, four- and ten-year periods.

Investment exposure to Russia was discussed. Staff have confirmed that the global equity pooled funds and the international index fund that the RPP is invested in do not have holdings of companies based in Russia. PIC requested that other potential risk exposures related to this situation be monitored as well.

Sheryl Kennedy Chair, Pension Investment Committee

PIC Report, Attachment #1

#### DRAFT - For Approval

University of Waterloo Responsible Investment Policy November 2021March 2022

#### 1. Introduction

The University's Board of Governors ("Board") exercises oversight of the investment portfolios, including the endowment fund and the registered pension fund (the <u>"Fundsr"</u>, or, individually, the <u>"Fundbr"</u>), primarily through three Board Committees including the Finance & Investment Committee, the <u>Pension</u> <u>& Benefits Committee</u> and the <u>Pension Investment Committee</u>, <u>(the "Committees" or, individually, a</u> <u>"Committee")</u>.

Each Committee fulfills its Board-assigned responsibilities prudently, and applies Environment, Social and Governance ("ESG") factors as part of its investment decision making process, including the climate change mitigation/carbon reduction approach approved for those portfolios. These Funds are normally invested through the selection and retention of external investment managers, investing in institutional pooled funds which serve a range of clients on a comingled basis. The Committees may also approve or recommend investing directly in securities to achieve specific outcomes.

In 2020, both the University and the Pension Plan for Faculty and Staff became signatories to the United Nations supported Principles for Responsible Investment ("UN PRI") which requires participation in a comprehensive annual assessment framework.

The Committees execute this approach to investment decision making principally through the selection and retention of external investment managers, investing in institutional pooled funds which serve a range of clients on a comingled basis. The Committees may also recommend to invest directly in securities to achieve specific outcomes. Each Committee fulfills its Board-assigned responsibilities prudently and in accordance with legislation, policies, guidelines and agreements governing the investment of the Funds. The Board acknowledges that as a pension plan administrator, it has a fiduciary duty to act reasonably and prudently and exclusively in the best interest of plan members and other beneficiaries. The "best interest" of members and beneficiaries has traditionally been interpreted to mean their best financial interest.

The Board and its Committees will apply Environment, Social and Governance ("ESG") factors as part of their investment decision making processes, including the climate change mitigation/carbon reduction approach approved for those portfolios. ESG factors will be integrated into the Committees' investment analysis and asset management activities in accordance with this document, the registered pension fund statement of investment policies and procedures ("SIPP"), the registered pension fund implementation procedures ("FIP"), and the endowment investment guidelines ("Guidelines"), as applicable. The decision to integrate ESG factors into investment decisions is based on the belief that this approach is expected to enhance the long-term value of the Funds' portfolios and reduce the risk of loss.

2. Defining ESG

- Environmental factors which relate to the physical environment (including contamination, greenhouse gas emissions, extreme weather, water scarcity)
- Social factors arising from relationships with employees, consumers, suppliers, and communities (including labour rights, health and safety, equity, diversity and inclusion, product safety)
- Governance factors which relate to the structures in place to ensure the effective direction and control (including the delineation of roles, executive compensation, and board independence)
- 3. Responsible Investing Principles

Responsible investing actively incorporates ESG factors into each investment decision and monitors those decisions-by practicing active ownership. While ESG factors are relevant throughout all stages of the investment process from pre-investment, to monitoring, to exiting, the degree to which ESG factors are integrated depends on many factors such as active vs. passive mandates, the asset type, the time horizon, and the specific investment strategy.

In June 2021, the Board affirmed climate change mitigation as a priority area <u>among ESG factors</u> requiring focused investment attention <u>relating to its impact on the financial performance of</u> <u>investments</u>; the Board also recognized that further consideration is required relating to other ESG factors such as social justice, equity, diversity and inclusion <u>and their potential consequential impact on</u> <u>investment risk and reward</u>.

#### 4. Application

This policy applies to the investments of the endowment fund and the registered pension fund. This policy will be cited in both the registered pension fund statement of investment policies<u>SIPP</u> and procedures (SIPP) and the endowment investment guidelines<u>Guidelines</u> and communicated to each investment manager. In turn,

This policy is intended to be read together with the SIPP or Guidelines, as applicable, for the Funds, as amended from time to time. While the Board will strive to maintain consistency between this policy and the SIPP or Guidelines, to the extent there is any conflict in the investment principles and approach as set out in this policy or the SIPP or Guidelines, the SIPP or Guidelines shall govern with respect to the relevant Fund.

To the extent possible, taking into account their particular fund's constating or disclosure documents (and, in the case of the pension fund, the SIPP) the Funds' investment managers are required to integrate this policy into their investment analysis and decision-making based on forecasted financial impacts (in conjunction with traditional financial analysis) to support each Fund's return objectives.

#### 5. ESG <u>Factor</u> Integration

The Fund'sFunds' investment approach focuses on long-term value creation in a constantly changing environment experiencing many risks and opportunities. The Committees do not seek to limit an investment manager's investible universe (i.e., no exclusions) but do specify some traditional limitations such as minimum credit quality and maximum single security exposure which are stated within the Fund'sparticular fund's investment guideline (or constating or other disclosure documents)

#### and the SIPP.

This approach is to be executed by the Committees principally through the rigorous selection of investment managers offering institutional pooled funds which are considered leaders in ESG <u>factor</u> integration. Each investment manager is monitored by the Committees on a quarterly basis to ensure consistency of style/approach including their ESG <u>factor</u> integration<u>strategies</u>, reviewing any significant personnel changes, reviewing the consistency of their proxy voting actions with their policy statement, and the Fund's investment performance metrics. The Committees encourage each investment manager to engage with companies on ESG matters with the companies they invest in and report on such engagement and how it supports their the manager's duty to act in the best interest of the FundFunds.

Investment managers will be required to consistently enhance their quarterly reporting to address evolving areas such as ESG <u>factor</u> integration, carbon metrics reporting, climate change risk assessment and scenario analysis.

The Committees prefer itseach Fund's investment managers to be signatories to UN PRI.

The <u>Committees haveBoard has</u> approved <u>an ambitiousa</u> carbon footprint reduction plan for the endowment and pension funds where progress is reviewed annually. <u>Investment managers must</u> consider carbon-related emissions and climate change which may have a consequential impact on future investment values. Specifically, the Funds are:

• Targeting based on a percentage of the aggregate assets of the Funds. The Board is targeting to achieve a 50% carbon reduction by 2030 (relative to base year 2018) in the carbon footprint (scope 1 and scope 2) with an aspirational target/goal of achieving carbon neutrality by 2040. Any changes to these targets will be promptly reported to the investment managers.

Requiring investment managers to

To these ends, Investment managers must consider carbon-related emissions and climate change to the extent such factors may have a consequential impact on future investment values and performance. Specifically, in this regard, the investment managers shall:

- disclose how they address climate related risk and opportunities and potential impacts on their investment decisions-;
- Requiring investment managers to-provide climate change related financial disclosures including appropriate carbon metrics which the University will consolidate to measure progress for each Fund on a total portfolio basis-; and
- Requesting investment managers to provide climate change risk assessments and scenario analysis when sufficient data becomes reliably available.

Notwithstanding the foregoing, any and all investment decisions in respect of the Funds shall be subject to appropriate due diligence and analysis that support the conclusion that the decision is in the best financial interest of the Fund as outlined in the governing documents for the Fund and, with respect to the pension Fund, as required by applicable law.

6. ESG Engagement by the University on behalf of the Committees

The University will participate in the appropriate investor coalitions and collectives (both formal and informal) where partner members have similar fiduciary responsibilities and will periodically review the effectiveness of those collective approaches.

7. ESG Analysis & Reporting

The Committees will require its investment consultant(s) and service providers to have the necessary systems, resources, and experience to support evolving ESG analysis and reporting standards.

The University will support responsible investment training opportunities for the staff involved in the day-to-day administration of the Funds.

The University will report annually on the Funds and the investment managers' responsible investing activities including proxy voting, company engagement, carbon metrics as well as the outcomes from UN PRI's annual assessments.

The University will undertake a climate change risk assessment and scenario analysis for each Fund at the portfolio level once sufficient reliable information is available.

#### 8. Review

This Responsible Investment Policy will be reviewed concurrently with the review of the endowment's investment guidelines (by the Finance & Investment Committee) and registered pension plan's SIPP (by the Pension Investment Committee) including an overall assessment of the current ESG landscape, future risk & opportunities, and the identification of any changes to priority areas of focus.



#### **DRAFT - Fund Implementation Procedures**

University of Waterloo Pension Plan (2011)

Registration number: 0310565

Effective: [date of approval by Pension & Benefits Committee]

November 16, 2021

Replaces previous version which was last revised and effective on [not applicable]

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This Fund Implementation Procedures (FIP) document outlines the monitoring and reporting obligations of Board committees, University staff, and third parties engaged to provide services to the Plan. <u>With respect to the investment of pension assets, this policy is intended to be read together with the Statement of Investment Policies and Procedures (SIPP) established for the Plan, as amended from time to time. To the extent there is any conflict in the investment principles and approach as set out in this FIP or the SIPP, the SIPP shall govern.</u>

#### 1) Delegation of Responsibility

The Board of Governors of the University of Waterloo (the "Board") has established a Pension Investment Committee ("PIC") to assist in the determination and execution of the Plan's overall investment philosophy, policies, objectives and strategies for the Plan, a Finance & Investment Committee (F&I) established to provide expert investment advice to PIC, and a Pension & Benefits Committee (P&B) to provide oversight of the pension plan- (the "Committees").

<u>The</u>Committees, contracted third party professional firms and University staff will carry out the responsibilities listed below.

- a) PIC will:
  - i. review this document annually and recommend any changes to P&B;
  - ii. review Fund Manager performance, total Fund performance and achievement of the total return objective on a quarterly basis;
  - iii. make recommendations on the selection of Fund Managers to P&B, consulting with F&I as applicable;
  - iv. approve asset mix changes and investment decisions where the cumulative annual transaction(s) represent less than 15% of <u>market value of</u> the Plan's total assets at the beginning of the calendar year;
  - v. consult with F&I, prior to making recommendations to P&B, for additional investment decisions which cumulatively impact more than 15% of the <u>market value of</u> Plan's total assets as measured at the beginning of the calendar year;
  - vi. commission asset liability studies <del>due toat least every 10 years and in cases of</del> significant changes in actuarial assumptions or capital market forecasts<del>, and at least every 10 years</del>, consulting with P&B as applicable
  - vii. determine when active vs passive management strategies are appropriate
  - viii. review Plan liquidity requirements
  - ix. convene a meeting with P&B in the event of a significant market event or shift to discuss issues and market opportunities; and
  - x. provide quarterly reports to P&B and F&I.
- b) P&B will make recommendations to the Board in the following areas, consulting with PIC with respect to investment philosophy, policies, objectives and strategies for the Plan:
  - i. the content of the SIPP after its annual review and consideration of recommendations from PIC;
  - ii. the selection of a Consulting Actuary;
  - iii. the selection of an Investment Consultant;

- iv. the selection of Fund Managers, based on the recommendation from PIC;
- v. asset mix changes and investment decisions where the cumulative annual transaction(s) exceed 15% of the <u>market value of the</u> Plan's total assets at the beginning of the calendar year, based on the recommendation from PIC; and
- vi. the selection of a Custodian/Trustee to hold the pension fund assets.
- c) In addition, the P&B Committee will:
  - i. approve the content of thethis FIP in consultation with PIC;
  - ii. review reports from PIC on Fund Manager performance and pension fund performance on at least a semi-annual basis;
  - iii. be responsible for the delegation of any responsibilities not specifically mentioned; and

#### <u>; and</u>

- iv.<u>iii.</u> report to Plan members on at least an annual basis.
- d) The Fund Managers will:
  - i. forward to University staff (for review and discussion at PIC) quarterly reviews of investment performance, expectations of future returns on various asset classes and proposed investment strategies for the following 12 to 24 months;
  - ii. manage asset mix and select securities within each asset class, subject to applicable legislation and the philosophy and other constraints set out in the SIPP, this document and the Responsible Investment Policy (RIP);
  - iii. forward to University staff (for review and discussion at PIC) quarterly reports describing their ESG analysis, approach and metrics, and periodically forward a climate risk assessment of their portfolio including any scenario analysis;
  - advise University staff (for review and discussion at PIC) immediately of any changes in its senior investment personnel and/or significant changes in the size or mix of assets managed;
  - v. comply with all Applicable Lawsapplicable legislation concerning the investment of the pension fund;, including the *Pension Benefits Act* (Ontario) ("Applicable Laws");
  - vi. complete and deliver a compliance report (see Appendix A) to University staff and the Fund's Investment Consultant each quarter. The compliance report will indicate whether or not the Fund Manager was in compliance with <u>Applicable Laws</u>, the SIPP and the RIP during the quarter. In the event that the Fund Manager is not in compliance with <u>Applicable Laws</u>, the SIPP and/or the RIP, the Fund Manager is required to immediately advise University staff (for discussion at PIC), detail the nature of the non-compliance and recommend the appropriate course of action to remedy the situation;
  - vii. comply, at all times and in all respects, with the Code of Ethics and Standards of Professional Conduct as promulgated by the CFA Institute;
  - viii. managein managing the <u>Plan</u> assets with, the care, diligence and skill that a Fund Manager shall at all times exercise the degree of care that a person of ordinary prudence would useexercise in dealing with pension plan assets; the property of another person and
  - ix.viii. shall use all relevant knowledge and skill that they possess which it possesses, or by reason of its profession, ought to possess as a prudent Fund Manager.<sup>1</sup>..
- e) The Consulting Actuary (or his/her delegate approved by P&B) will:

- i. assist in the preparation and subsequent annual reviews of the SIPP and any supplementary documents;
- ii. comment on any changes in the Plan's benefits, membership or contribution flow which may affect how the Plan's assets are invested;
- iii. assist<u>assist University staff, the PIC and P&B, as needed,</u> in the implementation of the SIPP and this document;
- iv. support PIC and P&B on matters related to investment risk management and administration of the Plan; and
- v. meet with University staff, PIC and P&B as required.
- f) Investment Consultant will:
  - i. participate in all reviews of the Fund Managers;
  - ii. report quarterly on the performance of the Fund Managers and the Plan;
  - iii. comment on the impact of potential investment opportunities/strategies/legislative changes which may affect how the Plan's assets are invested;
  - iv. monitor the performance of the Plan and the Fund Managers on a regular basis, and contact University staff immediately if there are adverse changes of any kind, which warrant further review and/or discussion with PIC;
  - v. meet with University staff, PIC and P&B as required.
- g) Performance Measurement Service Providers will:
  - i. Provide detailed performance reporting in the required format including ESG integration by Fund Managers as well the required carbon metrics for each Fund Manager and the total <u>Plan asset</u> portfolio
- h) The Custodian/Trustee will:
  - i. fulfill the regular duties required by law of a Custodian/Trustee and perform the specific duties required of the Custodian/Trustee pursuant to agreements entered into from time to time with the University on behalf of the Plan; and
  - ii. provide University staff with monthly portfolio reports of all assets of the Plan and transactions during the period.
- i) University staff will:
  - i. Prepare reporting for the PIC, P&B and F&I committees <u>on Plan investment matters</u> and act as resources to these <u>committeesCommittees in this regard</u>
  - ii. Act as a contact for contracted third party professional firms <u>relating to the investment of</u> <u>the Plan's assets</u> and provide administration and monitoring related to these firms' contracts and deliverables
  - iii. Provide cash flow information as necessary or requested by PIC
  - iv. Monitor Fund Manager's and overall compliance with the SIPP, FIP, and RIP
  - v. Appoint Performance Measurement Service Providers.

#### 2) Performance Measurement & Monitoring

For purposes of evaluating the performance of the Fund Managers, all rates of return are measured over rolling four-year periods. Return objectives are net of fees and include realized and unrealized capital gains or losses plus income from all sources.

Performance reporting provided by the Fund Managers and the Investment Consultant will include annualized returns when available for 15 or greater years; as well as a detailed attribution analysis for the most recent quarter and year-to-date periods.

The Investment Consultant will report on each Fund Manager's performance relative to their peers.

In addition to performance criteria, the following factors will also be monitored and evaluated:

- i) Stability of the investment firm (personnel, assets under administration, operational capabilities, etc.);
- ii) Investment objective and portfolio composition;
- iii) Changes in the investment philosophy used in the investment fund;
- iv) Consistency of style or approach;
- v) Adherence to investment policy statement; and
- vi) ESG analysis and reporting including climate risk assessment and carbon metrics

#### 3) Compliance Reporting by Fund Manager

The Fund Manager is required to complete and deliver a compliance report to University staff and the Plan's investment consultant each quarter. The compliance report will indicate whether or not the Fund Manager was in compliance with <u>Applicable Laws</u>, the SIPP, FIP and the RIP during the quarter.

In the event that a Fund Manager is not in compliance with <u>Applicable Laws</u>, the SIPP, FIP and/or the RIP the Fund Manager is required to immediately advise University staff, detail the nature of the non-compliance and recommend an appropriate course of action to remedy the situation.

While the guidelines in the SIPP are intended to guide the management of the assets, it is recognized that, where pooled funds are held, there may be instances where there is a conflict between the SIPP and the investment policy of a pooled fund. In that case, the pooled fund policy shall dominate, subject to the compliance reporting procedures outlined in this section. However, the Fund Manager is required to advise University staff, in advance, if there are any material discrepancies between the SIPP and the pooled fund's own investment guidelines. In addition, the Fund Manager will ensure that University staff have received a copy of the most recent version of the pooled fund policy and of any amendments made to the pooled fund policy.

#### 4) Audit

The Plan's financial reporting for the regulatory authorities shall be audited annually by external auditors appointed by the University.

#### 5) Monitoring of Asset Mix

In order to ensure that the assets of the Plan operate within the minimum and maximum asset mix ranges, as prescribed in the SIPP, PIC shall review the asset mix at least quarterly. Please refer to the section on Rebalancing Policy.

#### 6) Selecting Fund Managers

Should PIC determine that there is a requirement for an additional Fund Manager, PIC will establish a sub-committee to undertake a Fund Manager search. The criteria used for selecting a Fund Manager will be consistent with the investment and risk philosophy set out in the SIPP. Although each search process will apply a specific list of considerations, the evaluation criteria typicallyshall include:

- a) Establishing the relevant performance benchmark
- b) Performance history
- c) Quality of the firm and the fund specific investment team
- d) Quality and consistency of the fund's investment process
- e) Quality and transparency in reporting including valuation methods
- f) ESG integration within the investment process and related reporting, including reporting on the Manager's integration of climate related risk factors and disclosure of carbon metrics
- g) Risk management approach
- h) Competitiveness of fees
- i) Fund Managers ability to fulfill the RIPTerms of the applicable investment management agreement
  - i)

#### 7) Monitoring Fund Manager Performance

At least quarterly, PIC will monitor and review:

- a) Each Fund Manager's staff turnover, consistency of style and record of service;
- b) Each Fund Manager's current economic outlook and investment strategies including ESG approach;
- c) Each Fund Manager's compliance with the SIPP, FIP and RIP; and
- Investment performance of the assets of the Plan in relation to the rate of return expectations outlined in the SIPP-and FIP.

#### 8) Dismissal of Fund Manager

Reasons for considering the termination of the services of a Fund Manager include, but are not limited to, the following factors:

- a) Performance results which are below the stated performance benchmarks;
- b) Changes in the overall structure of the Plan's assets such that the Fund Manager's services are no longer required;
- c) Change in personnel, firm structure or investment philosophy which might adversely affect the potential return and/or risk level of the portfolio; and/or
- d) Failure to adhere to the SIPP, FIP or RIP.

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#### 9) Rebalancing Policy

PIC shall monitor the asset mix and the net cash flow on a quarterly basis. Rebalancing will occur when the market value of an asset class varies from the limits set out in the SIPP or if any individual Fund Manager's component exceeds a limit set out in the SIPP.

Rebalancing will be generally implemented within two quarters by:

- a) Redirecting the net cash flows [administered monthly by University staff and not included in PIC's cumulative 15% asset mix change threshold]
- b) Transfer of cash between portfolios
- c) Liquidating exceedances and directing those to assets below the benchmark taking into account the transaction costs and liquidity of the particular asset class

Notwithstanding the rebalancing policy, in certain circumstances, PIC may adjust the weight of any asset class within the permitted ranges for the purpose of protecting capital and managing risk.

#### 10) Liability Hedging

PIC will determine the type of investment strategies, if any, to be implemented to hedge the interest rate and/or inflation sensitive liabilities of the plan.

To be completed by fund managers each quarter.

#### UNIVERSITY OF WATERLOO

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This is to certify that I/we have <u>complied with the Pension Benefits Act (Ontario) and all other laws and</u> regulations applicable to the investment of the Pension Plan's assets and adhered to the guidelines contained in the February 2022 version of the Statement of Investment Policies and Procedures, the Fund Implementation Procedures for the University of Waterloo Pension Plan (2011), and the Responsible Investment Policy as approved by the Board of Governors of the University of Waterloo as well as the investment management agreement in place

| Signed      |   |      |  |
|-------------|---|------|--|
| <u> </u>    |   |      |  |
| On behalf o | t | <br> |  |
| Date        |   |      |  |
|             |   |      |  |