Investment Implementation Document

for the

Ricardo Group Pension Fund

July 2023

1. Introduction

This Investment Implementation Document ("IID") has been prepared by The Trustees of the Ricardo Group Pension Fund ("the Trustee"). It sets out the detail of the investment arrangements for the Ricardo Group Pension Fund ("the Fund").

This IID is based on the principles documented in the Fund's current Statement of Investment Principles ("SIP"). This IID has been formulated after obtaining and considering written professional advice from Columbia Threadneedle Investments (CT), the Fund's investment adviser, who is also the Fund's Fiduciary Manager responsible for implementing the overall investment mandate.

2. The Fund's investment strategy

The Trustee, with the help of its investment adviser and in consultation with the employer, undertook reviews of investment strategy in 2022, taking into account the objectives set out in the SIP. This document reflects both the outcome of the strategy reviews and any implementation changes that have subsequently been agreed by the Trustee.

The Fund invests via a CT RAIF Private Sub-Fund, which holds underlying funds and strategies invested with CT and third-party managers.

The Trustee has agreed that the investment strategy of the Fund should be based on the following long-term benchmark allocation:

Sub-portfolio	Asset Class	Strategic Allocation (% of Portfolio)
Matching Assets		62%
	LDI and Cash	30%
	Matching Credit	32%
Growth Assets		38%

The Trustee is aware that the Fund's allocation to the various asset classes will differ to the benchmark allocation from time to time, due to market movements for example. The Trustee has set the following bands which will be monitored by CT, within which CT have discretion:

Sub-portfolio	Asset Class	Capital Allocation ranges (%)
Matching Assets		47-77
	LDI and Cash	15-45
	Matching Credit	17-47
Growth Assets		23-53
	Equities	5-25
	Alternatives	5-20
	Other Fixed Income	5-20

The asset allocation calculation shall be undertaken each Business Day based on the most recently available prices for each Fund. If the allocation is outside of the Capital Allocation ranges, an allocation adjustment will be carried out at the earliest available opportunity thereafter and in any event within five Business Days of calculation.

The Fiduciary Manager shall seek to ensure that no more than 20% of the total net asset value of the Private Sub-Fund is at any one time invested in underlying open-ended funds which do not permit daily dealing ("Illiquid Funds"). In the event that circumstances outside of the control of the Fiduciary Manager, such as withdrawals from the Private Sub-Fund and/or market movements, lead to this limit being exceeded, then the Fiduciary Manager shall seek as soon as reasonably practicable thereafter to re-balance the assets of the Private Sub-fund so as to reduce its exposure to Illiquid Funds to within the limit specified above.

3. De-risking plan guidelines

The Long-Term Objective (LTO) of the mandate with CT is for the Ricardo Group Pension Fund to be fully funded on a Proxy Self-Sufficiency basis by March 2034. The Proxy Self-Sufficiency basis is defined as the Liability Benchmark valued on a giltS + 0.50% per annum basis at the Fiduciary Manager's discretion.

The purpose of the De-Risking Plan is to support the LTO by adjusting the Portfolio Objective, Strategic Asset Allocation and Investment Restrictions as below.

Investment Strategy	Strategy A (initial)	Strategy B	Strategy C
Objectives* p.a.	**Gilts + 1.5%**	**Gilts + 1.25%**	**Gilts + 1.0%**
Strategic Allocation of capital to Sub-Portfolio			
Matching Assets Sub Portfolio	**62%**	**70%**	**79%**
• LDI and Cash	30%	30%	30%
• Matching Credit	32%	40%	49%
Growth Assets Sub-Portfolio	**38%**	**30%**	**21%**
Hedge Ratio	100%	100%	100%

*The objective of each investment strategy is to outperform the percentage return of a portfolio of gilts and inflation linked gilts that match the interest rate and inflation sensitivity of the Fund's Liability Benchmark (as valued on a Proxy Technical Provisions basis) by the amount specified per annum net of fees, over a rolling 3-year period.

The Fiduciary Manager shall maintain the allocations to the Matching Asset Sub-Portfolio and the Growth

Assets Sub-Portfolio within the ranges set out in the table below. The Fiduciary Manager has absolute discretion to alter the allocations to the Sub-Portfolios and underlying investments within these ranges.

Investment Strategy		**Strategy A**	**Strategy B**	**Strategy C**
		Capital Allocation Ranges (Exposure ranges, where different)		
Sub-Portfolio	**Asset Class**	**Range**	**Range**	**Range**
Matching Assets		**47-77%**	**55-85%**	**67-91%**
	LDI and Cash	15-45%	15-45%	15-45%
	Matching Credit	17-47%	25-55%	34-64%
Growth Assets		**23-53%**	**15-45%**	**9- 33%**
	Equities (exposure)	5% - 25%	0% - 20%	0% - 15%
	Alternatives	5% - 20%	0% - 20%	0% - 15%
	Other Fixed Income	5% - 20%	0% - 20%	0% - 15%
Hedge ratio		**Range**	**Range**	**Range**
		92.5 - 107.5%	92.5 - 107.5%	92.5 - 107.5%

4. Setting the Fund's investment strategy

When setting the Fund's investment strategy, the Trustee took into account a wide range of considerations, as set out in the SIP. The strategy review included modelling the Fund's assets and liabilities over a wide range of possible scenarios for future economic conditions.

The overall goal of the investment strategy is to outperform the return of a portfolio of gilts and inflation linked gilts that match the interest rate and inflation sensitivity of the Fund's liabilities by +1.5% per annum net of fees, over a rolling 3-year period (but subject to the de-risking plan above).

5. Appointment of the investment managers

5.1. How many investment managers are there?

The Trustee has appointed CT as the overall Fiduciary Manager of the Fund's assets.

CT will select underlying investment managers or instruments at their discretion within the parameters set out above.

5.2. What formal agreements are there with investment managers?

The Trustee has signed a formal agreement with CT as the Fiduciary Manager and has subscribed to a Private Sub-Fund managed by CT which contains only the assets of the Fund. Within the Private Sub-Fund CT, acting as the overall investment manager will purchase holdings in investment funds, securities or appoint other investment managers on behalf of the Private Sub-Fund. The formal agreement with CT sets out in detail the terms on which the Private Sub-Fund is managed, including the need for suitable and appropriately diversified investment.

5.3. Investment management fee arrangements

The Trustee recognises that the provision of investment management, dealing and advisory services to the Fund result in a range of charges.

The Trustee has agreed Terms of Business with the Fund's actuarial advisor and investment adviser / Fiduciary Manager, under which charges are calculated on either fixed fees, or "time-cost" basis, or in the case of the investment advisor / Fiduciary Manager as a percentage on assets under management.

Underlying investment managers selected by the Fiduciary Manager receive fees calculated by reference to the market value of assets under management. The fees charged by each manager are calculated using a fixed percentage of the assets managed. The fee rates are negotiated by the Fiduciary Manager and are believed to be consistent with the managers' general terms for institutional clients and are considered by the Trustee to be reasonable when compared with those of other similar providers.

The fee structure used in each case has been selected with regard to existing custom and practice, and the Trustee's view as to the most appropriate arrangements for the Fund. However, the Trustee will consider revising any given structure if and when it is considered appropriate to do so.

6. Review

The Trustee will, from time to time, review the appropriateness of this IID with the help of its advisers, and will amend the IID as appropriate. These reviews will take place as soon as practicable after any significant change in investment policy or amendment to the SIP, and at least once every three years.

Print Name:

Signed:

…………………………………..
Date:

For and on behalf of
The Trustees of the Ricardo Group Pension Fund

Investment manager arrangements

The Trustee has selected the following managers to manage the Fund's assets. The table shows the agreed split of the assets between the investment managers:

Asset class	Manager	Benchmark allocation %
LDI and Cash-Sub Portfolio	CT	30
Matching Credit Sub-Portfolio (corporate bonds)	Managers selected by CT	32
Total matching assets		**62**
Growth Asset Sub-Portfolio (Equities, alternative asset classes and other fixed income)	Managers selected by CT	38
Total Growth Assets		**38**
Total		**100**

1. Growth Asset and Matching Credit Sub-Portfolios

The Trustee has appointed CT to manage the Fund's overall investment strategy. The goal of the overall investment strategy is to outperform the return of a portfolio of gilts and inflation linked gilts that match the interest rate and inflation sensitivity of the Fund's liabilities by +1.5% per annum net of fees, over a rolling 3-year period.

The Growth Asset and Matching Credit Sub-Portfolios aim to outperform the Fund's liabilities. Each manager or strategy selected by CT within these Sub-Portfolios will have a specific benchmark applicable to their market sector. Permitted investment strategies within the Growth Asset and Matching Credit Sub-Portfolios are below.

Growth Assets Sub-Portfolio:

CT or 3rd party funds or collective investment vehicles investing in the below asset classes or a combination thereof:

- Equities
- Fixed income
- Alternatives including but not limited to:
    - Real estate
    - Global Infrastructure
    - Absolute Return strategies (including long/short strategies)
    - Insurance Linked Securities.

Matching Credit Sub-Portfolio:

CT or 3rd party funds or collective investment vehicles investing in:

- Global or Sterling corporate bonds and other money market instruments with a majority allocation to investment grade corporate bond issuance at the point of purchase.

Derivatives:

The Private Sub-Fund may use derivatives for risk management, investment exposure and efficient portfolio management, including:

- Use of FX derivatives to hedge overall currency risk
- Derivatives held to seek long term or short-term market exposure to outperform the Fund's liabilities
- Derivatives held to facilitate an effective transition of assets either into or out of the Private Sub-Fund or across other investments
- Derivatives may also be used within funds held within the Private Sub-Fund.

Segregated accounts:

The Private Sub-Fund may hold segregated accounts where this is deemed beneficial by the Fiduciary Manager.

2. CT (LDI and Cash)

The Trustee has appointed CT to manage the Fund's LDI and Cash Sub-Portfolio assets.

There is no formal benchmark allocation between the LDI and cash assets within the Sub-Portfolio. Rather, there is an overall capital allocation band for these assets and a target to hedge 100% of the interest rate and inflation risk of the Fund's funded liabilities valued on a Proxy Technical Provision Basis (the Hedge Ratio). CT will achieve the liability hedge via selection of appropriate CT pooled LDI funds and cash funds.

CT's LDI funds use leverage to enable them to provide greater liability hedging characteristics than an unleveraged fund. This means that depending on changes in long-term interest rate and inflation expectations, the leverage within the funds may increase or decrease. From time to time, this may result in either:

- the funds having more than sufficient capital to support the liability hedging and a release of capital into Growth or Matching Credit assets; or
- the funds requiring additional capital to support the liability hedging, with capital being allocated from Growth or Matching assets.

LDI and Cash Sub-Portfolio: Permitted assets

CT may invest in funds included in their Sterling CT LDI Fund range inclusive of CT Money Market Funds.

Hedge Ratio Calculation

The Hedge Ratio shall be calculated as: 100% x Proxy Funding Level (rounded to 0.1%)

The Proxy Funding Level shall be defined as:

$$\frac{\text{Value of the assets held in the Private Sub Fund}}{\text{(Present value of the Liability Benchmark valued using a “Proxy Technical Provisions basis”)}}$$

The Liability Benchmark for the Hedge Ratio calculation is a series of Fixed and Inflation-linked Cashflows constructed by CT to broadly replicate the Funds defined benefit pension liabilities. CT constructs the benchmark based on expected pension liability cashflow data produced by the Fund's actuary. The benchmark is valued using the Proxy Technical Provisions Basis, being CT's estimate of the Actuary's technical provision valuation basis.

The value of this benchmark may not precisely track the technical provision basis and CT will update this benchmark as new cashflows or valuation points are provided by the actuary from time to time.

CT will monitor the Hedge ratio quarterly within a tolerance of +/- 7.5% from the Hedge Ratio.

CT has discretion to build the liability hedge using any of the Permitted Assets within the LDI and Cash Sub-Portfolio and may switch between them on an ongoing basis with a view to achieving the Hedge Ratio and overall strategy return objective.

Rebalancing between managers and asset classes

The Fiduciary Manager will monitor assets versus the strategic asset allocation and asset allocation ranges set out above and will rebalance within these with discretion. The Trustee will review the Fund's strategic benchmark and monitor the asset allocation versus the ranges.

3. Additional Voluntary Contributions ("AVCs")

There is no longer a facility for members to pay AVCs into the Fund. Members' accumulated AVCs were invested separately from the assets of the Fund with Utmost (previously Equitable Life) and L&G. These were transferred to the LifeSight Master Trust in 2021 as part of the transfer of the Ricardo International Pension Scheme to the same Master Trust. There are therefore no AVC funds remaining within the Scheme.