Federated City Employees' Retirement System

Investment Policy Statement

Approved by the Board of Administration on 4/19/2018

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PENSION – INCLUDES THE 401(H) INVESTMENTS

1) This investment policy statement governs investments for the City of San Jose Federated City Employees' Retirement System (the "System"). The System is a defined benefit retirement program for certain employees of the City of San Jose in the State of California. The terms of the System are described in the San Jose Municipal Code Chapter 3.28.1975 Federated Employees Retirement Plan.

2) The System's fund (the "Fund") will be managed as a going concern with a long-term investment time horizon, consistent with the demographic profile of the System's members and beneficiaries.

FIDUCIARY STANDARDS

3) The Board of Administration is subject to the following duties under law:[1]

   a) The assets of the System are trust funds and shall be held for the exclusive purposes of providing benefits to members of the System and their beneficiaries and defraying reasonable expenses of administering the System.
   b) The Board shall discharge its duties with respect to the System solely in the interest of, and for the exclusive purposes of providing benefits to, members of the System and their beneficiaries, maintaining the actuarial soundness of the System, and defraying reasonable expenses of administering the System. The Board's duty to the members and their beneficiaries shall take precedence over any other duty.
   c) The Board shall discharge its duties with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of like character and with like aims.

4) Investment staff, investment consultants, investment managers, custodians and all other parties charged with handling the System's assets shall utilize the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of like character and with like aims, and shall comply with all applicable laws, rules and regulations.

FUND GOVERNANCE

5) The governance structure of the Fund is described in the City Charter and in various governance policies established by the Board of Administration, including but not limited to:

   a) Policy on the Role of the Board of Administration
   b) Policy on the Role of the Investment Committee
   c) Policy on the Role of the Director of Retirement Services
   d) Policy on the Role of the Chief Investment Officer
   e) Policy on Roles in Vendor Selection

INVESTMENT OBJECTIVES

6) The primary objective of the investment portfolio is to satisfy the System's obligations to pay benefits to members of the System and their beneficiaries. To do so, the Fund will seek to achieve long-term net returns in excess of the actuarial investment return assumption while maintaining a reasonable level of investment risk.

[1] Per section 350 of Chapter 3.28, 1975 Federated Employees Retirement Plan.

7) The investment portfolio also seeks to achieve a long-term net rate of return that exceeds the return of a composite benchmark of the respective long-term asset allocation targets. Please see Appendix A for the composition of the composite benchmark.

8) A range of risks will be managed in connection with the Fund, with an emphasis on the following:

   a) The impact of the investment program on the funded status of the System and the resulting volatility of contributions.
   b) Risk of loss of System assets.

9) In developing the investment policies of the System, various factors will be considered including, but not limited to:

   a) The structure and duration of the System's liabilities.
   b) Modern Portfolio Theory.
   c) The liquidity needs of the System.

ASSET ALLOCATION

10) The long-term strategic asset allocation of the Fund will be determined based on the results of an asset allocation study.

11) The current long-term strategic asset allocation of the Fund (at market value) is set out below:

Federated City Employees' Retirement System			
Broad Asset Class	***Minimum (%)***	***Target (%)***	***Maximum (%)***
Global Equity	20	28	36
Private Equity	4	9	14
Global Fixed income	23	33	43
Private Debt	2	6	10
Absolute Return	6	11	16
Real Assets	8	13	18
Opportunistic	0	0	5
Cash	0	0	10
Total		**100**	

12) The Board is committed to implementing and maintaining the above long-term strategic asset allocation policy, but also recognizes that circumstances may arise where it is not possible or practical to timely implement or maintain the policy, particularly with respect to illiquid asset classes such as private real estate, private equity, hedge funds, private real assets, and private debt. In such circumstance, the Board will monitor the status of the long-term strategic asset allocation and seek to comply with the policy when it is possible and prudent to do so. In addition, the Board may review the current asset allocation targets at any time in light of market conditions, and make changes as it deems necessary.

13) The long-term strategic asset allocation of the Fund will be reviewed at a minimum every five years based on the results of an asset liability study. However, since projected liability and risk/return expectations may change such studies may also be performed on an interim basis, as necessary.

14) The Board will also approve an Investment Structure, which provides additional detail as to the allocation of assets to categories of investment within the broad asset classes that comprise the long-term strategic asset allocation. The Investment Structure and any changes thereto do not require that an asset allocation study be performed.

15) The CIO may utilize the following portfolio components to fulfill the Boards strategic asset allocation and to diversify across risk factors and return sources.

Global Equity – *Growth, Inflation, Currency*
The purpose of Global Equity is to provide the System exposure to the total return due to equity capital owners, including exposure to capital appreciation from economic growth.
Private Equity – *Growth, Other (liquidity)*
The purpose of Private Equity is to provide similar exposures as Global Equity while systematically capturing an illiquidity premium.
Global Fixed Income – *Rates, Credit, Inflation, Currency*
The primary purpose of Global Fixed Income is to provide exposure to rates and credit risk, providing a combination of capital preservation and return-seeking assets.
Private Debt – *Credit, Other (liquidity)*
The purpose of Private Debt is to provide similar exposures as Global Fixed Income while opportunistically capturing an illiquidity premium.
Real Assets – *Inflation, Rates, Currency, Other (liquidity)*
The purpose of Real Assets is to provide a positive real rate of return in all environments, with an emphasis on maintaining purchasing power in periods of high or increasing inflation.
Absolute Return – *No traditional factor exposures*
The purpose of Absolute Return is to achieve consistent positive returns while reducing overall System volatility and increasing Sharpe ratio. This is accomplished by low correlation and beta to factor exposures, and producing alpha-based returns.
Opportunistic – *Variable exposure to Growth, Inflation, Rates, Credit, Currency, Other*
The purpose of the GTAA allocation is to provide diversification, while producing an asymmetric return profile and limiting coincident downside relative to equities and credit. The purpose of Opportunistic is to seek highly attractive risk adjusted returns.
Cash – *No traditional factor exposures*
The purpose of Cash is to maintain sufficient liquidity for System expenses and tactical portfolio positioning.

REBALANCING

16) The strategic asset allocation of the Fund will be monitored on a monthly basis and the assets of the Fund are to be rebalanced to within the target ranges when fluctuations in market values cause the portfolio to fall outside the guideline ranges set out above. Such re-balancing shall occur as soon as practical unless the approval of the Investment Committee is obtained.

17) When re-balancing, funds will generally be taken from accounts that are most significantly above their approved ranges and will be transferred to accounts that are most significantly below their approved ranges until allocation is within the guideline ranges, also taking into account market conditions, liquidity, transaction costs, as well as any other relevant factors. The Retirement System will be rebalanced to tactical rather than long-term target allocations in circumstances where the Board of Trustees have approved a tactical allocation. An asset allocation overlay service may be engaged to monitor allocation and to initiate rebalancing actions to maintain the portfolio in accordance with these guidelines.

DIVERSIFICATION

18) Investments shall be diversified with the intent to minimize the risk of large investment losses. Consequently, the total portfolio will be constructed and maintained to provide prudent diversification with regard to the concentration of holdings in individual asset classes, issues, issuers, geographies, or industries. Furthermore, assets will be assigned to a variety of investment managers that employ a range of investment management strategies.

19) Consistent with paragraph 20 above:

    a) No single investment management firm shall be authorized to manage more than 10% of the System's assets without Board approval
        i) with the exception of passive management where the System's assets are not held in the System's name at the System's custody bank
        ii) in which cases can manage no more than 20% of the System's assets without Board approval.
    b) As a general rule, System assets placed with an investment manager should not represent more than 10% of the total assets managed by that firm, without Board approval.

LIQUIDITY MANAGEMENT

20) The projected cash flow needs of the System are to be reviewed at least quarterly and the custodian and investment managers of the Fund are to be informed in writing in a timely manner of the liquidity needs of the Fund. If necessary, cash flow needs will be coordinated through the System's rebalancing provisions contained herein or through the liquidation of other assets.

21) The CIO is entrusted with ensuring that sufficient monies are available to meet pension benefits, member refunds, administrative payments, manager funding and other cash flow requirements. As such liquidation of assets is required at times to meet these obligations. The CIO shall have the authority to determine the most appropriate asset class to liquidate to provide the cash needed. The CIO will present a quarterly written report to the Investment Committee which includes any liquidation action taken.

PROXY VOTING

22) The Board recognizes that the voting of proxies is important to the overall performance of the System. The Board has delegated the responsibility of voting all proxies to the investment managers or a third party service provider. The Board expects that the proxy voting service will execute all proxies in a timely fashion and in the best interest of System members and beneficiaries. Also, the Board expects the managers to provide a full accounting of all proxy votes, and upon request, a written explanation of individual voting decisions.

23) As of the date of this Policy, the Board has delegated its proxy voting authority on all domestic and international securities to the investment managers, as well as hedge fund managers.

HIRING & TERMINATING INVESTMENT MANAGERS

24) Investment managers should meet the following criteria in order to be considered to manage the assets of the System.
    a) Be capable of providing adequate and satisfactory information on the history of the firm, key personnel, key clients, fee schedules, and support personnel. Such information must demonstrate acceptable financial and staff stability and longevity.
    b) Be able to clearly articulate the investment strategy that will be followed and demonstrate that the strategy has been successfully adhered to over time.
    c) Have no past or outstanding legal judgments against them, which reflect negatively upon the firm or call into question the ability of the firm to serve as a fiduciary of the System.

25) Staff-level procedures shall be prepared detailing the additional criteria and processes to be used in conducting investment manager due diligence and in arriving at recommendations to select or terminate an investment manager. Such procedures shall be reviewed with the Investment Committee and the Board from time to time.

26) The procedures noted in paragraph 27 above shall require at a minimum that recommendations to appoint or terminate an investment manager shall be accompanied by a report, prepared by an external investment advisor and/or investment staff, containing investment staff's and/or the investment advisor's recommendations and summary analysis.

27) The CIO shall have the authority to terminate any manager prior to the next scheduled Investment Committee meeting when in his/her estimation imminent impairment to assets could occur. Termination may result from any unanticipated events including; changes in organizational structure or personnel, compliance issues, changes in strategy or style, uncharacteristic performance. The CIO will present a written report to the Investment Committee for any termination at the next scheduled Investment Committee meeting.

28) In addition to the aforementioned the Board has delegated authority to the Investment Committee to terminate any manager with System assets of less than $50 million with a unanimous vote of the IC.

MONITORING INVESTMENT MANAGERS

29) The System's investment managers will be monitored on an ongoing basis and may be terminated by the System at any time due to performance or other developments that call into question the manager's ability to continue to effectively manage assets of the System.

30) The CIO shall have the authority to increase/decrease allocations to previously approved manager provided it is consistent with house views adopted in the Annual Investment Work Plan, or subsequent update, provided that

no allocation be increased/decreased more than 50% from the initial manager funding amount without prior Investment Committee approval. The CIO will present a quarterly written report to the Investment Committee which includes any increase/decrease to manager allocations.

31) The CIO shall have the authority to reallocate among previously approved managers between sub-asset classes provided it is consistent with house views adopted in the Annual Investment Program Work Plan or subsequent update. The CIO will present a quarterly written report to the Investment Committee which includes any reallocations among managers between sub-asset classes.

32) Quarterly performance of investment managers will be measured and evaluated relative to appropriate long-term performance benchmark and objectives, though it is understood that investment managers will, from time to time, underperform their benchmarks and objectives. Persistent underperformance by an investment manager, however, will be viewed as the basis for an extraordinary review of that manager and the manager's potential termination.

33) Certain other events may also trigger an extraordinary review, and possible termination, of an investment manager. These include, but are not limited to:
   a) Failure to adhere to the terms of the contract between the manager and the System.
   b) Loss of an investment professional(s) directly responsible for managing the System's assets, or who is/are so significant to the firm's overall investment process as to call into question the future efficacy of that process.
   c) The sale of the investment management firm to another entity, or other change in ownership.
   d) The purchase of another entity by the investment management firm.
   e) Significant account losses and/or extraordinary addition of new accounts.
   f) Regulatory actions against the firm, particularly any that represent violations of securities laws and regulations.
   g) Any other event which may impair the manager's ability to perform in a satisfactory manner or puts the System's assets at undue risk of loss.

34) A "Watch List" will be established for underperforming managers and managers under extraordinary review for qualitative reasons listed in item 33 above.
   a) Quantitative criteria for underperformance which would trigger placement on the Watch List includes manager underperformance versus the appropriate benchmark over a three and/or five year period.
   b) Potential actions resulting from placement on the Watch List include finding appropriate resolution of outstanding issues, renewed confidence in the manager or strategy, or determination that the termination of the manager or strategy is appropriate.
   c) Investment staff will identify underperforming managers in conjunction with consultants and highlight underperforming managers to trustees during each quarterly review.
   d) As necessary, nuanced investment strategies or fund types may require customized review.

Derivative Securities

35) Derivative securities are financial instruments that "derive" their value from an underlying commodity, index or security. Examples include futures, options and forward contracts. Derivatives can provide a cost-effective means of managing portions of a portfolio and to manage risk through hedging activities. Examples of such uses include:
   a) Equitizing cash during portfolio transitions until "physical" securities are in place.
   b) Managing asset allocation on a temporary basis.

c) Hedging foreign currency risk, subject to approved limits.

36) In general, the use of derivatives for the purposes noted above, and similar risk management purposes, is supported by the Investment Committee and the Board. Speculative positions in derivatives however are not authorized under any circumstances.

37) Additional derivatives strategies must be authorized by this Investment Policy Statement prior to being utilized within the Fund.

38) Given the nature of many investment managers' mandates, it is recognized and understood that investment managers retained by the Fund may use derivatives that are contrary to paragraphs 36 and 37 above.

INVESTMENT RESTRICTIONS

39) Investment management agreements will be established for each investment manager retained by the System. Such agreements shall specify any policies, risk controls, portfolio characteristics, reporting requirements, and other requirements or restrictions that may be applicable to the manager.

INVESTMENT FEES AND COSTS

40) The Plan will seek alignment of interests when negotiating fees while pursuing the best net of fees performance results. Investment costs shall be monitored, controlled, and whenever possible negotiated to ensure cost effectiveness. The Board shall give consideration to the impact of administrative expenses, external management fees and performance fees when establishing the asset mix policy of the Plan. The Board will be provided reports on investment costs of the Plan at least annually.

a) The Plan's staff, in coordination with its investment consultants and legal counsel, will negotiate, monitor, and report on fees with investment managers regularly to ensure market competitiveness and appropriateness.

b) The Plan will seek to ensure that excessive fees are not being paid for alternative assets by reviewing manager fees at least annually. Fee structures could incorporate fixed fees, performance based fees, high water marks, waterfalls, hurdles, floors and caps. The Plan may also incorporate multi-year performance periods with clawbacks as needed.

INVESTMENT AUTHORITY

The Board of Administration has responsibility for the Plan's investment portfolios and must set investment parameters, monitor investment activities, and allocate assets and risk. Within its authority, the Board of Administration may delegate responsibilities to the Investment Committee, appropriate staff, and/or third parties such as investment consultants. When properly defined and delineated, the roles and responsibilities of the Board of Administration, investment consultants, and internal investment staff create efficiencies and checks and balances inherently necessary to optimize investment performance and to implement governance and operational best practices.

The Role of the Board of Administration

- Establish and approve the Plan's Investment Policy Statement.
- Approve investment procedures, with periodic review and approval as needed, providing guidance to the Chief Investment Officer, the investment staff and the investment consultants implementing Board of Administration decisions and ensuring compliance with the Plan's policies and guidelines.
- Conduct an annual strategic review of asset allocation and associated risks with the input of the investment staff, investment consultant and actuary, approving changes as necessary.
- Review asset performance and strategy relative to actuarial liabilities in concert with the actuarial study, or as needed.
- Review investment performance and compliance on a quarterly basis or as needed.
- Hire and terminate investment managers.
- Hire, monitor and terminate investment consultants as necessary to provide investment services as a complement to internal staff.
- Review the Plan's investment program fees and expenses and administrative costs on an annual basis.

The Role of the Investment Staff

- Establish and manage all investment portfolios in accordance with approved asset allocation and investment policies, ensuring investment manager compliance with the Plan's policies, procedures and investment guidelines.
- Conduct an annual asset allocation study, working with the general investment consultant, making recommendations to the Board of Administration for approval as necessary.
- Manage and review all legal and tax documents required of the Plan's investment program, supported by internal and/or external legal counsel and tax advisors.
- Conduct investment due diligence regularly for all funded and prospective investment managers to seek to ensure that the Plan's portfolio has best-in-class investment performance and risk adjusted returns.
- Maintain an investment manager watch list, identifying investment managers and products that have experienced significant underperformance, a material event or a strategic failure.
- Monitor asset allocation, including any cash overlay programs, and rebalance assets as required to stay within approved allocation ranges, unless otherwise directed by the Board.
- Report and review all investment related fees and expenses, in accordance with applicable laws, with the Investment Committee at least annually.
- Manage cash to meet all financial obligations, benefits, expenses and capital calls in a timely manner.
- Provide investment related documentation as necessary to support financial reporting, actuarial studies, internal and external audits and other official forms and requests.

The Role of the Investment Consultants

- Conduct asset allocation studies, risk assessments, and asset class strategy studies, depending on the consulting mandate, with the Plan's staff, presenting to the Board of Administration on a quarterly basis or as needed, to strategically guide the Plan's investment portfolios.
- Independently review all applicable investments, incumbent or prospective, depending on mandate, providing expert opinion and/or recommendation to the Plan's staff and the Board of Administration regularly.
- Review investment performance and benchmarks with investment staff and the Board of Administration quarterly or as needed depending on the mandate.
- Provide macroeconomic data and related education to investment staff and the Board of Administration as needed.
- Assist with fee negotiations with investment managers as necessary.
- Provide support for the actuarial study as needed.

VALUATION OF INVESTMENTS

41) The Fund's investments shall be valued using market values or other suitable methods of valuation. The frequency of valuation shall be dependent upon the nature of the asset.

42) Where a public market price is not available for an investment, a suitable method of valuation shall be used including the use of: discounted cash flows, earnings multiples, appraisals, prevailing market rates for instruments with similar characteristics or other pricing models as appropriate. Independent, qualified appraisers may be used to provide valuations or verify the reasonableness of internal valuations. Financial statements audited by qualified external auditors may be used as reasonableness of valuations.

OTHER

43) Appendix A contains the long-term Policy Benchmark.

44) Appendices B-H contain additional policy guidelines concerning each asset class.

45) Exceptions to this Investment Policy Statement must be approved by the Board.

POLICY REVIEW & HISTORY

46) This policy will be reviewed at least annually.

Appendix A

Long-term Policy Benchmark

Federated City Employees' Retirement System		
Asset Class	**Benchmark**	**Target (%)**
Global Equity	MSCI ACWI IMI	28
Private Equity	Cambridge Associates Private Equity Index (Lagged 1 Quarter)	9
Global Fixed Income	80% Barclays Global Aggregate/5% BAML Global High Yield/5% S&P Global Leveraged Loan/5% JPM EMBI-GD/5% JPM GBI-EM-GD	33
Private Debt	S&P Global Leveraged Loan + 2%	6
Real Estate	NCREIF Property Index	8
Commodities	Bloomberg Commodity Index	4
Infrastructure	Dow Jones Brookfield Global Infrastructure Index	1
Absolute Return	HFRI All Macro Index	11
Opportunistic	60% MSCI ACWI IMI/40% Barclays Global Aggregate	0

Appendix B

Public Equity

ASSET CLASS PHILOSOPHY

The Public Equity asset class invests in publicly listed shares of companies to generate returns.

The asset class uses a combination of passive and active strategies to target drivers of return globally, with the ability to vary exposures across regions, market capitalizations, and styles. The performance of the constituent strategies must be primarily driven by price changes in equities.

The exposures of the asset class will be allocated across the aforementioned dimensions according to an assessment of the factor's relative risk-adjusted return potential in the context of the System's aggregate exposures. Most assessments rely upon the Program's belief that valuations mean revert over time. Some exposures may be more opportunistic, or not tied to the mean reversion of a risk premium; such exposures will be presented with a specific investment thesis and time horizon for re-evaluation.

The aggregate exposures of the Public Equity asset class must be aligned with the goals of the System at large, and correspondingly should be viewed in context of the exposures held across the System.

OBJECTIVES

1) The Public Equity asset class will be structured to help the System achieve its long-term risk-adjusted return objective.

2) The policy benchmark of the Public Equity asset class is MSCI ACWI IMI (Net Dividends). The benchmark is not currency hedged.

CHARACTERISTICS AND CONSTRAINTS

3) The portfolio will be structured:

> a) To be a diversified, global portfolio with superior risk return characteristics;
>
> b) To maintain factor exposures consistent with the correlations and risk levels envisioned in the asset allocation;

4) The Public Equity asset class will be subject to the following constraints:

> a) Diversification requirements as it relates to concentration of System assets with a single investment manager and as a percentage of assets under management for an investment manager, as described in the full Investment Policy Statement;
>
> b) Adherence to the strategic asset allocation ranges described in the full Investment Policy statement;
>
> c) Adherence to the tactical asset allocation ranges, discretionary ranges, and/or risk parameters that may be set by the Investment Committee or Board. The asset class will normally be fully invested in equity related strategies, although individual strategies may hold cash;

d) Strategies may hedge currency to manage risk-adjusted returns;

e) Strategies may have variable net exposures, including hedge fund strategies

5) Any breach of above target allocations or portfolio constraints requires notification to the Investment Committee to discuss appropriate action.

Appendix C

Private Equity

Objective

The private equity portfolio seeks to achieve superior risk-adjusted returns and outperformance relative to a public equity benchmark plus an illiquidity premium, with a defensive risk profile achieved through diversification and bottom-up due diligence. The Federated City Employees' Retirement System ("System") seeks to invest in private equity funds that are expected to be in the top quartile of the private equity fund universe, opportunistically invest in private equity fund secondaries, and strategically co-invest alongside private equity funds, in order to achieve this objective.

The policy benchmark of the private equity portfolio is:

a) Cambridge Associates Private Equity Index

Additional benchmarks that may be considered include the following:

b) Burgiss Private iQ All Private Equity, All Regions
c) MSCI ACWI IMI Public Market Equivalent +300 bps

Portfolio Characteristics

The asset class should include the following characteristics:

a) Global core private equity program focused on investments across regions and diversification across vintage years and investment strategies;
b) Portfolio of leading private equity managers seeking to generate superior performance through operational improvements within their portfolio companies;
c) Active portfolio management through opportunistic direct co-investments and secondary purchases seeking to reduce the "J-curve", improve IRR performance, and the private equity portfolio's cash-flow profile.

Target Allocation

Investment Type	**Target**
Primaries	0-80%
Direct Co-Investments & Secondaries	0-40%
Geography (Primaries Only)	**Target**
North America	40-55%
Europe	35-45%
Rest of World	0-15%
Strategy (Primaries Only)[1]	**Target**
Buyout (includes growth equity)	0-80%
Special Situations	0-30%
Venture Capital	0- 20%

1. Buyout includes growth and special situations includes natural resources/energy, and other strategies

Pacing Plan

The Net Asset Value (“NAV”) of the private equity portfolio represents the actual allocation relative to the long-term policy target allocation. The NAV will be monitored and projected on a regular basis to confirm the trajectory is consistent with the target allocation. A cash flow model incorporating each investments’ characteristics (vintage, type, strategy, etc.) will be used to calibrate the NAV projection. This projection will reflect the “run-off” of mature investments, and the “ramp-up” of new investments.

A pacing plan will be conducted on an annual basis, providing a directional guideline for future commitments based on market conditions. In addition, the System may allocate to new investments more or less than the pacing plan implies, based on the attractiveness of market conditions and market opportunities.

Appendix D

Global Fixed Income

ASSET CLASS PHILOSOPHY

The Global Fixed Income asset class invests in securities and portfolio management strategies that utilize contractual obligations of governments, corporations, and structured products globally. The Global Fixed Income asset class provides exposure to rates and credit risk factors across traditional and hedge fund investment vehicles.

Fixed income has historically been included in asset allocations because (i) it has historically exhibited low correlation with equity markets – enhancing expected risk-adjusted return in a diversified portfolio; and (ii) it has historically generated moderate current income as a component of total return – providing cash flow to meet liabilities and insulate against market value fluctuations. These traits – low correlation and current income as a component of total return – may not exhibit their historical tendencies in times of extremely high or extremely low interest rates, though over the long term they are expected to revert to their traditional characteristics.

The purpose of Global Fixed Income is to maintain the historical fixed income benefits of low correlation and total return across all market environments. To accomplish this objective across various market environments, exposure to rates, credit, and other risk factors can deviate materially from those of the benchmark according to asset allocation at the System (Fed) / Plan (P&F) level, phases in the economic/credit cycle, and tactical positioning informed by staff views on macroeconomic fundamentals, valuation, and market technicals. Implementation may be achieved predominantly through active management because benchmark construction can be sub-optimal and the over-the-counter nature of fixed income securities can create technical imbalances.

OBJECTIVES

1) The Global Fixed Income asset class will be managed to achieve the following long-term portfolio objectives:

> a) Return: To earn an annualized return net of expenses that exceeds the annualized total rate of return of the blended benchmark over a market cycle;
>
> b) Risk: To exhibit forecasted and realized annualized volatility over a market cycle similar to or less than the benchmark;
>
> c) Income: To provide current coupon income similar to that of the Global Fixed Income policy benchmark;
>
> d) Liquidity: To be a source of liquidity for rebalancing, changes in asset allocation, and operational liquidity requirements.

2) The policy benchmark of the Global Fixed Income asset class is a blend of several indices:

> 80% Bloomberg Barclays Global Aggregate – unhedged

5% S&P Global Leveraged Loan
5% Bank of America Merrill Lynch Global High Yield
5% JP Morgan GBI-EM Global Diversified
5% JP Morgan EMBI Global Diversified.

PORTFOLIO CHARACTERISTICS

3) The portfolio will be structured:

a) To be a diversified, global portfolio with superior risk-adjusted return characteristics;

b) To include multiple fixed income strategies;

c) To maintain factor exposures consistent with the correlations and risk levels envisioned in the asset allocation;

d) To exclude direct allocations to private fund structures.

TARGET ALLOCATION

Sub-Asset Class	Targeted Exposures (% of Net Asset Value)
Global Core	25% - 100%
Non-Investment Grade Credit	0% - 50%
Emerging Market Debt	0% - 50%

PORTFOLIO CONSTRAINTS

4) The Global Fixed Income asset class will be subject to the following constraints:

a) Diversification requirements as it relates to concentration of System (Fed) / Plan (P&F) assets with a single investment manager and as a percentage of assets under management for an investment manager, as described in the full Investment Policy Statement;

b) Adherence to the strategic asset allocation ranges described in the full Investment Policy statement, and the sub-asset class ranges described in the target allocation section above;

c) Adherence to the tactical asset allocation ranges, discretionary ranges, and/or risk parameters that may be set by the Investment Committee or Board.

5) Any breach of the target allocations, above, or portfolio constraints requires notification to the Investment Committee to discuss appropriate action.

Appendix E

Private Debt

ASSET CLASS PHILOSOPHY

The Private Debt asset class invests in securities and portfolio management strategies that provide similar exposures and risk factors as the Global Fixed Income asset class, but have characteristics that make them suitable only for illiquid, private fund structures.

The Private Debt asset class is managed in a style reminiscent of private equity, with annual pacing plans to guide commitments to drawdown structures. Performance is evaluated on the basis of net-of-fees IRR and multiples on invested capital compared with public market equivalents.

Private Debt is an opportunistic asset class whose attractiveness varies significantly with changes in the liquidity of fixed income markets. Consequentially, the NAV and the aggregate commitments, as a percentage of System, may substantially deviate from target asset class weights.

OBJECTIVES

1) The private debt portfolio will be managed to achieve the following long-term portfolio objectives:

> a) Return: To earn an annualized return that exceeds the annualized total rate of return of the S&P Global Leveraged Loan Index by 2%;
>
> b) Risk: To exhibit a forecast and realized annualized volatility similar to the benchmark;
>
> c) Income: To provide current coupon income in excess of that of the Global Fixed Income policy benchmark;
>
> d) Liquidity: To generate annual income through realizations of portfolio investments that equal or exceed annual capital calls by managers to fund fees and investments once the program is fully mature.

2) The policy benchmark of the private debt portfolio is the S&P Global Leveraged Loan Index plus 2%.

PORTFOLIO CHARACTERISTICS

3) The portfolio will be structured:

> a) To be a diversified, global portfolio with superior risk return characteristics;
>
> b) To include multiple private debt strategies;
>
> c) To emphasize strategies that provide high levels of contractual income;
>
> d) To exclude direct allocations to private equity strategies, and target limited exposure on a look through basis, as defined by no more than 30% of return derived from equity securities.

TARGET ALLOCATION

Strategy	Targeted Exposures (% of Committed Capital)
Senior Loans / Direct Lending	25% - 100%
Mezzanine / Subordinated Debt	0% - 25%
Distressed (for control and non-control)	0% - 25%
Niche strategies	0% - 75%

PORTFOLIO CONSTRAINTS

4) The private debt portfolio will be subject to the following constraints:

> a) Aggregate commitments of funds in their investment period to any single investment manager should not represent more than 30% of the private debt portfolio;
>
> b) Aggregate commitments of funds in their investment period to any single investment manager should not represent more than 4% of the total System;
>
> c) Aggregate commitments (without regard to their investment period) should not represent more than 10% of investment manager's total capital commitments under management.

5) In such circumstance where it is not possible or practical to timely implement or maintain the policy, the Investment Committee will monitor the status of the Private Debt asset class and seek to comply with the policy when it is possible and prudent to do so.

Appendix F

Real Assets

ASSET CLASS PHILOSOPHY

The Real Asset allocation is intended to be a diversifier to the total investment portfolio. Real Assets have traditionally provided diversification benefits through low correlations to other asset classes. A secondary benefit of investing in real assets is that Real Assets are tangible assets, with intrinsic value, that often offer a reasonable expectation of inflation protection. The purpose of Real Assets is to maintain purchasing power in periods of high or increasing inflation.

Implementation of the Real Assets allocation is through the construction, over time, of a well-diversified portfolio of Real Assets utilizing public, private, passive and active managers dependent on market characteristics. Real Assets encompass an array of investment strategies and include commodities, commodities-linked stocks and bonds, commodities-oriented hedge funds and hedge funds of funds, and direct and/or fund investments in real estate, energy, farmland, timber, and infrastructure.

OBJECTIVES

The Real Assets asset class will be constructed in a manner to help the plan achieve its long-term risk-adjusted return objective. Exposure to Real Assets can be achieved through allocations to commodities, infrastructure, natural resources, and real estate.

Commodities sectors include, but are not limited to: agriculture, energy, livestock, industrial metals, and precious metals. The portfolio may gain exposure to commodities through long only beta managers, intermittent beta managers, and alpha managers. Beta exposure can be achieved via pure beta or risk parity portfolios. Intermittent beta and/or alpha mandates can be achieved via portfolios with exposure to long/short, directional, and/or relative value managers. Since delivery and storage of a physical commodity poses challenges, economic exposure is usually achieved for commodities through the use of derivatives including futures, total return swaps, options, and forward contracts.

The Infrastructure asset class consists of a wide range of physical assets and businesses that provide essential services to communities. Infrastructure asset class strategies include core, value-added, and opportunistic investment strategies. The infrastructure asset class shall be invested by purchasing interests in private funds/fund-of-funds that invest in infrastructure related assets or liquid securities of infrastructure related businesses. Infrastructure investments may consist of equity or debt investment in a single asset, business, or infrastructure projects.

Natural Resources include tangible commodities such as crude oil, copper, timber, and agricultural products. Natural Resources funds focus on opportunities among a wide array of relevant economic activities, from extraction to transportation to refining, that are tied to the underlying value of commodities. The Natural Resources asset class shall be invested by purchasing interests in private funds/fund-of-funds that invest in natural resources related assets, or liquid securities of natural resources related businesses. Natural Resources investments may consist of equity or debt investment in a single asset, business, or project.

Real Estate assets are properties, including land and/or structures, designed for commercial or residential use. Core real estate investments include both private and public investments (i.e. REITs). Private core real estate funds can be either open-ended or closed-ended. Non-core strategies generally encompass greater risk, whether through increased use of leverage, greater reliance on renovation or development, focus on secondary markets, or a number of other factors. In return for taking on greater risk, investors in non-core real estate strategies expect to be compensated via higher returns. Non-core allocations can include strategies such as value-added, opportunistic, or real estate debt. Real Estate asset class shall be invested by purchasing interests in real estate funds/fund-of-funds that invest in real estate assets, direct property holdings, or publicly traded real estate securities.

POLICY BENCHMARKS

The policy benchmarks for the Real Assets asset class are as follows:

- Commodities: Bloomberg Commodity Index
- Infrastructure: Dow Jones Brookfield Global Infrastructure Index
- Natural Resources: S&P Global Natural Resources Index
- Real Estate: NCREIF Property Index

CHARACTERISTICS AND CONSTRAINTS

1) The Real Assets asset class will be subject to the following constraints:
    a. Diversification requirements as it relates to concentration of plan assets with a single investment manager and as a percentage of assets under management for an investment manager, as described in the full Investment Policy Statement;
    b. Adherence to the strategic asset allocation ranges described in the full Investment Policy Statement;
    c. Adherence to the tactical asset allocation ranges, discretionary ranges, and/or risk parameters that may be set by the Investment Committee or the Board.
2) Any breach of the target allocations above, or portfolio constraints, requires notification to the Investment Committee to discuss appropriate action.
3) Private investments shall be structured with pacing plans to guide commitments to drawdown structures, and shall focus on net-of-fees internal rate of returns and multiples.
4) Due to the nature of drawdown private market structures, investments in liquid alternatives such as index funds or proxies of the sub-asset class may be used to gain interim exposures.

Appendix G

Absolute Return portfolio
(for purposes of this Appendix the "Absolute Return" portfolio refers to the hedge fund strategies allocation within the Absolute Return asset class)

OBJECTIVES

1) The absolute return portfolio will be managed to achieve the following long-term portfolio objectives:
   a) Return: To earn an annualized return that exceeds the annualized rate of return of the three-month *Libor* by 5%;
   b) Risk: To exhibit a forecast and realized annualized volatility between 4% and 8%;
   c) Beta: To achieve a absolute value Beta to the MSCI World <= 0.2

2) The policy benchmark of the absolute return portfolio is the *Hedge Fund Research, Inc. All Macro Index*

PORTFOLIO CHARACTERISTICS

3) The portfolio will be structured:

   a) To be a diversified, global portfolio with superior risk return characteristics;
   b) To include multiple absolute return strategies;
   c) To exclude direct allocations to equity and credit strategy classified funds, and target limited exposure on a look through basis;
   d) To have low correlation to traditional market indices, lowering overall portfolio risk; and
   e) To reduce downside participation in severe bear markets.

TARGET ALLOCATION

Strategy	Targeted Exposures
Relative Value	25%-50%
Macro/Directional	35%-75%
	Residual Exposures via Multi-Strategy Funds
Equity Long/Short	0-10%
Event Driven	0-15%

PORTFOLIO CONSTRAINTS

4) The absolute return portfolio will be subject to the following constraints:

   a) No aggregate investment with any single investment manager should represent more than 15% of the absolute return portfolio
   b) No initial investment with any single investment manager should represent more than 2.5% of the total plan

c) No investment with any single investment manager should exceed 10% of the manager's total assets under management
d) No single fund should contribute more than 20% to the expected risk of the absolute return portfolio, as measured by the fund's contribution to the 3 year standard deviation of the Current Systematic series as generated by Albourne, and illustrated in their monthly reports. The Current Systematic Series represents "forecast risk" and is a return series constructed from the portfolio's aggregate systematic exposures at the end of the month held static while the factor performance is varied going back in time.

Any breach of paragraph 4 above requires notification to the Investment Committee to discuss appropriate action.

Appendix H

Opportunistic

ASSET CLASS PHILOSOPHY

The Opportunistic portion of the allocation is a best ideas allocation that seeks highly attractive risk adjusted returns. Opportunistic investments are defined as tactical, short to intermediate term investments, generally a few months to a few years. Opportunistic investments consist of a broad, unconstrained opportunity set, but are expected to be implemented exclusively through active investment managers. Opportunistic investments should only expose the System to prudent levels of risk.

The asset class range for the Opportunistic allocation is 0-5%, and may remain at 0% if no Opportunistic investments have been identified. The policy benchmark of the Opportunistic allocation is a global 60/40 portfolio, consisting of 60% MSCI ACWI IMI and 40% Bloomberg Barclays Global Aggregate.

OBJECTIVES

1) Opportunistic investments should seek highly attractive risk adjusted returns

CHARACTERISTICS AND CONSTRAINTS

2) The Opportunistic allocation will be subject to the following constraints:
    a. Diversification requirements as it relates to concentration of System assets with a single investment manager and as a percentage of assets under management for an investment manager, as described in the full Investment Policy Statement;
    b. Adherence to the strategic asset allocation ranges described in the full Investment Policy statement, and the sub-asset class ranges described in the target allocation section above;
    c. Adherence to the tactical asset allocation ranges, discretionary ranges, and/or risk parameters that may be set by the Investment Committee or Board.