CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY

FOR
REAL ASSETS

February 16, 2016

This policy is effective immediately upon adoption and supersedes all previous Real Estate, Inflation-Linked Asset Class, and Real Assets policies.

I. PURPOSE

The California Public Employees' Retirement System ("CalPERS") Investment Beliefs and Total Fund Statement of Investment Policy, adopted by the CalPERS Investment Committee ("Committee"), sets forth CalPERS overarching investment purposes and objectives with respect to all its investment programs.

This document sets forth the investment policy ("Policy") for the Real Assets Program ("Program"), consisting of the following:

A. Attachment A – Real Estate

B. Attachment B – Infrastructure Program

C. Attachment C – Forestland Program

D. Attachment D – Real Assets – Investment Limits and Constraints

The design of this Policy ensures that investors, managers, consultants, and other participants selected by CalPERS take prudent and careful action while managing the Program. Additionally, use of this policy assures sufficient flexibility in managing investment risks and returns associated with the Program.

Only the Committee has authority to waive any provision of this Policy, including its Attachments reflecting the component programs.

II. STRATEGIC OBJECTIVE AND ROLE

A. The strategic objective of the Program is to provide long horizon income return that is less sensitive to inflation risk.

B. The strategic role of the Program is to meet a real rate-of-return of 4 percent, after fees.

III. RESPONSIBILITIES

A. CalPERS Investment Staff (“Staff”) is responsible for the following:

1. All aspects of portfolio management including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.

2. Reporting to the Committee no less than annually and more frequently if needed about:

   a. The performance of component programs compared to the respective benchmarks; and,

   b. Actual Program allocations compared to Policy targets and ranges.

3. Monitoring the implementation of, and compliance with, the Policy. Staff shall report concerns, problems, substantial changes, and all violations of Guidelines and Policies at the next Committee meeting. All events deemed materially important will be reported to the Committee immediately. These reports shall include explanations of any violations and appropriate recommendations for corrective action.

4. Specific responsibilities for each component program are detailed in the appropriate attachment.

B. The responsibilities of component program Board consultants, who report directly to the Committee, are specified in the Role of ***Private Asset Class Board Investment Consultants*** Policy.

C. The ***General Pension Consultant*** is responsible for:

Monitoring, evaluating, and reporting no less than annually, to the Committee, on the performance of the Program relative to the strategic role, component program benchmarks, and Policy.

D. For component programs that are managed by an ***External Manager*** (“Manager”), the Manager is responsible for aspects of portfolio management as set forth in each Manager’s contract with CalPERS and shall fulfill the following duties:

1. Communicate with Staff as needed regarding investment strategy and investment results.

2. Monitor, analyze, and evaluate performance relative to the agreed upon benchmark.

3. Cooperate fully with CalPERS Staff, Custodian, and component program consultants concerning requests for information.

4. Specific responsibilities of each component program Manager are detailed in the appropriate attachment.

IV. BENCHMARK

The benchmarks for the component programs are specified in the Benchmarks Policy.

V. INVESTMENT APPROACHES AND PARAMETERS

A. Real Assets Program Allocations

Program allocation targets and ranges are listed in Table 1 below. Allocations are expressed as a percentage of the market value of the CalPERS Total Fund.

Table 1: Program Allocations

Component	Target*	Range*
Real Estate	10.0%	7.0% - 13.0%
Infrastructure	2.0%	1.0% – 3.0%
Forestland	1.0%	0.0% – 2.0%
Real Asset Class	13.0%	8.0% – 18.0%

* Percentage of the CalPERS Fund.

B. Specific investment approaches and parameters for each component program are detailed in the appropriate attachment.

C. All transactions involving derivatives are governed by CalPERS Global Derivatives Strategies and Counterparty Risk Policy.

VI. CALCULATIONS AND COMPUTATIONS

Specific descriptions of each component program calculations and computations requirements are detailed in the appropriate attachment.

VII. GLOSSARY OF CALPERS SPECIFIC TERMS

Italicized terms appearing in the Policy are CalPERS specific in nature and are defined in the CalPERS Specific Glossary of Terms.

Real Assets Program	
Approved by the Policy Subcommittee Adopted by the Investment Committee Policy Effective	April 11, 2011 May 16, 2011 July 1, 2011
Revised by the Policy Subcommittee Approved by the Investment Committee	June 15, 2011 August 15, 2011
Approved by the Investment Committee	April 15, 2013
Approved by the Investment Committee	December 16, 2013
Administrative changes to (1) align this policy with the Global Derivatives and Counterparty Risk Policy, and (2) to standardize reporting frequencies to the Investment Committee to "no less than annually"	May 28, 2014
Administrative changes to reflect the Policy Glossary of Terms Update Project	May 28, 2014
Approved by the Investment Committee Added Attachment D – Investment Limits and Constraints	February 16, 2016

The following attachments were previously individual policies or component programs of individual policies and are now consolidated into the Real Assets policy. The dates below reflect the revision history for each document.

Attachment A – Real Estate:

Approved by the Policy Subcommittee:	April 17, 2009
Adopted by the Investment Committee:	June 15, 2009
Admin changes due to adoption of Benchmark Policy:	October 30, 2009
Approved by the Investment Committee:	April 19, 2010
Approved by the Investment Committee:	April 15, 2013

Attachment B – Infrastructure
Formerly Part of the Inflation Linked Asset Class (ILAC)

Approved by the Policy Subcommittee:	June 16, 2008
Adopted by the Investment Committee:	August 18, 2008
Revised by the Policy Subcommittee:	November 16, 2009
Approved by the Investment Committee:	December 14, 2009
Revised by the Policy Subcommittee:	April 19, 2010
Approved by the Investment Committee:	May 17, 2010
Revised by the Policy Subcommittee	June 15, 2011

Attachment C – Forestland

Formerly Timber Real Estate

Approved by the Policy Subcommittee:	August 12, 1998
Adopted by the Investment Committee:	Sept 14, 1998
Revised by the Policy Subcommittee:	October 6, 2000
Approved by the Investment Committee:	November 13, 2000
Revised by the Policy Subcommittee:	December 14, 2001
Approved by the Investment Committee:	December 17, 2001
Revised by the Policy Subcommittee:	December 10, 2004
Approved by the Investment Committee:	February 14, 2005

Name changed to Forestland Program

Revised by the Policy Subcommittee:	December 14, 2007
Approved by the Investment Committee:	February 19, 2008
Revised by the Policy Subcommittee:	April 19, 2010
Approved by the Investment Committee:	May 17, 2010

Attachment A

REAL ESTATE PROGRAM

May 28, 2014

I. PURPOSE

This attachment to the Real Assets Policy sets forth the investment policy ("Policy") for the Real Estate Investment Portfolio ("Portfolio").

II. STRATEGIC OBJECTIVE AND ROLE

A. In addition to strategic objectives described in the Real Assets Policy, section II., the Portfolio shall be managed, to accomplish the following:

1. Provide a low correlation to equities in the overall CalPERS Investment Portfolio;

2. Generate stable cash yields primarily for CalPERS; and,

3. Provide a hedge against inflation.

B. As the equity allocation in the overall CalPERS Investment Portfolio is high and the risk contribution from equities is higher, the role of Real Estate in the overall CalPERS Investment Portfolio will be stable income oriented, moderately levered, low risk, and low correlation with equities. To fulfill this role, Real Estate will have ownership risk in real properties with stable cash yields. The major driver will be income, of which the majority will be cash yield. Real Estate is also a partial inflation hedge.

III. RESPONSIBILITIES

A. In addition to responsibilities described in the Real Assets Policy, section III., Staff is also responsible for the following:

1. Reporting to the Committee no less than annually, in the form of a Program Review, the following items:

a. **Policy Variance.** Information comparing actual Portfolio composition versus the Policy limits and ranges for Key Policy Parameters. This section shall include:

(1) Variances for each Key Policy Parameter;

(2) Explanations of the variances and non-compliance, if any; and,

(3) When applicable, a summary update of the corrective plan and timeline to return the Portfolio to compliance with Policy.

b. **Leverage**. Information listing the:

(1) Amount and the type of leverage, including recourse and non-recourse amounts; and,

(2) Incremental changes to the recourse and non-recourse leverage amounts.

c. **Investment Activity**. Information summarizing:

(1) Investment proposals under consideration;

(2) Investment, Disposition, and ***Debt Financing Amounts*** (“***Investment Transaction Amounts***”) in due diligence; and,

(3) Investment Transaction Amounts closed during the period.

d. **Strategic Plan Update**. Information outlining progress towards implementation items in the most recent Real Estate Strategic Plan adopted by the Committee for the Portfolio.

2. Screening, evaluating, and approving investment proposals that meet Real Estate Delegation Resolution authority (“Delegated Authority”) guidelines.

3. Screening, evaluating, and recommending investment proposals to the Committee that are beyond the scope of Staff’s Delegated Authority.

4. For approved transactions, negotiating investment agreements and supervising the due diligence team in closing the investment.

5. In managing the Portfolio, Staff will work cooperatively with the external resources it has retained as part of the ***spring-fed pool***. Their primary purpose shall be to serve as an extension of Staff.

6. Pursuant to Delegated Authority, Staff shall maintain an investment process including an internal Real Estate Investment Committee (“REIC”). Each Investment Transaction Amount in excess of a materiality threshold established in Delegated Authority will require an independent due diligence engagement providing a concurring ***prudent person opinion*** on the merits of the transaction following a fiduciary standard of care. The engagement is to be completed by one of the external resources in the spring-fed pool.

B. The General Pension Consultant is responsible for:

Monitoring, evaluating, and reporting no less than annually, to the Committee, on the performance of the Portfolio relative to the benchmark and Policy.

C. In addition to responsibilities described in the Real Assets Policy, section III., each manager and partner is responsible for all aspects of portfolio management as set forth in each manager’s and partner’s operating agreement or contract with CalPERS.

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

A. The performance objective of the Portfolio is to meet the two benchmarks.

B. The benchmarks for the Real Estate Program are specified in the Benchmarks Policy.

V. INVESTMENT APPROACHES AND PARAMETERS

A. Real Estate Portfolio Allocation

The asset allocation range for the Portfolio is governed by the Real Assets policy, section V.

B. General Approach

1. CalPERS shall provide capital to market leading real estate investment managers globally, with an emphasis on the United States. As an effective partner, CalPERS will be among the preferred choices of investment capital. This approach shall be pursued while maintaining the structures, systems, and processes to ensure that CalPERS principal is preserved and strategic objectives achieved.

2. Top-down strategic assessments shall identify portfolio weightings and identify the most attractive segments of the market for investing. Based on these assessments, Staff shall proactively seek the most attractive investment opportunities, while maintaining appropriate diversification.

3. To manage the level of risk and return in the Portfolio, assets shall be categorized into risk classifications. Staff shall utilize investment structures including Commingled Funds, Separate Accounts (investment partnerships), Manager Contracts, Real Estate Operating Companies, and Downstream Joint Ventures. The preferred structure shall be Separate Accounts. The focus of the Portfolio shall be in large strategic relationships. Investments may be made in public or private debt or equity positions or other related real estate investments.

C. Strategic Planning

A Strategic Plan approved by the Committee shall be maintained by Staff that sets forth CalPERS long-term objectives for investment and management of the Portfolio. The current, approved Strategic Plan shall be reviewed annually by Staff with results of the review reported to the Committee. There may be situations where revisions to the Strategic Plan are required prior to the annual review. Changes to the Strategic Plan require Committee approval. Staff shall develop and present a new Strategic Plan at a minimum every five years to the Committee. The CalPERS Real Estate Consultant (“Real Estate Consultant”) shall review and comment.

D. Risk Classifications

For effective risk management, the Portfolio shall be divided into three risk classifications: Core, Value Add, and Opportunistic. Allocations to the sectors shall be made to achieve the strategic objectives and fulfill the role of Real Estate in section II.

Staff shall assign assets to one of the three risk classifications based on the asset’s overall risk profile after consultation with the Real Estate Consultant. To the extent practical, individual assets shall be assigned to the appropriate risk classification. Staff and the Real Estate Consultant shall monitor quarterly the Portfolio’s actual weightings against the ranges and targets.

As investments in the Opportunistic and Value Add risk classifications mature, their characteristics may migrate towards a more Core-like profile. Staff and the Real Estate Consultant shall monitor the Portfolio for instances when changes in the classification of investments are warranted. Reclassification will be made by Staff after consultation with the Real Estate Consultant and reported to the Committee.

1. Core Risk Classification

The Core risk classification includes investments that produce a predictable current net income yield after debt service. Typically Core assets shall exhibit institutional qualities that are well located within their local and regional markets and of high quality design and construction. Core assets shall include investments located only in Developed Markets. Core assets shall have low leverage and generally low risk/return profiles.

Core assets shall be limited to traditional property types: Office, Retail, Industrial, Multifamily, and Hotels. Mixed use projects incorporating the traditional product types are also acceptable.

All Public Real Estate Securities shall be considered Core.

2. Value Add Risk Classification

The Value Add risk classification includes assets that have the expectation to produce a predictable current net income yield after debt service within a reasonable time frame, typically one to three years. Capital investment may be required to develop, lease, redevelop, or renovate the assets. Value Add assets may have moderate leverage and moderate risk/return profiles.

The Value Add risk classification shall include investments located primarily in Developed Markets. Stabilized (Core like) private assets in Emerging Markets shall be considered Value Add.

3. Opportunistic Risk Classification

The Opportunistic risk classification includes assets that have the expectation to produce substantial capital appreciation and higher yields. Current income may be low or non-existent during the holding period of the asset. Opportunistic investments often exist because of inefficiencies in real estate or capital markets. The Opportunistic risk classification shall include investments with assets located in Developed, Emerging, and Frontier Markets. Investments in land shall be categorized as Opportunistic.

Opportunistic investments may have high leverage and high risk/return profiles.

E. Portfolio Structure

The overall Portfolio will be comprised of two sub-portfolios, the Strategic and Legacy Portfolios. The Strategic Portfolio will be comprised of assets that fit the Strategic Plan. The Legacy Portfolio will be comprised of remaining assets and shall be managed to optimization.

The Strategic Portfolio will be comprised of three sub-portfolios, the Base, Domestic Tactical, and International Tactical Portfolios, and shall have the following allocation range limits:

Strategic Portfolio	Allocation Range	Target
Base	60 to 100%	75%
Domestic Tactical	0 to 30%	15%
International Tactical	0 to 15%	10%

1. Base Portfolio

The objective of the Base Portfolio is generation of stable cash flows within a long-term hold strategy and structure. The risk profile will be Core, return profile Income. It will be comprised of stabilized high quality assets in high quality U.S. Primary Market locations and track the CalPERS Total Fund Portfolio in size.

2. Domestic Tactical Portfolio

The objective of the Domestic Tactical Portfolio is to have a focus on total return which includes a blend of income and appreciation components. Individual investments may have Core, Value Add, and Opportunistic risk profiles, but the Domestic Tactical Portfolio as a whole will have a risk profile with a target between Core and Value Add. The return profile will be growth. It will be comprised of stabilized, development, and repositioning/distressed situation assets in the United States varying in size with market opportunities.

3. International Tactical Portfolio

The objective of the International Tactical Portfolio is total return through growth in emerging markets. Individual investments may have Core, Value Add, and Opportunistic risk profiles, but the International Tactical Portfolio as a whole will have a risk profile with a target between Value-Add and Opportunistic. The return profile will be income and growth. It will be comprised of stabilized and development/repositioning ex-U.S. assets varying in size with market opportunities.

F. Other Programs

To capitalize on trends in the real estate investment industry, the Committee may from time to time approve other programs. Investments in real estate assets made under these programs shall comply with all provisions of this Policy, including diversification limits and structuring requirements. To the extent these programs require specific policy direction, such direction will be provided as an attachment to this Policy. Programs that required specific program policy attachments under previous policy or stood alone as separate policy that will now be governed in full by this Policy include:

1. For Sale Residential and Land Development Program – Existing assets will be classified as Opportunistic and shall be managed to optimization in the Legacy Portfolio; and,

2. California Urban Real Estate (“CURE”) – Existing assets will be classified as Value Add or Opportunistic in either the Strategic or Legacy Portfolios and shall be managed according to the characteristics of the portfolio as classified; and,

3. Public Real Estate Equity Securities – the program may be managed internally or externally on a passive or active basis subject to the following parameters:

   a. Passive Portfolio

      (1) Under direction of the Real Estate Unit, the passive portfolio may be managed internally by the Global Equities Group.

      (2) Trading activity will result from the execution of portfolio allocations made by the SIO-RA and will occur as often as necessary to maintain the desired positions of each security.

      (3) Passive portfolios will attempt to replicate the characteristics and performance of the benchmark index. A benchmark index may be a subset of a market index after screening for sufficient liquidity as expressed by market capitalization or other criteria.

(4) The passive portfolio shall undergo reconstitution periodically as appropriate to the type of index.

b. Active Portfolio

Real Estate Staff may select a group of external managers for the active portfolio. Manager selection and allocations shall be approved by the Senior Investment Officer, Real Assets ("SIO-RA") and Real Estate Consultant in conjunction with the CalPERS Contracting Procedures if applicable. Short selling strategies shall only be allowed in the domestic portfolio by external active managers after approval of the SIO-RA and Real Estate Consultant. Performance criteria will be suited to the strategy and geographic mandate.

c. Permissible Investments

(1) Securities that constitute the chosen benchmark index.

(2) Securities which are companies in partnership or strategic alliances with CalPERS in managing and owning real estate.

(3) Securities that are not contained in the benchmark index but nevertheless present a niche opportunity and provide a complement to the Portfolio.

d. Single Stock Concentration

Any security position which represents more than 5% of the outstanding shares of that security shall be liquidated as soon as it is cost effective to do so to avoid SEC reporting requirements and liquidity constraints.

4. Agricultural Land Real Estate Program – Existing assets will be classified as Opportunistic and shall be managed to optimization in the Legacy Portfolio.

G. Diversification and Limits

1. The overall Portfolio shall maintain an appropriate level of diversification to mitigate risk. Key Policy Parameters shall be measured at the overall Portfolio level, inclusive of all risk classifications, geographic guidelines, property types, and leverage characteristics.

2. Classification of investments with respect to the Key Policy Parameters will be determined by Staff after consultation with the Real Estate Consultant. Ranges shall be based on current Net Assets at Fair Market Value. The following are Key Policy Parameters (with additional Key Policy Parameters specified in Section X):

   a. Risk Classification (Core, Value Add, Opportunistic)

      The Portfolio shall have the following ranges:

Risk Classification	Range
Core	75 - 100%
Value Add	0 - 25%
Opportunistic	0 - 25%

   b. Geographic Guidelines

      CalPERS shall pursue a global real estate investment strategy, with emphasis in the United States. The following guidelines will apply across the Portfolio. The global universe will be divided as follows for purposes of delineating the geographic diversification of real estate investments:

Region	Allocation	Definition
Developed Markets “Developed Markets” is further bifurcated into US and Ex-US markets.	75 -100%	As defined by the FTSE Global Equity Index Series.
US	85 - 100%	US NCREIF regions + US territories
Ex-US* *investment in any one Ex-US country is limited to 20% of the total real estate portfolio	0 - 25%	Any location outside of US market as defined above
Emerging Markets	0 - 15%	As defined by the FTSE Global Equity Index Series as “Advanced Emerging” or “Secondary Emerging”
Frontier Markets	0 - 5%	Countries not defined by the FTSE Global Equity Index Series as “Developed”, “Advanced Emerging”, or “Secondary Emerging”

In addition, Staff and the Real Estate Consultant shall monitor concentrations by region, country, and metropolitan area.

c. Property Type

The Portfolio will have the following limits:

	Limits
Office	45%
Industrial	45%
Retail	45%
Multifamily	45%
For Sale Residential and Land Development	10%
Hotels	10%
Mixed-Use	10%
Other Property Types	10%

d. Public Securities

Public Securities shall not exceed 5% of the Portfolio.

H. Guidelines for Non-Developed Markets Investments

1. CalPERS Emerging Equity Markets Principles

Staff, managers, and partners shall be guided by the CalPERS Emerging Equity Markets Principles for all real estate investments in such countries. Staff shall report any such exposure on an annual basis to the Committee.

2. United Nations Principles for Responsible Investment

For investments in Developed, Emerging, and Frontier Markets, Staff shall make every effort to apply the United Nations Principles for Responsible Investments.

3. Frontier Market Investing

Frontier Market investing shall be allowed only if approved by the Committee, with the following exception. Investments in individual commingled funds which contain strategies for investing up to 10% in Frontier Markets are permissible and are not required to be approved by the Committee.

I. Interim Portfolio Limits

In order for Staff to implement the Strategic Plan and optimize the Legacy Portfolio during an anticipated five to seven year transition period to full compliance with Policy, the Interim Portfolio Limits listed below will supersede the respective long-term strategic limits detailed above during the specified time periods.

Note: For illustration purposes, the "July 1, 2017 Forward" columns in the tables below represent the applicable long-term strategic policy limits.

1. The Strategic Portfolio shall have the following interim allocation range limits:

	Interim Allocation Range Limits		
Strategic Portfolio	July 1, 2011 to June 30, 2015	July 1, 2015to June 30, 2017	July 1, 2017 Forward
Base	0 to 100%	25 to 100%	60 to 100%
Domestic Tactical	0 to 100%	0 to 60%	0 to 30%
International Tactical	0 to 30%	0 to 25%	0 to 15%

2. The overall Portfolio shall have the following interim risk classification range limits:

	Interim Range Limits		
Risk Classification	July 1, 2011 to June 30, 2015	July 1, 2015 to June 30, 2017	July 1, 2017 Forward
Core	20 - 100%	50 - 100%	75 to 100%
Value Add	0 - 50%	0 - 40%	0 to 25%
Opportunistic	0 - 60%	0 - 40%	0 to 25%

3. The overall Portfolio shall have the following interim geographic range limits:

	Interim Allocation Range Limits		
Region	July 1, 2011 to June 30, 2015	July 1, 2015 to June 30, 2017	July 1, 2017 Forward
Developed US Markets	60 to 100%	70 to 100%	85 to 100%

4. The overall Portfolio shall have the following interim Property Type limits:

	Interim Property Type Limits	
Property Type	July 1, 2011 to June 30, 2017	July 1, 2017 Forward
For Sale Residential and Land Development	15%	10%
Other Property Types	15%	10%

5. The overall Portfolio shall have the following interim Public Securities limits:

	Interim Allocation Range Limits		
Public Securities	July 1, 2011 to June 30, 2015	July 1, 2015 to June 30, 2017	July 1, 2017 Forward
Public Securities	0 to 10%	0 to 7.5%	0 to 5%

6. The overall Portfolio shall have the following Loan-to-Value ("LTV") limits:

	Interim LTV Limits					
Risk Classification	July 1, 2011 to June 30, 2015		July 1, 2015 to June 30, 2017		July 1, 2017 Forward	
	LTV Limit	Portfolio Limit	LTV Limit	Portfolio Limit	LTV Limit	Portfolio Limit
Core	50%		50%		50%	
Value Add	65%	60%	60%	55%	50%	50%
Opportunistic	75%		65%		50%	

7. The Strategic Portfolio shall have the following interim Debt Service Coverage Ratio ("DSCR") minimum value limits:

	Interim DSCR Minimum Value Limits		
Strategic Portfolio	July 1, 2011 to June 30, 2015	July 1, 2015 to June 30, 2017	July 1, 2017 Forward
Total Portfolio	n/a	1.00	1.50
Core	1.50	1.75	2.00

Staff shall report no less than annually to the Committee on actual exposures compared to both the applicable interim limits as well as strategic long-term limits in each category.

J. Quality Control

1. Staff Internal Procedures Manual

Staff shall maintain an internal procedure manual (“Manual”). The Manual will provide guidance and mandatory steps for key procedures, risk mitigation measures, and processes in the Global Real Estate Unit. Annually, Staff and the Real Estate Consultant shall review the Manual to ensure the Manual is consistent with sound business practices in the institutional investment industry and that the Real Estate Program is being managed in accordance with the Manual. Substantive changes to the Manual require the SIO-RA’s and Real Estate Consultant’s approval.

2. Due Diligence Process

Staff shall conduct and manage a due diligence process for new Investment Transaction Amounts. The Real Estate Delegation Resolution includes specific requirements for reviews.

3. Process Monitoring

Staff shall maintain reports and systems to monitor transaction processing, due diligence, and approvals to ensure timely decision making and an effective process.

4. Database

Staff shall maintain information systems, including a relational database, to provide analysis of the Portfolio’s current composition. The systems will assist in maintaining the diversification of the Portfolio.

K. Specific Risk Parameters

There are specific risks associated with investments that shall be monitored and mitigated. Each segment of the real estate market contains uncertainties that are unique to it. Staff shall manage and monitor and the Real Estate Consultant shall monitor the following major categories of uncertainties commensurate with the expected return as an investment proposal is considered:

1. Concentration Risk

Excessive concentration of the Portfolio in a particular ***vintage year***, geographic location, product type, or life cycle stage will increase the volatility and risk of the Portfolio.

2. Structural Risk

Generally, CalPERS accesses the real estate markets by providing equity to partnerships. The terms and conditions of these partnerships will have a material impact on the liquidity of CalPERS capital.

3. Liquidity

Real estate is an illiquid asset class, particularly during periods of tight credit markets. In addition, there can be illiquidity at the partnership levels of the investment vehicle.

4. Leverage

Increasing Portfolio leverage will increase volatility, magnifying both positive and negative changes in appreciation and depreciation. Specific risk controls associated with leverage are detailed in Section X.

5. Country Risk

Individual country real estate markets and financial environments will present unique investment risks. Currency exchange rates will impact returns. CalPERS international investments may be subject to taxation. For emerging markets there will be a lack of reliable and consistent real estate market information and local employment and demographic data. Regulatory environments, legal systems, and political systems will vary by country and may change over time. Repatriation of capital is a risk in some countries.

6. Development Risk

Development projects have entitlement risks which require management. Changes to the entitlement status of a parcel will have dramatic impact on the value of an investment. Generally, the further along in the entitlement process, the lower the risk. Development projects also have the potential for construction cost overruns which can impact returns of the project.

7. Hazardous Waste

Real estate may be contaminated by hazardous materials. The cost of clean-up and other liabilities created by environmental laws associated with contaminated real estate may have a significant effect on investment returns. The risk may be addressed by conducting appropriate investigations of potential hazardous materials contaminations in the due diligence review of the real estate to assess environmental risk and, if it exists and mitigation is feasible, adopting appropriate risk mitigation measures.

8. Operating Risk

Real estate investments contain a business operating risk component. Certain property types have a greater business operating component, such as Hotels.

VI. CALCULATIONS AND COMPUTATIONS

A. Real Estate Valuations

Real estate valuations shall be governed by the Statement of Investment Policy for Appraisal of CalPERS Real Estate Interests.

B. Performance Measurement

A comprehensive Real Estate Quarterly Performance Report for the Portfolio shall be prepared by the Performance Monitoring Unit in accordance with the Statement of Investment Policy for Appraisal of CalPERS Real Estate Interests. The Global Real Estate Unit shall be responsible for reviewing and providing comments to Quarterly Performance Reports.

VII. INVESTMENT STRUCTURES

CalPERS may invest capital for the Portfolio through a variety of legal structures, including Commingled Funds, Separate Accounts, Manager Contracts, Real Estate Operating Companies, and Downstream Joint Ventures. Investment partnerships in which CalPERS invests may be structured as partnerships, limited liability companies, corporations, or trusts. CalPERS should be a limited liability investor in order to limit any loss to the amount of the investment. CalPERS should possess an appropriate level of control over management of the investment partnership.

A. Types of Structures

1. Commingled Fund Structures

a. In a Commingled Fund, CalPERS is one of many investors in an investment partnership managed by a general partner or manager. Investor governance and control provisions for Commingled Funds should reflect the proportion of capital being supplied by CalPERS in relation to the capital of the other investors.

b. Investments in closed end funds, open end funds, and side by side investments are allowed.

c. Commingled Fund structures shall be utilized only under the following conditions:

(1) The Commingled Fund provides access to a superior management team; or

(2) The Commingled Fund provides access to a unique investment strategy.

2. Separate Account Structures

a. A Separate Account is a form of investment partnership between CalPERS and a manager or partner. It creates a beneficial one-on-one relationship to invest capital for the Portfolio. The manager or partner must undertake the fiduciary duty to perform its responsibilities solely in the interest of CalPERS and must agree to use reasonable care and prudence in performing those responsibilities. Staff must implement a strategy to align the investment interests of CalPERS and the manager or partner in the Separate Account consistent with the alignment of interest principles as detailed in the Manual.

b. Based on the criteria described in Section VIII.C of this Policy, CalPERS may enter into Separate Accounts with any of the following types of managers or partners:

(1) Developers;

(2) Owner Operators;

(3) Real Estate Operating Companies;

(4) Investment Managers; and,

(5) Emerging Managers.

c. Governance and control provisions for CalPERS in Separate Accounts should be adequate to protect the interests of CalPERS considering the amount and term of the capital commitment of CalPERS, the size and number of the investments in the Separate Account, the duration of the Separate Account, and CalPERS experience and relationship with the manager or partner. The manager or partner may be given discretion to execute investment transactions as long as all transactions comply with applicable CalPERS Investment Policies and the requirements of the Separate Account agreement.

3. Manager Contracts

a. Manager Contracts, which are contracts between CalPERS and a manager to accomplish a particular investment strategy, should be used primarily for Public Real Estate Securities investments.

b. Manager Contracts must be structured to comply with CalPERS contracting policies.

4. Real Estate Operating Company Investments

CalPERS may make strategic investments in private companies which derive a substantial majority of revenues from real estate activities. Operating companies are a high risk/return investment and will be classified as Opportunistic.

5. Downstream Joint Ventures

a. A Downstream Joint Venture is an investment partnership between a Commingled Fund or a Separate Account (or CalPERS directly) and one or more third parties to invest as co-owners in real estate. Downstream Joint Ventures increase liquidity risk by increasing the inability of CalPERS to dispose of its investment in a timely manner and add credit risk of potential loss due to the default of the third party Downstream Joint Venture partner.

b. The governance rights of CalPERS (or its Separate Account) as well as the right to receive distributions of income and profits should be proportionate to the amount or value of the contributions of the Downstream Joint Venture partners. CalPERS (or its Separate Account) should have an exit strategy (such as a buy/sell procedure in the Joint Venture agreement) to permit liquidation of the investment.

B. Legal Structures

Investment partnership agreements will utilize, to the extent practicable, a legal structure which:

1. Limits CalPERS financial exposure; and,

2. Minimizes tax, fee, and other liabilities.

C. Terms

Staff shall maintain, as part of the Manual, a standardized list of terms to be included in investment partnership agreements consistent with the Alignment of Interest Principles.

VIII. INVESTMENT SELECTION

A. Investment Authority

Managers and partners shall be selected by CalPERS Staff or the Committee pursuant to Delegated Authority. The Real Estate Delegation Resolution specifies when Committee approval of an Investment Transaction Amount is required.

B. Investment Process

When Staff has Delegated Authority, the following steps are required to be completed prior to closing an Investment Transaction Amount:

1. **SIO-RA**. SIO-RA approval is required after review by the REIC;

2. **Independent Due Diligence Concurring Opinion**. For Investment Transaction Amounts in excess of a materiality threshold established in Delegated Authority, an independent due diligence engagement is required to be performed. In such cases, a written favorable concurring prudent person opinion on the merits of the transaction, following a fiduciary standard of care, is required;

3. **Policy Compliance Review**. The Real Estate Consultant is required to document the transaction complies with Policy and Delegated Authority; and,

4. **Legal Review**. For Investment Transaction Amounts in excess of a materiality threshold established in Delegated Authority, the Legal Office is required to document the transaction complies with Delegated Authority.

C. Investment Criteria

Prospective managers and partners and investments shall be evaluated for selection based upon, but not limited to, the following criteria:

1. The suitability of the prospective investment strategy relative to the Real Estate Strategic Plan.

2. The expected risks and returns of the investment and the investment's impact on the existing Portfolio's characteristics.

3. The investment time horizon and potential exit strategies for investments.

4. The quality, stability, integrity, and experience of the management team.

5. The management team's track record.

6. The leverage strategy of the proposed investment and its compliance with CalPERS policy and the management team's track record specifically with respect to utilization of leverage.

7. The ability and willingness of the organization to dedicate sufficient resources and personnel to optimally manage CalPERS investments.

8. The reasonableness of investment terms and conditions, including provisions to align interests of the firm, the management team, and CalPERS.

9. The amount of Co-investment by the firm and the management team.

10. The profit sharing plan of the firm.

11. The appropriateness of management controls and reporting system.

12. The potential tax liabilities of the investment.

D. Investment Parameters

1. Subject to the provisions of Section VIII.D.7 below, CalPERS will not participate in private real estate investment strategies that rely on or result in eliminating rent-regulated housing units, converting such units to market rate units, or raising rents above regulated levels as determined by the appropriate governing authority.

2. This Section is intended to prevent the displacement of low-income or workforce households in rent regulated units. However, this Section is not intended to prohibit investment in strategies that create new, or redevelop existing rent-regulated housing units, including, without limitation, strategies that include demolition of existing rent-regulated housing units, provided that:

   a. Any rent-regulated housing units that are demolished as part of such investment or project are replaced with new rent-regulated housing units.

   b. Any persons lawfully residing in rent-regulated units who are displaced as a result of such strategies receive relocation benefits in accordance with relocation requirements as mandated by the local housing authority or by state or federal relocation laws, if applicable.

3. This Section shall not prohibit investment in existing low income housing tax credit or multi-family housing revenue bond financed assets with regulatory agreements that limit, among other things, allowable rent increases.

4. Rent increases permitted by federal, state, or local law, regulation, ordinance or agreement for rent-regulated properties shall be deemed appropriate and consistent with this Policy.

5. This Section shall not prohibit lawful eviction for cause (e.g., illegal activity, tenant safety issues or non-payment of rent) or activities that are necessary to carry out the creation of new or redevelopment of existing rent-regulated housing units described in Section VIII.D.2 above.

6. If the Staff determines that an investment manager makes investments that are materially inconsistent with this Section, Staff will consider all reasonably available remedies and recommend to the Committee such actions to address the violation in manner that is consistent with the Committee's fiduciary duty, including not making any new investments with that manager.

7. Nothing in this Section shall require the Committee to take any action that is inconsistent with the Committee's fiduciary duty.

IX. MANAGER AND PARTNER MONITORING

Staff shall monitor and evaluate managers and partners on an ongoing basis based on performance relative to stated objectives of the governing documents. The financial strength of the investment management organization, the level of client service given CalPERS, and changes within the managing organization shall be evaluated. The continuity of personnel assigned to CalPERS investments and overall staff turnover shall be reviewed.

X. LEVERAGE

Leverage may be utilized in the Portfolio to enhance returns. The increased risk associated with higher levels of leverage shall be considered in establishing acceptable rates of return.

A. Leverage Limitations

Leverage limits shall be imposed at the Portfolio and Risk Classification levels. Leverage limitations shall be measured on a Loan-to-Value ("LTV") ratio and Debt Service Coverage Ratio ("DSCR") basis.

Loan-to-Value Limits:

Risk Classification	LTV Limit	Portfolio Limit
Core	50%	50%
Value Add	50%	
Opportunistic	50%	

The average leverage guidelines in the table above are applicable for each category. Individual investments within a category may exceed the guideline. The above limitations apply to all debt, excluding Public Real Estate Securities, in total including recourse and non-recourse debt.

The Strategic Portfolio will have a DSCR minimum value of 1.50 for the total portfolio and 2.00 for the Core risk classification. The Value Add and Opportunistic risk classifications will have no minimum DSCR.

B. Leverage Structures

Interest rate structures may include fixed or variable/floating interest rates and amortizing or non-amortizing structures. Lines of Credit secured by the partnership or partnership assets are permissible. Hedging techniques utilized by partners to control interest rate risk may be used including, but not limited to interest rate swaps, interest rate caps, and collars. Prudent use of both fixed and variable/floating interest rate structures are appropriate in a dynamic real estate portfolio.

Leverage may be secured or unsecured and recourse or non-recourse. Recourse debt is debt for which CalPERS has the obligation (direct or indirect, absolute or contingent) to pay the debt to the lender. Debt that may be recourse to a Separate Account or a Commingled Fund or a Joint Venture but for which CalPERS has no obligation will be treated as non-recourse debt for the purpose of this Policy.

C. Recourse Debt

1. Limitations

The total Recourse Debt Allocated shall not exceed 10% of the lower of the current Net Asset Value or the target Net Asset Value of the Portfolio.

2. Approval of Utilization of Recourse Debt

Utilization of recourse debt incurred by CalPERS requires written approval by the SIO-RA (subject to discretion allowed by the Real Estate Delegation Resolution).

3. Types of Recourse Debt

Two types of recourse debt are allowed: Subscription Financing and Credit Accommodation.

a. Subscription Financing

Subscription financing is short term financing utilized by Separate Accounts and commingled funds to consolidate and finance capital calls. The lender's security for subscription financing is a pledge from CalPERS to fund the capital calls. Subscription financing may be utilized in the Portfolio subject to the following limitations:

(1) The amount of Subscription Financing Allocated secured by CalPERS capital commitment cannot exceed CalPERS equity commitment;

(2) The Subscription Financing Outstanding cannot be outstanding more than 12 months; and,

(3) The total Subscription Financing Outstanding amount shall be included in the LTV limit calculation.

b. Credit Accommodation

Credit accommodation generally refers to a guaranty executed by CalPERS whereby CalPERS agrees to pay the debt obligation of an entity, in the event the entity fails to pay the debt obligation. The entity will usually be a limited partnership or limited liability company, and will be majority-owned by CalPERS. The debt obligation that CalPERS guarantees will be evidenced by an extension of credit (e.g., loan, line of credit, or other form of credit facility) by a financial institution to the entity. The benefit provided to CalPERS is that the guaranty will tend to lower the borrowing cost for the entity and should, in turn, enhance the overall return to the real estate investment. Guarantees become a contingent liability on the CalPERS overall balance sheet and should be used only when they provide economic benefit. Credit accommodation differs from credit enhancement in that a credit accommodation does not derive its rating from the CalPERS Credit Enhancement Program (CEP) rating (either implied or explicitly). In addition, Credit Accommodation is made for an entity in which CalPERS has an existing, or proposed, ownership interest. Credit enhancement is the use of CalPERS balance sheet, through the program rating, in which CalPERS has no initial ownership interest and where CalPERS receives explicit consideration for the enhancement.

(1) With the exception of transactions included in (2) below, credit accommodations will not exceed 10 years from the closing of the investment.

(2) For affordable housing, workforce housing, and community development investment transactions financed in part with public subsidies, credit accommodations will not exceed 30 years from the closing of the investment.

(3) The total Credit Accommodation Outstanding amount shall be included in the LTV limit calculation.

D. Reporting

Staff will report on leverage and incremental changes in leverage as part of their responsibilities outlined in Section III.

Attachment B

INFRASTRUCTURE PROGRAM

May 28, 2014

I. PURPOSE

This attachment to the Real Assets Policy sets forth the investment policy (“Policy”) for the Infrastructure Program (“Program”).

II. STRATEGIC OBJECTIVES AND ROLE

In addition to strategic objectives described in the Real Assets Policy, section II., the Program shall be managed, to accomplish the following:

A. Preserve investment capital;

B. Generate stable investment returns that are attractive, on a risk-adjusted basis, relative to the program benchmark (“Program Benchmark”);

C. Provide cash distributions, as a prominent component of investment returns;

D. Provide long-term inflation protection;

E. Diversify CalPERS investments;

F. Establish CalPERS reputation as a premier infrastructure investment manager and investor of choice within the investment community;

G. Practice responsible investment to support efficient operation of assets, delivery of quality services, utilization of responsible labor and management practices and implementation of responsible environmental practices; and,

H. Foster renewal and expansion of infrastructure assets.

III. RESPONSIBILITIES

A. In addition to responsibilities described in the Real Assets Policy, section III., Staff is also responsible for the following:

1. Reporting to the Committee no less than annually, in the form of a Program Review, the following items:

a. Policy Variance. Information comparing actual portfolio composition versus the Policy limits and ranges for Infrastructure Key Policy Parameters (detailed in Section V.F.3, and Section X). This shall include:

1) Variances for each Infrastructure Key Policy Parameter applied in accordance with the requirements of Section V.F.3., related to Program size;

2) Explanations of the variances and non-compliance, if any; and,

3) When applicable, a summary update of the corrective plan and timeline to return the portfolio to compliance with the Policy;

b. Leverage. Information listing the:

1) Amount and the type of leverage; and,

2) Incremental changes to the leverage amounts.

c. Investment Activity. Information summarizing:

1) List and status of investment proposals under review; and,

2) Investments and dispositions executed during the period.

2. Reporting to the Committee no less than annually, information outlining progress regarding implementation of the most recent Infrastructure Strategic Plan approved by the Committee.

3. Screening, evaluating, and approving investment transactions that meet Infrastructure Delegated Resolution Authority (“Delegated Authority”) guidelines.

4. Screening, evaluating, and recommending investment transactions to the Committee that are beyond the scope of Staff’s Delegated Authority.

5. Executing approved investment transactions, including negotiating investment agreements, performing initial and ongoing due diligence, and closing the transactions.

6. Managing interest rate, currency and commodity risks associated with individual transactions through application of hedge transactions (“Hedge Transactions”), subject to Delegated Authority.

7. Managing all aspects of the portfolio, including monitoring, evaluating performance, reporting, daily administration and cash flow management, and managing investor and governance initiatives including taking actions pursuant to investor rights.

8. In managing this Program, Staff will work cooperatively with External Resources as needed or required.

9. Maintain and follow a documented internal Infrastructure investment decision-making process for the purpose of making investment decisions pursuant to Delegated Authority.

B. The General Pension Consultant is responsible for monitoring, evaluating, and reporting no less than annually, to the Committee, on the performance of the portfolio relative to the Program Benchmark Policy.

C. Responsibilities of the CalPERS Board’s Infrastructure investment consultant (“Infrastructure Consultant”) as outlined in the Statement of Investment Policy for Role of Private Asset Class Board Investment Consultants (“Policy for Private Asset Class Consultants”) include strategy and policy analysis, performance monitoring and analysis, and providing independent advice to the Committee.

D. In addition to the responsibilities described in the Real Assets Policy, Section III., each manager and partner is responsible for all aspects of portfolio management as set forth in each manager’s and partner’s operating agreement or contract with CalPERS.

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

A. The intent of the Program is to provide stable long-term returns that meet or exceed the Program Benchmark while assuming suitable risk. To this end, Staff will pursue investments expected to provide rates of return that adequately compensate for underwritten investment risks.

B. The Benchmark for the Program is specified in the Benchmarks Policy.

V. INVESTMENT APPROACHES AND PARAMETERS

A. Infrastructure Portfolio Allocation

The asset allocation range for the Program is governed by the Real Assets Policy, section V.

B. General Approach

1. The Program shall seek to invest in opportunities within public and private infrastructure, including but not limited to, transportation, energy, power, utilities, water, waste, natural resources, communications and certain social infrastructure projects that meet the Program objectives.

2. Staff shall review and manage investments in a diligent and prudent manner. Staff shall manage the Program as a whole using specific criteria appropriate for listed securities, partnership and direct investments. Strategic assessments shall be made in order to identify attractive segments of the market for investing. Based on these assessments, Staff shall proactively seek out attractive investment opportunities, while maintaining appropriate diversification.

3. To manage the level of risk and return in the portfolio, assets shall be managed in accordance with diversification parameters specified within this Policy. The primary focus of investment shall be to acquire significant private equity stakes; however, investments may also include public/listed debt, private debt, public/ listed preferred or common equity or other equity positions consistent with the Infrastructure Strategic Plan. Staff shall utilize a broad range of investment structures (each defined in section VII.), including Commingled Funds, Managed Co-investments, Direct Co-investments, Separate Accounts and Direct Investments.

C. Infrastructure Program Strategy

Staff shall develop and present for approval by the Committee an Infrastructure Strategic Plan that sets forth CalPERS long-term objectives and plans for investment and management of the Program (the “Infrastructure Strategic Plan”). The Infrastructure Strategic Plan shall be reviewed annually by Staff with results of the review reported to the Committee, There may be situations where revisions to the Infrastructure Strategic Plan are required prior to the annual review.

Changes to the Infrastructure Strategic Plan require Committee approval. Staff shall develop and present a new Infrastructure Strategic Plan at a minimum every five years to the Committee. The CalPERS Infrastructure Consultant ("Infrastructure Consultant") shall review and provide its comments regarding the Infrastructure Strategic Plan to the Committee.

D. Portfolio Structure

The Program will be managed as a single portfolio. Investments will be acquired and disposed of consistent with the Infrastructure Strategic Plan and overall strategic objective and role of the Program.

E. Risk Classifications

For effective risk management, the portfolio shall be divided into three Infrastructure investment risk segments ("Risk Segments"): Defensive; Defensive Plus; and Extended. Allocations to the Risk Segments shall be made to achieve the strategic objectives and fulfill the role of the Program.

Staff shall assign risk classifications to investments at acquisition based on risk profile after consultation with the Infrastructure Consultant. Staff and the Infrastructure Consultant shall monitor the portfolio's actual weightings against the ranges and targets. When changes in the classification of individual investments are warranted based on changes in the profile of the investment, reclassification will be made by Staff after consultation with the Infrastructure Consultant and reported to the Committee.

Classification of investments as Defensive, Defensive Plus or Extended will be based on an investment-level analysis across pertinent risk/return factors.

Defensive investments – are of a lower risk nature and are consistent with: transparent and predictable return drivers; cash flows providing a significant portion of the total return; and modest downside investment risk. Such investments are characterized substantially by the following elements:

1. Essential assets and services

2. GDP resilience; demand inelasticity; pricing certainty

3. Minimal competition; strong barriers to entry

4. Stable revenues and returns; rate-regulated, concession-based or long-term contracted

5. Low operating risk; allowed cost recovery
6. Long-term inflation protection
7. Strong credit quality off-takers or payers
8. Cash-generative investments
9. Long-lived tangible assets
10. Low obsolescence risk
11. Low / no development risk
12. Low / no currency risk
13. Low/ no sovereign risk

Defensive Plus Investments – carry greater return potential and greater risk than Defensive investments. Defensive Plus investments possess significant defensive qualities, although they generally feature greater degrees of risk associated with some of the following elements: competition; user patronage; regulation; contracts; construction; pricing; capital expenditure, terminal value; sovereign risk; currency risk and growth.

Extended Investments – carry greater return potential and greater risk than Defensive Plus investments. Such investments are ‘risk-extended’ in that they generally feature significant risks associated with some of the following elements: competition; merchant business; growth; construction; development; technology; operating costs; pricing, capital expenditure; terminal value; commodity prices; legal/political/regulatory regime; sovereign risk and currency risk. These investments may provide little or no cash dividend yields, and generally have less-predictable expected returns and the potential for zero or negative downside returns.

F. Diversification and Limits

1. The overall portfolio shall maintain an appropriate level of diversification to mitigate risk. Infrastructure Key Policy Parameters shall be measured at the overall portfolio level, inclusive of all risk classifications, geographic guidelines, and leverage characteristics.

2. It is recognized that during the early investment period for the Program, the portfolio may not include sufficient investment in order to achieve diversification in line with the Infrastructure Key Policy Parameters. Therefore, the requirement to meet the Infrastructure Key Policy Parameters pertaining to Risk Segments and Geographic Segments as outlined below will be applicable for the Program only when the NAV exceeds $3.0 billion. Regardless of portfolio size, investment allocations within the Risk Segments and Geographic Segments are not to exceed, on a dollar basis, the upper ends of the Risk Segments and Geographic Segments ranges multiplied by the Program Allocation Target.

3. The following are Infrastructure Key Policy Parameters (Leverage requirements addressed in Section X):

   a. Risk Segments (Defensive; Defensive Plus; Extended)

      Investment shall be diversified across Risk Segments within the following ranges:

Risk Classification	Allocation Range
Defensive	25-75%
Defensive Plus	25-65%
Extended	0-10%

   b. Geographic Segments: CalPERS shall pursue a global Infrastructure investment strategy, with emphasis in the United States. The following geographic diversification ranges will apply across the portfolio:

Region	Allocation Range
United States	40-80%
Developed OECD ex US	20-50%
Less Developed	0-10%

      Developed OECD includes OECD nations that are defined as “Developed” by the FTSE Global Equity Index Series.

      Less Developed are all nations outside of the United States and Developed OECD.

      Staff will undertake hedging of non-USD currency exposure where and to the extent it is deemed necessarily prudent and feasible, and subject to Delegated Authority for Hedge Transactions.

c. Public Equity Securities

Public Equity Securities shall not exceed 10% of CalPERS Infrastructure Program Allocation.

d. Other Concentration Limits

In order to limit concentration risks, investments shall not exceed the following limits:

Any single investment in a Commingled Fund	No more than 25% of committed capital of such Commingled Fund
Any commitment to a Commingled Fund, Separate Account or other externally-managed investment vehicle	No more than 20% of CalPERS Infrastructure Program Allocation
Aggregate CalPERS commitment to Commingled Funds, Separate Accounts or other investment vehicles managed by any single general partner or manager	No more than 30% of CalPERS Infrastructure Program Allocation
Any single Direct Investment	No more than 10% of CalPERS Infrastructure Program Allocation
Equity Investments	70% - 100% of CalPERS Infrastructure Program Allocation
Debt Investments	0% - 30% of CalPERS Infrastructure Program Allocation

G. Other Guidelines

1. CalPERS Emerging Equity Markets Principles

Staff shall be guided by the CalPERS Emerging Equity Markets Principles for all investments in such countries. Staff shall report any such exposure on an annual basis to the Committee.

2. United Nations Principles for Responsible Investment

For investments in all markets, Staff shall be guided by the United Nations Principles for Responsible Investments.

3. Renewable Energy and Sustainability

CalPERS encourages the prudent use of sustainable development methods and operational practices when reasonable and economically feasible. Consideration shall be given to the use of renewable energy technologies, recycled and renewable building materials, air and water conservation technologies and practices, and efficient waste, recycle and disposal technology and practices. Consideration shall also be given to the environmental sustainability of investments including, but not limited to, energy efficiency, fuel economy, alternative energy generation and distribution impacts.

H. Quality Control Processes

1. Staff shall maintain an internal procedure manual (“Manual”). The Manual will provide guidance and detail steps for key procedures, risk mitigation measures, and processes associated with the Infrastructure Program. The Senior Investment Officer, Real Assets (“SIO-RA”) and Infrastructure Consultant shall approve the initial Manual. Annually, Staff and the Infrastructure Consultant shall review the Manual to ensure the Manual is consistent with sound business practices in the institutional investment industry. Substantive changes to the Manual require the SIO-RA and Infrastructure Consultant’s approval.

2. Annually, Staff and the Infrastructure Consultant will review internal procedures to identify material issues requiring corrective action or improvement.

3. On an ongoing basis, Staff will endeavor to identify problems early and take corrective action promptly.

I. Risk Parameters

There are specific risks associated with investments that shall be considered by Staff in its due diligence assessments, including but not limited to, the following:

1. Financial Risk: Infrastructure investments may employ substantial leverage (borrowing), which may result in significant financial risk.

2. Liquidity Risk: Infrastructure investments may lack liquidity and may have time horizons greater than 10 years. Secondary markets for such investments can be very limited.

3. Capital Markets Risk: Capital markets experience volatility and changes in these markets may have a significant impact on the cost of financing infrastructure investments and overall transaction execution.

4. Political and Public Risk: Infrastructure investments may be subject to risks associated with political approval and public acceptance of projects.

5. Labor Risk: Risks associated with public sector outsourcing, or labor relations may affect investment opportunities in infrastructure.

6. Regulatory Risk: Changes in regulatory conditions may affect investment returns.

7. Country Risk: Political, economic, and currency risks are associated with investing in all countries.

8. Governance Risk: Risks may arise from mismanagement and partner misalignment or lack fundamental governance and ownership rights, protections and remedies.

9. Valuation Risk: Risks are associated with failure by a general partner or partnership to employ an appropriate valuation methodology and discipline.

10. Market Risk: The infrastructure market continues to develop globally and market opportunities can change depending on many variables such as market supply and demand.

11. Environmental and Climate Risk: Long term investment returns may be impacted by risks and opportunities related to the environment and climate change.

12. Hazardous Materials: Risks are associated with the use of hazardous materials in facilities or business processes.

13. Counterparty Risk: Infrastructure investments may rely on the financial strength of off-takers, hedge providers, suppliers, service providers and constructors.

VI. CALCULATIONS AND COMPUTATIONS

Investors, managers, consultants and other participants selected by CalPERS shall make all calculations and computations on a fair market value basis which shall be recorded by CalPERS Custodian.

VII. INVESTMENT STRUCTURES

CalPERS may invest capital for the portfolio in the form of private and public/listed equity and debt through a variety of investment structures, including Commingled Funds, Managed and Direct Co-investments, Separate Accounts, and Direct Investments. CalPERS may invest in securities directly or through partnerships, limited liability companies, limited duration companies, corporations, or trusts. CalPERS investments will be structured in order to limit liability and potential loss to the amount of CalPERS Investment. The Program will employ both direct investment structures and managed strategies. Investments may be sourced directly or through third parties.

A. Type of Structures

1. Commingled Funds are structures through which CalPERS holds an interest alongside other investors in an investment partnership managed by a general partner or manager. Investments in closed end funds, open end funds, and side by side investments are included. Commingled Fund structures may be used where appropriate to accomplish strategic objectives outlined in Section II.

2. Co-investments are investments alongside Commingled Fund investments. Co-investments may be directly or indirectly owned and managed. Whereas Managed Co-investments may be managed by a general partner or other external manager, Direct Co-investments typically involve a greater degree of internal management discretion and ownership control. Co-investments may be investments in the same security or a different class of security than the class held by the fund investment.

3. Direct investments are direct ownership interests in assets or companies.

4. Separate Accounts are investment agreements or forms of investment partnership involving an external manager that target a specified strategy, and where CalPERS and the external manager are the only sources of investment capital for the Separate Account. The external manager has management authority and investment discretion subject to limits specified within the Separate Account. And the manager undertakes a fiduciary duty to perform its responsibilities solely in the interest of CalPERS.

B. Legal Structures

Program investments shall include appropriate governance rights, restrictions and protections. Investment partnership agreements will utilize, to the extent practicable, a legal structure which appropriately;

1. Limits CalPERS financial exposure; and

2. Minimizes taxes, fees and other liabilities.

C. Required Terms

Staff shall maintain as part of the Manual, a standard list of terms for investment partnership agreements reflecting appropriate alignment of interest principles. Staff shall be guided by such principles when considering and negotiating investment partnership agreements.

D. Investment Holding Period and Dispositions

The Program will generally target long-term investment (at least five years or more). However, dispositions of individual investments may be triggered by a variety of opportunities and circumstances, such as opportunities to capture returns in excess of targeted returns, decisions by partners or shareholders, and investment strategy revisions resulting from changes in markets for infrastructure assets or changes in CalPERS financial objectives.

E. Restrictions and Prohibitions

Investment is prohibited in: 1) Tobacco Companies 2) any investment prohibited by CalPERS Insider Trading Policy; and 3) any other investment deemed prohibited via Committee decision.

F. Public and Private Partnership Investments and Requirements

1. Domestic Public Private Partnerships

It is the intent of this policy that in evaluating those domestic Public Private Partnerships (“PPPs”) in which CalPERS may invest, that Staff, and where appropriate, the Committee will consider the extent to which the sponsoring public entity and the investor(s) share in the benefits and risks associated with the PPP.

Infrastructure assets, by definition, support services that benefit society as a whole and are intended to serve a long and useful life. Recruiting and training a high quality workforce associated with these assets may lead to long term economic value by providing safe, reliable, efficient and high quality services.

2. Domestic Responsible Contractor Program, Preference and Domestic Public Sector Jobs

Responsible Contractor Policy and Preference

a. Staff shall secure written agreement from managers of any investment vehicle, for which the Responsible Contractor Program (“RCP”) applies, such that all contractors, investors, managers, consultants or other participants shall adhere to CalPERS investment policy for the RCP, as amended from time to time by CalPERS, in its sole discretion.

b. Preference: Staff shall give a strong preference to all domestic infrastructure investment vehicles that have adopted an internal policy regarding responsible contracting consistent with the CalPERS RCP subject to CalPERS fiduciary duty.

c. This preference shall apply to any domestic infrastructure investment vehicle for which the RCP is not applicable by its terms other than to make a good faith effort to comply with the spirit of the policy. This specifically applies to investments including, but not limited to, commingled funds, opportunity funds, mezzanine debt, and hybrid debt investments.

d. If the manager of any domestic investment vehicle does not agree to comply with Sections VII.F.2.a. or adopt an internal policy regarding responsible contracting, and, if Staff deems it appropriate based on all the circumstances, including the intent of this Policy as well as the investment merits of the investment vehicle, Staff may recommend the potential investment to the Committee and the Committee shall make a determination whether or not to invest in such investment vehicle.

e. Enforcement: In the event it is determined that during the life of an investment vehicle there is a violation of the above stated terms, Staff shall be precluded from making an investment in a follow on fund with the investment manager. If Staff determines it appropriate, based on all the facts and circumstances, Staff may recommend the investment in the follow on fund to the Committee, which will determine whether to invest in the follow on fund consistent with its fiduciary duty. In addition, in situations where the RCP applies by the terms of this policy, all terms of the RCP including enforcement related terms would apply.

3. Domestic Public Sector Jobs

a. CalPERS intends, consistent with Section II and with CalPERS constitutional and statutory duties to act solely in the interest of, and for the purpose of providing benefits to, participants and their beneficiaries and to make sound and prudent investments, not to make investments that will result in job losses to CalPERS members. If CalPERS staff determines that it is in the best interest of CalPERS, consistent with CalPERS fiduciary responsibilities, to consider an investment that would directly impact California public sector jobs, staff will present the investment to the Committee for consideration.

b. Staff shall secure a written agreement from the managers of any domestic investment vehicle (as described herein) that states, substantially in all material respects, that in circumstances where the investment vehicle is working with a domestic state, local or municipal agency to establish PPPs or to bid on public offers for the sale, lease or management of public assets, the investment vehicle shall make every good faith effort to recognize the important role and contribution of public employees to the development and operation of such assets. In particular, the investment vehicle shall make every good faith effort to ensure that such transactions have no more than a de minimis adverse impact on existing employees. These efforts shall include working directly with public employees, government officials, or collective bargaining groups, as appropriate, in order to take such reasonable actions as may be within the investment vehicle's control to mitigate such potentially adverse effects. Compliance with this requirement shall be a key consideration by CalPERS when reviewing any future investment opportunities with an investment manager.

c. Enforcement: In the event it is determined that during the life of an investment vehicle there is a violation of the above stated terms, Staff shall be precluded from making an investment in a follow on fund with the investment manager. If Staff determines it appropriate, based on all the facts and circumstances, Staff may recommend the investment in the follow on fund to the Committee, which will determine whether to invest in the follow on fund consistent with its fiduciary duty. The follow on fund would be required to enter into the written agreement in subsection b. above.

VIII. INVESTMENT SELECTION

A. Investment Authority

Investments shall be selected by CalPERS Staff pursuant to Delegated Authority, or otherwise with approval of the Committee. The Infrastructure Delegation Resolution specifies when Committee approval is required.

B. Investment Process

The following steps are required to be completed prior to closing an investment:

1. Chief Investment Officer ("CIO") or SIO Approval. CIO or SIO-RA approval in accordance with Delegated Authority limits is required after recommendation by the Infrastructure Investment Committee or equivalent process as detailed in the Manual:

2. Opinion from the Infrastructure Consultant. For investment decisions exceeding Staff's Delegated Authority the Infrastructure Consultant will provide an opinion on the transaction to the Committee;

3. Prudent Person Opinion. For investments in excess of a materiality threshold established in the Policy for Private Asset Class Consultants, an independent due diligence engagement is required to be performed. In such cases, a written favorable concurring Prudent Person Opinion in accordance with the requirements of the Policy for Private Asset Class Consultants, is required;

4. Policy Compliance Review. The Infrastructure Consultant is required to document the transaction complies with Policy and Delegated Authority; and,

5. Legal Review. For investments in excess of a materiality threshold established in Delegated Authority, the Legal Office is required to document the transaction complies with Delegated Authority.

C. Investment Criteria

In choosing specific investments for the Program, consideration shall be given, but not limited to the following:

1. Proposed investment strategy;

2. Expected risk and return attributes;

3. Potential diversification benefits;

4. Investment time horizon;

5. Potential exit strategies and liquidity;

6. Monitoring costs and feasibility;

7. Tax considerations;

8. Other incremental costs;

9. Fee arrangements;

10. Co-investment by management firm or partner(s);

11. Potential conflicts of interest;

12. Governance and control;

13. Financial strength, reputation and alignment of Partners or co-investors; and

14. Performance track record.

D. Investment Parameters

Staff shall consider any appropriate investment opportunity which it believes has the potential to meet or exceed the Program's performance objectives. Investments shall generally fall within the categories defined below.

1. Infrastructure Sectors

CalPERS shall consider investment opportunities within, but not limited to, the following infrastructure sectors:

a. Transportation (roads, bridges, tunnels, mass transit, parking, airports, seaports, rail);

b. Energy (oil, natural gas and liquids, pipelines, storage, and distribution);

c. Power (transmission, distribution, generation, including renewables);

d. Water (water storage, transportation, distribution, treatment and waste water collection, transportation, treatment and processing);

e. Communications (towers and networks)

f. Social Infrastructure (building facilities such as health, education, justice, military); and,

g. Other infrastructure investments that are aligned with CalPERS strategic objectives.

IX. MANAGER AND PARTNER MONITORING

Staff shall monitor and evaluate managers and partners on an ongoing basis based on performance relative to stated objectives of the governing documents. The financial strength of the investment management organization, the level of client service given CalPERS and changes within the managing organization shall be evaluated. The continuity of personnel assigned to CalPERS investments and overall staff turnover shall be reviewed.

X. LEVERAGE

A. Use of Leverage

Leverage is permissible in the Program to enhance investment returns. Infrastructure assets are able to attract and service significant debt levels due to stable cash flows and stable asset values. The Program shall be managed in a way that ensures that use of leverage is both appropriate and accretive to investment returns. Where use of leverage is appropriate, Staff will consider the credit rating (if any) and applicable credit metrics to determine efficient levels of leverage for the investment.

B. Permitted Leverage

1. The Program will be permitted to carry leverage up to 65% of the market value of the Program's assets.

2. New Direct equity investments with leverage exceeding 65% of the market value of the assets of a company, business or investment interest ("Enterprise Value" of "EV") must have the following characteristics unless otherwise approved by the Investment Committee:

   a. Minimum credit quality of BBB- or Baa3 or equivalent;

   b. Defensive or Defensive Plus risk classification.

3. New direct debt investments must have the following characteristics unless otherwise approved by the Investment Committee:

   a. Defensive or Defensive Plus risk classification.

Attachment C

FORESTLAND PROGRAM

May 28, 2014

I. PURPOSE

This attachment to the Real Assets Policy sets forth the investment policy ("Policy") for the Forestland Program ("Program").

II. STRATEGIC OBJECTIVE

In addition to strategic objectives described in the Real Assets Policy, section II., the Forestland Program shall be managed to accomplish the following:

A. Preserve investment capital.

B. Generate attractive risk-adjusted rates of return for CalPERS as a total return investor, including the following components:

1. Provide, at a minimum, moderate to low cash flow from operations with the generation of cash flow secondary to producing long term total returns; and,

2. Provide appreciation potential as a result of biological growth and employing active best management techniques and practices.

C. Provide a hedge against inflation.

III. RESPONSIBILITIES

In addition to responsibilities described in the Real Assets Policy, section III., Staff is also responsible for reporting to the Committee no less than annually in the form of a Program Review.

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

The Portfolio shall be managed to achieve the following long-term objectives, net of fees.

A. The performance objective of the Program is to meet or exceed the benchmark.

B. The benchmark for the Program is specified in the Benchmarks Policy.

V. INVESTMENT APPROACHES AND PARAMETERS

A. Asset Allocation

The asset allocation range for the Program is governed by the Real Assets Policy, section V.

From time to time, the actual allocation may fall out of the ranges prescribed by the Policy. In these instances, adjustments to correct the actual percentage in order for it to comply with the Policy allocation range shall be implemented on an opportunistic basis over a reasonable time frame (within a three-year period with CIO approval and otherwise within one year), and with full consideration given to preserving the investment returns to CalPERS. Staff will report no less than annually to the Committee any time that the actual forestland investments are outside the allocation range.

B. Sustainability Considerations

Maximizing the economic benefits to CalPERS is the primary objective of the Portfolio. The management of each investment shall incorporate sound principles for environmental management and social responsibility with full consideration of impacts on biodiversity, water and air quality, soil conservation and local communities especially indigenous groups. Respecting the desire to maintain and enhance environmental quality and the social and economic benefits accruing to local communities, CalPERS shall strive to use the best and highest forest management standards commercially and economically feasible while meeting or exceeding the performance objective. To this end, investment opportunities involving forests that have achieved independent environmental or forest certification will be sought. For assets not yet certified to such a standard, proponents and managers of the properties will be encouraged to seek certification and commit to a fixed time table for its realization. In such cases, due diligence procedures will include benchmarking management practices against an international or national standard for forest management appropriate for the region in which the asset is located.

C. Non-conventional Forestland Investments

Investments in emerging product markets for forestlands involving non-traditional sources of revenue such as carbon sequestration and the production of feed stock for bio-fuels from both woody (e.g. traditional timber species, bamboo) and non-woody (e.g. switchgrass) vegetation are permitted. These investments will be subjected to the same performance requirements as traditional forestland investments and will be scrutinized rigorously prior to committing funds and monitored closely to ensure acceptable performance.

D. Investment Objectives and Criteria

Implementation of this Program shall comply at all times with the applicable CalPERS investment policies.

1. Investment quality

a. Forestland tracts shall be comparable in quality to those held by other institutional investors or the forest products industry to enhance an exit strategy. The following parameters shall be used as a guide when relevant to assess comparability to investment grade forestland assets for possible inclusion in the Portfolio:

1. **Soils** – soil structure and fertility should be as good or better on average than comparable industrial tracts.

2. **Rainfall** – the annual average and distribution of rainfall should be similar to that for observed on nearby industrial tracts.

3. **Stocking** – the forest should be fully stocked with vigorous healthy trees and species that are matched to the sites with no backlog of unplanted land.

4. **Genetic stock** – for plantations, the provenance of the planted trees should be appropriate for the sites and have shown good growth and form characteristics.

5. **Silvicultural practices** – the silvicultural prescriptions applied by the current owner and proposed by the candidate investment manager/property manager should be proven as appropriate for the species, sites, and target markets. There should be verifiable evidence that the prescriptions have been implemented as planned.

6. **Fire threat/protection** – the threat of fire should be low and proven protection capacity should exist for the asset and neighboring lands.

7. **Biotic risks** – there should be little or no evidence or history of problems with insect, or fungal, pathogens or harmful animals.

8. **Abiotic risks** – there should be little or no evidence or history of problems from wind throw, flooding, snow press, and other abiotic risks.

9. **Diverse competitive markets** – the forest should be located in proximity (economically viable) to diverse and competitive markets for the full range of products expected to be generated by the forest.

10. **Well-developed transportation network** – the private and public transportation network (roads, rail, and waterways) should be well developed and well maintained as warranted.

11. **Labor** – there should be no evidence of labor shortages or labor disruptions for manufacturing phases relevant to the investment.

12. **Tenure** – the property should have secure, defensible legal title with no evidence of outstanding land claims, whether the intention is to buy the land or use some other form of contractual arrangement (lease, joint venture, and license).

13. **Liabilities** – there should be no outstanding material regulatory (environmental, silvicultural, protected areas, taxation, other) liabilities associated with the property.

2. Diversification

The Portfolio shall be appropriately diversified to reduce risk. The Portfolio shall be managed to maintain a degree of diversification with regard to geography, forest cover and revenue sources including emerging product markets.

a. Diversification by Geography

The Portfolio shall include investments in a variety of jurisdictions. Investments in both domestic and international markets are permitted with the relative proportion of each type at a given time to be determined based on prevailing market conditions. Regional diversification within a particular country shall also be considered when such diversification contributes measurably to risk mitigation.

b. Diversification by Forest Cover

The Portfolio shall include assets that are diversified with respect to forest cover including a variety of species in both the softwood and hardwood species groups. Diversification can also be enhanced by investments in non-traditional woody and non-woody species. Diversification by forest cover shall be consistent with the Portfolio requirements for financial performance and risk mitigation.

c. Diversification by Revenue Source

The Portfolio shall be diversified so that no one source of revenue (bio-fuel, carbon sequestration, pulpwood, sawtimber, specialty hardwood, non-timber) dominates the Portfolio.

The SIO-RA will review the investments in forestland assets regularly and order adjustments when necessary to ensure satisfactory diversification by geography, forest cover and revenue sources. Adjustments to diversification in the Portfolio shall be implemented on an opportunistic basis over a reasonable time frame (normally within a three-year period), and with ample consideration given to preserving the investment returns to CalPERS.

3. Investment Asset Size

Investments in the Portfolio shall have a range of sizes to both enhance liquidity of the Portfolio and enable participation in larger opportunities while maintaining significant control over management. An individual investment shall be one or more parcels of forestland with unity of title, use, and contiguity. Non-contiguous parcels of land may be considered an individual investment if there is unity of operation.

4. Investment Holding Period/Dispositions

The target holding period for forestland assets shall generally be for long-term investment (10 years or more). However, disposition of individual investments may be triggered by an opportunity to capture a return in excess of the targeted return, or by a revised investment strategy resulting from changes in markets for forest products or changes in CalPERS financial objectives.

5. Leverage

The Program normal loan-to-value ratio is limited to 40%. The loan-to-value ratio limit may be extended to 50% for up to three years with Chief Investment Officer approval and up to one year with SIO-RA approval in order to permit a gradual decline in debt on acquisitions and to maintain a flexible and optimal harvesting scheduled. Staff will report no less than annually to the Committee on the loan-to-value ratio any time that the leverage exceeds 40%. In any use of leverage, the debt service payments should not drive harvesting activities.

6. Investment Manager and Property Management

a. The investment manager shall be responsible for developing operating management plans, strategic plans and budgets, and on-site supervision of each forestland holding. Individual assets must be physically inspected at least once a year. Emphasis shall be placed on active management to capitalize on opportunities that add value.

b. On-site property management shall be conducted, under the supervision of the investment manager, by firms with an established presence in the local forestland markets and demonstrated expertise in optimizing forestland property performance.

c. Management shall comply with all laws and regulations applicable to the jurisdictions where the forestland assets are located.

d. Where prudent and economically practical, revenue sources from non-timber resources such as hunting, fishing, gathering, and recreation shall be permitted. A full investigation of the legal liabilities associated with both destructive and non-destructive use of non-timber forest resources, whether for fees or not, shall be completed prior to permitting such use.

7. Contractual Arrangements

Equity ownership of forestland assets is the preferred method of investment. However, other contractual arrangements such as long-term lease, joint venture, and forest licenses are permitted. All types of contractual arrangements shall include exclusive ownership or use rights for the land, timber and non-timber resources, water, sequestered carbon, and minerals whenever possible.

8. Prohibited Investments

The purchase of land for the primary purpose of commercial land development and speculation shall be prohibited. Investments that involve forced labor, the illegal or harmful use of child labor, violation of community or indigenous peoples' legal or usufruct rights, or violation of laws or regulations pertaining to threatened or endangered species are prohibited.

E. Risk Management

The Portfolio will employ strict risk management procedures during the pre-investment due diligence, investment monitoring, and exit due diligence stages of investments. The purpose of these risk management exercises is to identify the full range of risks to the investment, rank the risks according to potential impact on the investment and then rigorously test the proponent's projections and responses to questioning relating to the identified risks to ensure their logic and analyses are sound.

Due diligence prior to committing funds shall involve a rigorous review and confirmation of the financial, legal and operational aspects of the proposed investment. Qualified, experienced and independent advisors shall be engaged to perform the required reviews and verifications of proponent information and projections. The experience of a chosen advisor shall be appropriate for the type of production systems (e.g. timber, carbon sequestration) that contribute to revenue generation from the forest.

Investment monitoring programs shall be established for each Forestland Asset specifying the scope, frequency and degree of rigor for the periodic reviews. For investments dependent on emerging product markets, monitoring shall be more frequent and more rigorous than with traditional forestland investments.

Due diligence at the exit stage of the investment shall involve a rigorous review and confirmation of the financial aspects of the proposed sale.

VI. CALCULATIONS AND COMPUTATIONS

All calculations and computations shall be on a fair market value basis unless otherwise noted. Market value, as defined by the Uniform Standards of Professional Appraisal Practice (USPAP) of the Appraisal Foundation, shall be incorporated when reporting fair market value for accounting purposes. The standards of the forest industry in appraising forestlands shall be followed where there are differences between USPAP and forest industry practices.

Attachment D

REAL ASSETS
INVESTMENT LIMITS AND CONSTRAINTS

Table 1
Real Estate Portfolio
($Billion)

Staff Authority Limits[4] The Managing Investment Director or the Chief Investment Officer may commit the lesser of the indicated percent of the policy target amount[1] or indicated dollar amount per Relationship[5]	New Investments or Dispositions				Existing Investments in the Strategic and Legacy Portfolios			
	Base Core	Domestic Tactical	International Tactical	Total	Investment Amounts	New Debt Financing	Debt Financing Management[2]	Disposition Amounts
Managing Investment Director	5% $1.5	2.5% $0.75	2.5% $0.75		2.5% $0.75	2.5% $0.75	10% $2.5	2.5% $0.75
Chief Investment Officer	10% $2.5	5% $1.5	5% $1.5		5% $1.5	5% $1.5	15% $3.75	5% $1.5
Annual Limit[3]	25% $7	10% $2.5	10% $2.5	30% $8	20% $5	30% $7	30% $7	20% $5

Table 2
Infrastructure Portfolio
($Billion)

Staff Authority Limits[4] The Managing Investment Director or the Chief Investment Officer may commit the lesser of the indicated percent of the policy target amount[1] or indicated dollar amount per Relationship[5]	New Investments or Dispositions				Existing Investments			
	Defensive	Defensive Plus	Extended, Direct Investment, or Public Infrastructure	Total	Investment Amounts	Public Infrastructure New Debt Financing and Debt Financing Management[2]	Private Infrastructure New Debt Financing and Debt Financing Management[2]	Disposition Amounts
Managing Investment Director	10% $0.5	10% $0.5	10% $0.5		10% $0.5	10% $0.5	15% $0.75	10% $0.5
Chief Investment Officer	20% $1	20% $1	10% $0.5		20% $1	10% $0.5	30% $1.5	20% $1
Annual Limit[3]	40% $2	40% $2	10% $0.5	50% $2.5	30% $1.5	30% $1.5		30% $1.5

Table 3
Forestland Portfolio
($Billion)

Staff Authority Limits[4] The Managing Investment Director or the Chief Investment Officer may commit the lesser of the indicated percent of the policy target amount[1] or indicated dollar amount per Relationship[5]	New Investments or Dispositions	Existing Investments			
		Investment Amounts	New Debt Financing	Debt Financing Management[2]	Disposition Amounts
Managing Investment Director	10% $0.25	10% $0.25	10% $0.25	25% $0.517	10% $0.25
Chief Investment Officer	20% $0.5	20% $0.5	20% $0.5	50% $1.034	20% $0.5
Annual Limit[3]	40% $1	40% $1	40% $1	50% $1.034	40% $1

Table 4
For Strategic Portfolios with Contractual Relationships:

Portfolio	**Maximum Relationship Exposure Limit[5]**
Base Core	25%
Domestic Tactical	15%
International Tactical	10%
Legacy	10%
Total Portfolio	25%

Footnotes for Tables 1, 2, 3, and 4

1 See Policy Portfolio Target Amounts located in the Total Fund Investment Policy, Appendix 4, Asset Allocation Targets & Ranges

2 “Debt Financing Management” refers to the authority to retire early, dispose of, renew, or extend an existing Debt Financing Amount.

3 “Annual Limit” refers to the ratio of (a) the individual total actual annual Investment Amounts, Disposition Amounts, or Debt Financing Amounts, as the case may be, to (b) the respective RA Component Program Amount. “RA Component Program Amount” refers to the Real Estate Program Policy Target Amount, the Infrastructure Program Policy Target Amount, or the Forestland Program Policy Target Amount, as the case may be.

4 Limits and constraints apply to the investment types and portfolios as follows:

Investment Type	Portfolio
Public Securities	Domestic Tactical, Legacy, Public Infrastructure
Private Investment Vehicles	Domestic Tactical, Legacy, Forestland, Infrastructure: Public, Private, Direct
Private Securities	Domestic Tactical, Legacy, Infrastructure: Public, Direct
Managers Retained through a Contractual Arrangement	Base, Domestic Tactical, International Tactical, Legacy, Forestland, Infrastructure: Private, Direct

5 All Investment Amounts in the RA Policy Component Program for real estate are subject to the maximum relationship exposure limits. Relationship exposure is the ratio of (a) a Relationship's net assets at FMV plus unfunded commitments to (b) the total real estate portfolio's net assets at FMV plus the total real estate portfolio's unfunded commitments.

Real Assets Conditions

The following conditions apply to Tables 1, 2, and 3 above with respect to allocation and investment decisions for Public Securities, Private Investment Vehicles, Private Securities, and managers retained through a contractual arrangement.

a. For the CIO or MID-Real Assets to proceed with a debt financing, disposition, or New Investment, a review by the Real Assets Investment Review Committee is required.

b. For the CIO or MID-Real Assets to proceed with a debt financing, disposition, or New Investment in an RA Policy Component Program, the respective Board Component Program Investment Consultant must document that the transaction complies with Policy and delegated authority.

c. For the CIO or MID-Real Assets to proceed with a debt financing, disposition, or New Investment in an RA Policy Component Program in an amount greater than $50 million, an independent due diligence engagement resulting in a concurring Prudent Person Opinion on the merits of the transaction following a Fiduciary Standard of Care is required from a Component Program Investment Pool Consultant (other than the respective Board Component Program Investment Consultant) for the applicable RA Policy Component Program. Additionally, whenever a Prudent Person Opinion is required, the CIO or MID-Real Assets shall also request an opinion from the CalPERS Legal Office documenting that the transaction complies with delegated authority.

d. The CIO or MID-Real Assets may request an independent due diligence engagement and Prudent Person Opinion for a debt financing, disposition, or New Investment less than or equal to $50 million from a Component Program Investment Pool Consultant (other than the respective Board Component Program Investment Consultant) for the applicable RA Policy Component Program; however, in such cases, neither an engagement nor a concurring Prudent Person Opinion is required for the CIO or MID-Real Assets to proceed. If the CIO or MID-Real Assets requests a Prudent Person Opinion pursuant to this paragraph, the CIO or MID-Real Assets may also request an opinion from the CalPERS Legal Office documenting that the transaction complies with delegated authority, provided, however, that such an opinion is not required for the CIO or MID-Real Assets to proceed.

e. New Debt Financing Amounts or leverage levels committed in conjunction with a commitment of an Investment Amount to a Relationship are not subject to the limits described in the tables above, but are subject to the applicable leverage sections of Attachments A-C.

Certain Defined Terms

As used in this Attachment D, the following terms shall have the meanings set forth in the investment delegation of authority in existence as of February 16, 2016:

Board Component Program Investment Consultant
Component Program Investment Pool Consultant
Debt Financing Amount
Disposition Amount
Fiduciary Standard of Care
Forestland Program Policy Target Amount
Infrastructure Program Policy Target Amount
Investment Amount
New Investments
Private Investment Vehicles
Prudent Person Opinion
RA Policy Component Programs
Real Estate Program Policy Target Amount
Relationship