Date: February 12, 2018

To: Members of the Investment Committee
California Public Employees' Retirement System (CalPERS)

From: Pension Consulting Alliance, LLC (PCA)

RE: Real Estate Performance as of December 31, 2017

PCA received and reviewed Wilshire's Executive Summary of CalPERS' Investment Performance for the period ending December 31, 2017 as it relates to the Real Estate Portfolio. The following items should be considered in your assessment of Real Estate's performance:

Real Estate Markets:

1. Real estate fundamentals remain strong in most major domestic markets.
2. Real estate returns are continuing to moderate. Core returns are likely to be lower over the next three years relative to the last five. Indeed, the latest survey by the Pension Real Estate Association in the U.S. shows a steady decline in return expectations for core real estate. Investors expect US real estate total returns to fall (before fees) from 6.9% in 2017 to 5.6% in 2018 and 5% in 2019. The capital appreciation portion of these expected returns are just 2.1%, 1% and 0.3%, respectively.
3. The decline in cap rates, most evident in high-quality, core markets, has slowed. Thus, the rate of increase in prices and overall capital returns are reduced. Notwithstanding the lower expectations, capital continues to flow to the asset class. Other long term, institutional investors, like CalPERS, are primarily interested in the long duration income streams, and diversification from global equities, worry less about near-term slowing appreciation.
4. The US, along with other countries like the U.K., have seen a reversal of the decade-long lowering of interest rates. The Federal Reserve raised rates recently from 1.25% to 1.5%. The increase in the base rate is unlikely to have a major short-term impact on commercial real estate pricing, but it does likely mark the end of the era of very strong returns for the asset class.
5. International markets are generally healthy as well, and priced to disadvantage non-local investors. Many countries' financial sectors are being given permission to invest in property for the first time, and this demand has caused prices of performing assets to become more expensive.

CalPERS' Real Estate:

1. During July through December 2017, the Real Estate Portfolio continued its positive transformation towards a diversifying, income oriented portion of the Real Assets Program, which provides positive cash flow to the System with which to pay benefits and a counterweight to equity risk.
2. Contributing strong positive total return performance (net of fees and participation) to the Total Fund of 7.8%, the 1-year return beat the benchmark by 110 basis points for the year ending 12/31/17. Per Staff's analysis, the 110 basis points of one-year outperformance can be attributed primarily to strong returns from core holdings which comprise 78.7% of the real estate portfolio. Particularly strong returns were generated by the industrial, retail and emerging manager programs.
3. The 3-year return of 10.0% and the 5-year return of 10.9% were +20 and +30 basis points, respectively, compared to the benchmark. The 10-year performance continues to contain a material amount of non-strategic assets and includes the results from the Great Financial Crisis. It shows underperformance of -850 basis points compared to the benchmark.

Real Estate Performance	Quarter	1 Year	3 Year	5 Year	10 Year
Real Estate Returns	1.4%	7.8%	10.0%	10.9%	-1.3%
Real Estate Policy Benchmark	1.6%	6.7%	9.8%	10.6%	7.2%
Difference	-0.2%	1.1%	0.2%	0.3%	-8.5%

Compared to the benchmark performance, it should be noted that CalPERS' portfolio diverges insofar as:

a) higher leverage levels;
b) higher levels of non-stabilized assets; and
c) types of assets (e.g. Housing, Land) and locations of assets (e.g. Brazil, Russia, China) which are not part of the benchmark.

Each of these elements will provide benefits in some market periods and detriments in others. In the last year, Item c) continued to be negative to performance, while Item a) was slightly additive.

Leverage

At December 31, 2017, the real estate portfolio had a loan to value ratio of 31.1% and a debt service coverage ratio of 2.95, both well within policy guidelines of <50% and >1.5, respectively. This is a reasonable amount of debt for a long-term, income-oriented portfolio that balances the competitive market for real estate investing, attractive interest rates, and moderate incremental risk. Staff continues to appropriately manage the structure, term, rate and covenants of the debt to reduce costs and risk.

Capital Deployment
As of the 12/31/17 total plan reporting date, real estate comprised 9.1% of the total CalPERS portfolio, against a policy target allocation of 11.0%. For FY 2017-18, Staff approved $4.0 billion of capital commitments to existing strategic partnerships for the acquisition of new investments. As of September 30, 2017, only approximately 5.0 percent had been deployed. Demand for the types of assets that CalPERS seeks was high and competition fierce. Managers and Staff demonstrated good discipline in not chasing acquisitions. The decision making processes continued to be improved, which will reduce the potential for future losses. Certain Sovereign Wealth Funds whose capital was pegged to oil prices became less active competitors for trophy assets; however, they were replaced by increased appetite from retirement systems, flight capital and other institutions whose need for current income was unsatisfied by fixed income choices.

ESG Update
During the last six months, U.S. and global major climate events have materially impacted real estate. The U.S. weathered major hurricanes and flooding in Texas, Florida and Puerto Rico, and fires, then mudslides, in California. Such events provide new evidence of material climate risks that can impact property investment portfolios such as CalPERS. Climate change related physical risks to property has become both a near term and long-term risk. The progress made to develop and implement new ESG tools in the CalPERS Real Estate portfolio, provide, in PCA's opinion, key elements for CalPERS to identify and reduce risks to the value of its real estate assets.

CalPERS' participation in the Climate Risk Data Mapping project for its Core Real Estate portfolio directly addresses physical climate risks. The participation of 15 of CalPERS' 21 outside Real Estate managers in the GRESB survey as of 2017 (comprising 77.6% or $23 billion of Q1'17 net asset value), and CalPERS' July 2017 launch of the CalPERS ESG consideration matrix, further enhance the CalPERS Real Estate team's ability to compile and analyze material ESG data and information. Regarding long-term material risks, Staff launched the next stage in the process of identifying specific Energy Optimization options that can best maximize CalPERS' opportunities and strategies long term in the CalPERS Real Estate portfolio. The CalPERS Responsible Contractor Policy (RCP) continues to enhance CalPERS' ability to engage with its Real Estate managers to monitor and address potential material human capital risks to CalPERS Real Estate portfolio. Combined, PCA believes that CalPERS ESG efforts in its Real Estate portfolio made meaningful progress on achieving the ESG elements of the CalPERS Strategic Plan for Real Estate, and, over time, can result in higher stable occupancies and net rental income, and lower exposure to climate change risk.

PCA is available to take any questions of the Investment Committee.

Respectfully,

David Glickman Managing Director	Christy Fields Managing Director

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