

Managers and Assets Under Management as of December 31, 2019
 State of Hawaii Employees' Retirement System

Risk-Based Policy Framework

Strategic Class	Sub-Class	Manager	Assets Under Management	% of Total	Inception Date
Broad Growth					
	Traditional Growth				
	Global Small Cap Equity	Wasatch	490,238,690	2.73%	1/1/2019
	Global Small Cap Equity	Wellington	490,032,880	2.73%	4/1/2017
	Global Mid-Large Cap Equity	Longview	755,623,219	4.20%	9/1/2017
	Global Mid-Large Cap Equity	QMA	849,056,558	4.72%	9/1/2017
	Global Equity - Passive	BlackRock - Alpha Tilts	1,277,118,067	7.10%	6/1/2016
	Global Equity - Passive	Legal & General	1,550,025,369	8.62%	5/1/2016
	Stabilized Growth				
	Public Extended Global Credit	Tortoise Credit	4,561,599	0.03%	5/1/1990
	Public Extended Global Credit	HPS Credit	281,172,355	1.56%	6/30/2019
	Public Extended Global Credit	Silverrock Credit	57,949,525	0.32%	
	Public Extended Global Credit	PIMCO	199,710,673	1.11%	4/1/2015
	Public Extended Global Credit	Western Asset Management	441,505,927	2.48%	7/1/2005
	Core Real Estate (Separate)	Heitman Capital	432,439,994	2.40%	11/1/1995
	Core Real Estate	Heitman Core RE Debt Fund	50,158,895	0.28%	2/1/2018
	Core Real Estate (Separate)	INVESCO Realty	78,188	0.00%	8/1/1998
	Core Real Estate	Cabot Ind Core	43,036,358	0.24%	8/1/2016
	Core Real Estate	H2 Core Real Estate Debt Fund	639,691	0.00%	9/1/2015
	Core Real Estate	INVESCO Comm Mortgage	71,524,662	0.40%	5/1/2018
	Low Volatility Equity	Robeco	595,098,439	3.31%	10/1/2016
	Low Volatility Equity	TOBAM	500,800,942	2.78%	10/1/2016
	Options-Based Equity	AGR	684,516,536	3.81%	6/30/2019
	Options-Based Equity	Gateway Investment Advisers LLC - Put-Write	729,301,658	4.06%	9/1/2016
	Options-Based Equity	Gateway Investment Advisers LLC - Non-Replication	259	0.00%	12/1/2011
	Options-Based Equity	Geode	681,699,357	3.79%	10/1/2019
	Options-Based Equity	Neuberger Berman	704,823,619	3.92%	10/1/2016
	Private Growth				
	Private Equity	Hamilton Lane	1,749,310,582	9.73%	11/1/1997
	Private Equity	I-Squared Global Infrastructure	15,369,024	0.09%	6/1/2015
	Private Equity	I-Squared Global Infrastructure II	22,161,247	0.12%	7/1/2018
	Private Equity	Secondary Private Equity	28,634,075	0.16%	7/1/2018
	HITIP	Stafford	21,175,366	0.12%	5/1/2009
	HITIP	Stafford II	9,799,796	0.05%	4/1/2017
	Non-Core Real Estate - Opportunistic	BlackSand Capital Fund I	2,485,171	0.01%	9/1/2011
	Non-Core Real Estate - Opportunistic	BlackSand Capital Fund II	696,911	0.00%	4/1/2019
	Non-Core Real Estate - Opportunistic	Blackstone Real Estate VII	10,373,055	0.06%	6/1/2012
	Non-Core Real Estate - Opportunistic	Blackstone REP EURO VI	1,542,078	0.01%	
	Non-Core Real Estate - Opportunistic	Blackstone Real Estate IX	8,447,525	0.05%	10/1/2019
	Non-Core Real Estate - Opportunistic	Cerberus IV	30,687,558	0.17%	1/1/2017
	Non-Core Real Estate - Opportunistic	Fortress Japan Opp Fund II	4,355,074	0.02%	7/1/2012
	Non-Core Real Estate - Opportunistic	Fortress Japan Opp Fund III	16,389,505	0.09%	1/1/2015
	Non-Core Real Estate - Opportunistic	Fortress Japan Opp Fund IV	1,018,461	0.01%	8/1/2018
	Non-Core Real Estate - Opportunistic	Lone Star Fund II	472,030	0.00%	6/1/2011
	Non-Core Real Estate - Opportunistic	Lone Star Fund VII	163,813	0.00%	6/1/2011
	Non-Core Real Estate - Opportunistic	Torchlight Debt Opportunity Fund V	13,466,360	0.07%	6/1/2015
	Non-Core Real Estate - Opportunistic	Torchlight Debt Fund VI	19,221,507	0.11%	3/1/2018
	Non-Core Real Estate - Value-Add	AG Asia Realty Fund III	20,165,248	0.11%	7/1/2016
	Non-Core Real Estate - Value-Add	AG Core Plus Realty Fund II	1,333,962	0.01%	4/1/2008
	Non-Core Real Estate - Value-Add	AG Core Plus Realty Fund III	4,311,231	0.02%	4/1/2012
	Non-Core Real Estate - Value-Add	AG Core Plus Realty Fund IV	39,123,220	0.22%	6/1/2015
	Non-Core Real Estate - Value-Add	AG Realty Value X	7,400,532	0.04%	11/1/2019
	Non-Core Real Estate - Value-Add	AG Europe Realty II	43,152,622	0.24%	5/1/2018
	Non-Core Real Estate - Value-Add	Almanac VI	3,589,104	0.02%	11/1/2012
	Non-Core Real Estate - Value-Add	Almanac VII	16,032,663	0.09%	4/1/2015
	Non-Core Real Estate - Value-Add	Almanac VIII	4,188,326	0.02%	1/1/2019
	Non-Core Real Estate - Value-Add	BlackRock Asia IV	33,509,130	0.19%	7/1/2017
	Non-Core Real Estate - Value-Add	CBRE Strategic Partners Value Fund VI	35,566	0.00%	10/1/2012
	Non-Core Real Estate - Value-Add	CBRE Strategic Partners Value Fund VII	3,837,597	0.02%	5/1/2015
	Non-Core Real Estate - Value-Add	CBRE Strategic Partners Value 8	45,680,986	0.25%	10/1/2017
	Non-Core Real Estate - Value-Add	DRA GR INC IX	34,193,592	0.19%	2/1/2017
	Non-Core Real Estate - Value-Add	H2 CP (RE Debt)	30,723,310	0.17%	11/1/2016
	Non-Core Real Estate - Value-Add	Kayne Anderson V	28,424,344	0.16%	6/1/2018
	Non-Core Real Estate - Value-Add	KKR Rep Americas II	26,322,471	0.15%	3/1/2018
	Non-Core Real Estate - Value-Add	LaSalle Income & Growth Fund VII	20,223,691	0.11%	8/1/2016
	Non-Core Real Estate - Value-Add	Mesa West RE Inc Fund III	999,873	0.01%	9/1/2013
	Non-Core Real Estate - Value-Add	Mesa West RE Fund IV	11,191,787	0.06%	4/1/2017
	Non-Core Real Estate - Value-Add	Prudential Sr Housing Fund IV	508,300	0.00%	4/1/2012
	Non-Core Real Estate - Value-Add	Prudential Sr Housing Fund V	23,489,366	0.13%	5/1/2015
	Non-Core Real Estate - Value-Add	Prudential Sr Housing Fund VI	5,118,968	0.03%	9/1/2019
	Non-Core Real Estate - Value-Add	Starwood Fund XI	9,340,064	0.05%	8/1/2018
Opportunities		Low Enterprises	30,178,590	0.17%	1/1/2015
Principal Protection					
	US Intermediate	Bank of Hawaii	323,695,693	1.80%	11/1/2017
	US Intermediate	First Hawaiian Bank	324,130,627	1.80%	11/1/1991
	Non-US Intermediate	Eaton Vance	581,523	0.00%	6/1/1989
	Non-US Intermediate	Neuberger Global Fixed	557,280,505	3.10%	9/1/2019
Crisis Risk Offset					
	Alternative Return Capture	ARP Alternative Return Capture	207,014,567	1.15%	4/1/2019
	Alternative Return Capture	Graham Quant Macro	313,417,790	1.74%	4/1/2017
	Alternative Return Capture	Lombard Odier Risk Premia	216,137,722	1.20%	4/1/2019
	Alternative Return Capture	P/E Global Macro	270,624,435	1.50%	4/1/2017
	Systematic Trend Following	AlphaSimplex	191,825,049	1.07%	1/1/2018
	Systematic Trend Following	Aspect Core Fund	192,347,989	1.07%	4/1/2017
	Systematic Trend Following	Campbell Core Trend	183,711,115	1.02%	4/1/2017
	Systematic Trend Following	Crabell Advanced Trend	186,010,238	1.03%	4/1/2017
	Systematic Trend Following	Mount Lucas	197,600,789	1.10%	4/1/2019
	Treasury Duration Capture	Ryan Labs Long Treasury	147,073	0.00%	4/1/2017
	Treasury Duration Capture	Ryan Labs Treasury Custody	589,548,098	3.28%	10/1/2019
Real Return					
	Timber	Hancock Timber	186,325,506	1.04%	9/1/1999
	GILS	BlackRock	312,794,826	1.74%	9/1/2011
	Infrastructure	KKR Global Infrastructure II	46,428,405	0.26%	12/1/2014
All Other Assets					
	Cash Account	BNY Mellon	246,774,484	1.37%	2/1/1998
	Cash Account	Bank of Hawaii	45,145,705	0.25%	1/1/1972
	Transition Account I	BNY Mellon	6,433,506	0.04%	4/1/2002
	Transition Account II	BNY Mellon	944	0.00%	7/1/2011
	Residual Account	BNY Mellon	136,341	0.00%	6/1/2013
	Closing Accounts	Parametric Overlay	92,838,696	0.52%	6/1/2019
	World ex-US Equity	Franklin Templeton	683,483	0.00%	11/1/2011
	World ex-US Equity	JP Morgan Chase	342,433	0.00%	9/1/2005
	World ex-US Equity	Mercator Asset Mgt LP	247,611	0.00%	12/1/2003
	Emerging Markets Equity	QMA	1	0.00%	12/1/2011
	Non-US Intermediate	PIMCO	2,613	0.00%	3/1/1979
	Global Small Cap Equity	Fidelity Institutional	172,980	0.00%	4/1/2017
Total Fund Value			17,982,347,411	100.00%	