## Managers and Assets Under Management State of Hawaii Employees' Retirement System **Risk-Based Policy Framework**

Strategic Class	Sub-Class	Asset Class	Manager / Composite	Assets Under	% of Total	Inception
Sti ategic Class	Sub-Class			Management (\$)	Fund	Date
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Broad Growth	Public Growth					
	Fublic Growin	Global Equity - Passive	BlackRock	547,726,715	2 49%	06/01/2016
		Global Equity - Passive	Legal & General	796,452,915		05/01/2016
		Global Equity - Mid-Large Cap	Alliance Bernstein	649,472,631		03/01/2020
		Global Equity - Mid-Large Cap	Longview	731,535,272		09/01/2017
		Global Equity - Mid-Large Cap	Wellington	646,966,188	2.94%	03/01/2020
		Global Equity - Small-Mid Cap	Wasatch	451,083,858	2.05%	01/01/2019
		Global Equity - Small-Mid Cap	Wellington	477,168,472	2.17%	04/01/2017
		Global Equity - China	Hillhouse China A Shares	210,688,301	0.96%	05/01/2022
		Global Equity - Low Volatility	Robeco	374,561,468		10/01/2016
		Global Equity - Low Volatility	TOBAM	365,026,509		10/01/2016
		Global Equity - Options-Based	Gateway	429,727,968		09/01/2016
		Global Equity - Options-Based	Neuberger Berman	280,211,681		09/01/2016
		Convertibles	Lord Abbett	340,947,083		05/01/2021
		Global Credit Global Credit	Carval HPS	238,352,096		04/01/2020 06/30/2019
		Global Credit	Lafayette Square USA	570,814,893 5,187,500		07/01/2022
		Global Credit	OHA	113,304,676		07/01/2022
		Global Credit	PIMCO	98,798,101		10/01/2021
		Global Credit	SilverRock	268,130,200		11/01/2019
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	Private Growth					
		Private Equity	Hamilton Lane	3,954,153,589		11/01/1997
		Private Equity	Secondary Private Equity	58,930,800		07/01/2018
		Private Equity	Direct Private Equity	3,948,879		07/01/2021
		HITIP	Stafford	13,457,425		05/01/2009
		Hitip Hitip	Stafford II Stafford III	40,983,488		04/01/2017 02/01/2020
		HIIP	Statioru III	18,174,513	0.00%	02/01/2020
	Real Assets					
		Core Real Estate	Heitman	819,949,639	3.72%	11/01/1995
		Core Real Estate	Heitman Core Real Estate Debt	49,769,749	0.23%	02/01/2018
		Core Real Estate	Invesco Comm Mortgage	99,894,529		05/01/2018
		Core Real Estate	Prime Property	220,000,000		07/01/2022
		Non-Core Real Estate - Opportunistic	AG Asia Realty Fund III	11,491,098		07/01/2016
		Non-Core Real Estate - Opportunistic	AG Europe Realty II	49,048,489		05/01/2018
		Non-Core Real Estate - Opportunistic Non-Core Real Estate - Opportunistic	AG Europe Realty III	27,675,797		05/01/2020
		Non-Core Real Estate - Opportunistic	BlackRock Asia IV BlackSand Capital Fund I	30,335,848 2,009,518		07/01/2017 09/01/2011
		Non-Core Real Estate - Opportunistic	BlackSand Capital Fund II	10,083,076		04/01/2019
		Non-Core Real Estate - Opportunistic	Blackstone Real Estate VII	5,440,838		06/01/2012
		Non-Core Real Estate - Opportunistic	Blackstone REP Euro VI	18,227,691		12/01/2019
		Non-Core Real Estate - Opportunistic	Blackstone Real Estate IX	45,905,005		10/01/2019
		Non-Core Real Estate - Opportunistic	Cerberus IV	38,145,301		01/01/2017
		Non-Core Real Estate - Opportunistic	EJF Opzone 1	75,656,854	0.34%	04/01/2020
		Non-Core Real Estate - Opportunistic	Fortress Japan Opp Fund II	3,063,581	0.01%	07/01/2012
		Non-Core Real Estate - Opportunistic	Fortress Japan Opp Fund III	14,097,634		01/01/2015
		Non-Core Real Estate - Opportunistic	Fortress Japan Opp Fund IV	11,713,443		08/01/2018
		Non-Core Real Estate - Opportunistic	Kayne Anderson V	40,679,875		06/01/2018
		Non-Core Real Estate - Opportunistic	Kayne Anderson VI	10,293,174		07/01/2021
		Non-Core Real Estate - Opportunistic	KKR Rep Americas II	18,137,611		03/01/2018
		Non-Core Real Estate - Opportunistic	Lone Star Fund II	28,347		06/01/2011
		Non-Core Real Estate - Opportunistic	Lone Star Fund VII Starwood Fund XI	82,869 47 762 020		06/01/2011 08/01/2018
		Non-Core Real Estate - Opportunistic Non-Core Real Estate - Opportunistic	Starwood Pund XI Starwood Dis Op XII Glob	47,762,020 11,269,376		08/01/2018
		Non-Core Real Estate - Opportunistic	Torchlight Debt Op. Fund V	4,458,524		02/01/2022
		Non-Core Real Estate - Opportunistic	Torchlight Debt Fund VI	43,823,854		03/01/2018
		Non-Core Real Estate - Opportunistic	Torchlight Debt Fund VII	16,246,539		07/01/2020
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Sti ategic Class	Sub-Class	Asset Glass	Manager / Composite	Management (\$)	Fund	Date
Broad Growth						
	Real Assets					
		Non-Core Real Estate - Value-Add	AG Core Plus Realty Fund III	1,536,935		04/01/2012
		Non-Core Real Estate - Value-Add	AG Core Plus Realty Fund IV	24,303,140	0.11%	
		Non-Core Real Estate - Value-Add	AG Realty Value X	45,449,998	0.21%	11/01/2019
		Non-Core Real Estate - Value-Add	Almanac VI	2,672,541		11/01/2012
		Non-Core Real Estate - Value-Add	Almanac VII	25,175,562	0.11%	
		Non-Core Real Estate - Value-Add	Almanac VIII	26,947,437		01/01/2019
		Non-Core Real Estate - Value-Add	CBRE Strategic Partners Value VII	17,263		05/01/2015
		Non-Core Real Estate - Value-Add	CBRE Strategic Partners Value 8	46,555,135		10/01/2017
		Non-Core Real Estate - Value-Add	CBRE Strategic Partners Value 9	21,917,464		02/01/2020
		Non-Core Real Estate - Value-Add	DRA GR INC IX	31,026,957		02/01/2017
		Non-Core Real Estate - Value-Add	DRA GR INC X	24,057,444		04/01/2020
		Non-Core Real Estate - Value-Add	GLP Capital IV	33,077,244		06/01/2021
		Non-Core Real Estate - Value-Add	LaSalle Income & Growth Fund VII	24,006,265		08/01/2016
		Non-Core Real Estate - Value-Add	LaSalle Income & Growth Fund VIII	17,377,639		03/01/2020
		Non-Core Real Estate - Value-Add	Mesa West	8,440,740		12/01/2021
		Non-Core Real Estate - Value-Add	Mesa West RE Fund IV	5,616,393		04/01/2017
		Non-Core Real Estate - Value-Add	Prudential Sr Housing Fund V	25,518,838		05/01/2015
		Non-Core Real Estate - Value-Add	Prudential Sr Housing Fund VI	25,174,623		09/01/2019
		Infrastructure	KKR Global Infrastructure II	23,717,709		12/01/2014
		Infrastructure	KKR Global Infrastructure IV	8,632,710		05/01/2022
		Infrastructure	KKR Div Core Infrastructure	150,000,000		05/01/2022
		Infrastructure	ISQ Global Infrastructure I	19,008,391		06/01/2015
		Infrastructure	ISQ Global Infrastructure II	52,867,546		07/01/2018
		Infrastructure	ISQ Global Infrastructure III	3,268,381		01/01/2022
		Infrastructure	IFM Global Infrastructure	153,811,542		05/01/2022
		Agriculture	PGIM US Agriculture	4,179,385		07/01/2022
		Agriculture	UBS Agrivest Farmland	27,987,710		10/01/2021
		Timber	Hancock	189,762,547	0.86%	
		Other Real Assets	Morgan Stanley Olomana	576,427,912	2.62%	04/01/2022
Diversifying Stra	-					
	Liquid Defensiv					
		Defensive Return Capture	36 South	186,934,689	0.85%	
		Defensive Return Capture	AHL Defensive	208,575,311	0.95%	
		Defensive Return Capture	P/E Global	295,366,275		04/01/2017
		Defensive Return Capture	SABA	230,148,646		04/01/2022
		Systematic Trend Following	AlphaSimplex	312,845,333		01/01/2018
		Systematic Trend Following	Aspect	322,237,815		04/01/2017
		Systematic Trend Following	Crabel	483,467,310		04/01/2017
		Systematic Trend Following	Mount Lucas	308,846,645		04/01/2019
		Treasury Duration Capture	Bank of Hawaii	176,022,727		11/01/2017
		Treasury Duration Capture	First Hawaiian Bank	176,719,411		11/01/1991
		Treasury Duration Capture	SLC Management	356,077,309	1.62%	10/01/2019
	Liquid Diversify		Broven Howard	245 704 200	1 570/	11/01/2021
		Alternative Return Capture Alternative Return Capture	Brevan Howard Credit Suisse	345,791,396		
		Alternative Return Capture	Graham	216,273,065	0.98%	
		Alternative Return Capture	Lombard Odier	411,604,752 208,129,997		04/01/2017 04/01/2019
		Relative Value Arbitrage	Aequim Arbitrage	57,778,742		04/01/2019 11/01/2020
		Relative Value Arbitrage Relative Value Arbitrage				
		Relative Value Arbitrage Relative Value Arbitrage	Aequim Relative Value Arbitrage Aristeia	230,043,025 301,849,487		12/01/2020 07/01/2021
		0	Monashee			12/01/2020
		Relative Value Arbitrage Relative Value Arbitrage	Shaolin	231,248,585 266,773,412	1.05%	
		Relative Value Arbitrage Relative Value Arbitrage	UBS O'Conner	247,655,391		05/01/2021
		Neialive value Arbiliage		247,000,081	1.12/0	01/01/2022

Strategic Class	Sub-Class	Asset Class	Manager / Composite	Assets Under Management (\$)	% of Total Fund	Inception Date		
Diversifying Strategies								
I	lliquid Diversif	, .			4.050			
		Idiosyncratic Return Capture	Blackstone	275,843,912	1.25%	02/01/2021		
		Idiosyncratic Return Capture	Cloverlay Leahi	46,197,859	0.21%			
		Idiosyncratic Return Capture	MYAM Asia Opportunity	152,598,684	0.69%			
		Idiosyncratic Return Capture	Parabellum Partners III	27,069,600	0.12%	05/01/2022		
		Idiosyncratic Return Capture	Petershill IV	9,381,774	0.04%	10/01/2020		
		Insurance-linked	Nephila	197,481,657	0.90%	01/01/2021		
		Insurance-linked	Pillar	231,069,909	1.05%	07/01/2020		
All Other Assets								
C	Cash-related							
		Cash Account	Operating Account	349,923,347	1.59%	02/01/1998		
		Cash Account	Other Cash	47,707,576	0.22%	01/01/1972		
		Cash Account	CRO Transition Account	5,320	0.00%	04/01/2017		
		Transition Account I	BNY Mellon	1,038,590	0.00%	04/01/2002		
		Transition Account II	BNY Mellon	3,301,651	0.01%	07/01/2011		
		Residual Account	BNY Mellon	137,369	0.00%	06/01/2013		
		Cash Overlay	Parametric	95,249,764	0.43%	06/01/2019		
Closing Accounts								
	biobing / loocul	Global Equity - Small Cap	Fidelity	109.675	0.00%	04/01/2017		
		World ex-US Equity	Franklin Templeton	104,134	0.00%	11/01/2011		
		World ex-US Equity	JP Morgan	47,445	0.00%			
		World ex-US Equity	Mercator	74.142	0.00%	12/01/2003		
		Emerging Markets Equity	QMA	1,481,738	0.01%	12/01/2011		
		Global Equity - Options-Based	AQR	4,226	0.00%	06/30/2019		
		Global Equity - Options-Based	Geode	167,419	0.00%	06/30/2019		
		Global Credit	Western Asset	5,904,486	0.03%	07/01/2005		
		Global Credit	PIMCO	6,940,163	0.03%	04/01/2015		
		Non-US Intermediate Fixed Income	Eaton Vance	272,117	0.00%	06/01/1989		
		Opportunities	Lowe Enterprises	1,939,482	0.01%	06/01/1989		
			·					
Total Fund				22,038,072,312	100.00%			