



Pension Plan

Employees' Retirement System
of Milwaukee County
Monthly Update
September 30, 2016

Total Fund Composite

Manager Status

Market Value: \$1,675.6 Million and 100.0% of Fund

Investment Manager	Asset Class	Status	Reason
J.P. Morgan	Core Fixed Income	On Notice	Organizational Issues
Mellon Capital	Core Fixed Income	In Compliance	---
Boston Partners	Large-Cap Value	In Compliance	---
Mellon Capital	Large-Cap Core	In Compliance	---
Artisan Partners	Mid-Cap Growth	Alert	Performance
Geneva Capital	Mid-Cap Growth	Alert	Performance
Silvercrest Asset Management	Small-Cap Value	In Compliance	---
Mesirow	Small-Cap Value	Alert	Organizational Issues
NTGI ACWI Ex-US	Non-U.S. All-Cap Core	In Compliance	---
Segall Bryant & Hamill Intl Sm Cap	Non-U.S. Small-Cap Value	In Compliance	---
OFI Institutional Asset Management	Emerging Markets	In Compliance	---
ABS	Hedged Equity Hedge FoF	Alert	Performance
K2	Hedged Equity Hedge FoF	Termination	Organizational Issues
Parametric Defensive Equity	Long/Short Hedge Fund	In Compliance	---
American Realty Advisors	Core Real Estate	In Compliance	---
Morgan Stanley	Core Real Estate	In Compliance	---
UBS	Core Real Estate	In Compliance	---
IFM	Core Infrastructure	In Compliance	---
J.P. Morgan Infrastructure	Core Infrastructure	In Compliance	---
Adams Street	Private Equity	In Compliance	---
Siguler Guff II	U.S. Private Equity FoF	In Compliance	---
Siguler Guff III	U.S. Private Equity FoF	In Compliance	---
Mesirow VI	U.S. Private Equity FoF	In Compliance	---

Investment Manager Evaluation Terminology

The following terminology has been developed by Marquette Associates to facilitate efficient communication among the Investment Manager, Investment Consultant, and the Plan Sponsor. Each term signifies a particular status with the Fund and any conditions that may require improvement. In each case, communication is made only after consultation with the Trustees and/or the Investment Committee of the Plan.

In Compliance – The investment manager states it is acting in accordance with the Investment Policy Guidelines.

Alert – The investment manager is notified of a problem in performance (usually related to a benchmark or volatility measure), a change in investment characteristics, an alteration in management style or key investment professionals, and/or any other irregularities.

On Notice – The investment manager is notified of continued concern with one or more Alert issues. Failure to improve upon stated issues within a specific time frame justifies termination.

Termination – The Trustees have decided to terminate the investment manager. The investment manager is notified and transition plans are in place.

Total Fund Composite

Market Value: \$1,675.6 Million and 100.0% of Fund

Ending September 30, 2016

	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)
Total Fund Composite		1,675,582,805	-34,317,488	100.0	100.0	0
Fixed Income Composite		277,634,530	-1,520,000	16.6	18.0	-23,970,375
J.P. Morgan	Core Fixed Income	173,856,155	-1,520,000	10.4		
Mellon Capital	Core Fixed Income	103,778,375	0	6.2		
U.S. Equity Composite		417,952,201	-12,000,000	24.9	25.0	-943,501
Boston Partners	Large-Cap Value	133,349,439	0	8.0	8.0	-697,186
Mellon Capital	Large-Cap Core	92,306,580	-12,000,000	5.5	6.0	-8,228,388
Artisan Partners	Mid-Cap Growth	43,919,844	0	2.6	2.5	2,030,274
Geneva Capital	Mid-Cap Growth	41,740,771	0	2.5	2.5	-148,799
Mesirow	Small-Cap Value	51,762,634	0	3.1	3.0	1,495,150
Silvercrest Asset Management	Small-Cap Value	54,872,933	0	3.3	3.0	4,605,449
International Equity Composite		325,720,687	-4,065,003	19.4	20.0	-9,395,874
NTGI ACWI Ex-US	Non-U.S. All-Cap Core	206,902,915	0	12.3	13.0	-10,922,850
OFI Institutional Asset Management	Emerging Markets	54,920,402	-106,241	3.3	3.0	4,652,918
Segall Bryant & Hamill Intl Sm Cap	Non-U.S. Small-Cap Value	63,897,371	65,000,000	3.8	4.0	-3,125,942
Hedged Equity Composite		174,786,071	-7,968,296	10.4	8.5	32,361,533
ABS	Hedged Equity Hedge FoF	88,155,301	31,704	5.3		
Parametric Defensive Equity	Long/Short Hedge Fund	82,093,128	-8,000,000	4.9		
K2	Hedged Equity Hedge FoF	4,537,642	0	0.3	0.0	4,537,642
Real Estate Composite		171,102,615	-2,140,106	10.2	10.0	3,544,334
American Realty Advisors	Core Real Estate	40,967,602	-613,725	2.4		
Morgan Stanley	Core Real Estate	89,077,627	-1,108,219	5.3		
UBS	Core Real Estate	41,051,913	-418,162	2.5		
Infrastructure Composite		152,292,599	-2,119,402	9.1	8.5	9,868,061
IFM	Core Infrastructure	75,131,542	-544,007	4.5		
J.P. Morgan Infrastructure	Core Infrastructure	77,161,057	-1,575,396	4.6		

Total Fund Composite

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Ending September 30, 2016

	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)
Private Equity Composite		119,473,514	3,516,372	7.1	10.0	-48,084,767
Progress	U.S. Private Equity FoF	25,924	0	0.0		
Brinson 1998	U.S. Private Equity FoF	75,230	0	0.0		
Brinson 1999	U.S. Private Equity FoF	97,766	0	0.0		
Brinson 2000	U.S. Private Equity FoF	275,648	0	0.0		
Brinson 2001	U.S. Private Equity FoF	736,036	0	0.0		
Brinson 2002	U.S. Private Equity FoF	447,143	0	0.0		
Brinson 2003	U.S. Private Equity FoF	433,977	-73,250	0.0		
Brinson 2004	U.S. Private Equity FoF	702,731	0	0.0		
Adams Street 2005	U.S. Private Equity FoF	4,334,067	-302,119	0.3		
Adams Street 2009	U.S. Private Equity FoF	23,310,454	-476,802	1.4		
Adams Street 2012	Global Divers. Private Equity FoF	25,137,011	1,520,000	1.5		
Adams Street Co-Investment III	Private Equity Co- Investment	9,365,145	1,065,000	0.6		
Siguler Guff II	U.S. Private Equity FoF	32,059,962	-766,457	1.9		
Siguler Guff III	U.S. Private Equity FoF	12,671,143	600,000	0.8		
Mesirov VI	U.S. Private Equity FoF	9,801,277	1,950,000	0.6		
Total Cash Equivalents		36,620,589	-8,021,053	2.2	0.0	36,620,589

Total Fund Composite

Annualized Performance (Net of Fees)

Market Value: \$1,675.6 Million and 100.0% of Fund

Ending September 30, 2016

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	0.6%	3.2%	5.5%	8.2%	4.9%	6.0%	7.6%	8.8%	7.8%	5.4%
<i>Total Fund Benchmark</i>	0.6%	3.3%	5.5%	8.2%	4.1%	5.5%	7.2%	8.3%	7.6%	5.2%
Fixed Income Composite	0.0%	0.3%	5.5%	4.7%	4.1%	4.0%	2.8%	3.3%	4.4%	5.1%
<i>Barclays Aggregate</i>	-0.1%	0.5%	5.8%	5.2%	4.1%	4.0%	2.6%	3.1%	4.1%	4.8%
U.S. Equity Composite	-0.2%	4.4%	6.7%	11.3%	6.1%	8.2%	12.0%	15.3%	12.2%	7.2%
<i>Wilshire 5000 Total Market</i>	0.1%	4.3%	8.4%	15.3%	7.2%	10.7%	13.1%	16.3%	13.2%	7.4%
International Equity Composite	1.6%	7.4%	6.6%	11.3%	0.7%	2.3%	5.7%	7.2%	4.6%	1.0%
<i>MSCI ACWI ex USA</i>	1.2%	6.9%	5.8%	9.3%	-2.0%	0.2%	4.0%	6.0%	3.7%	2.2%
Hedged Equity Composite	0.4%	3.2%	0.3%	1.9%	2.9%	4.7%	6.9%	7.0%	--	--
<i>HFRX Equity Hedge Index</i>	1.5%	3.4%	-0.7%	0.1%	-1.4%	0.8%	2.6%	2.6%	0.3%	-0.7%
<i>Russell 3000</i>	0.2%	4.4%	8.2%	15.0%	7.0%	10.4%	13.1%	16.4%	13.2%	7.4%
<i>MSCI ACWI</i>	0.6%	5.3%	6.6%	12.0%	2.2%	5.2%	8.2%	10.6%	7.8%	4.3%
Real Estate Composite	2.0%	1.9%	5.9%	9.1%	11.9%	12.1%	12.5%	12.3%	12.9%	5.5%
<i>Custom Real Estate Benchmark</i>	0.6%	1.8%	5.8%	9.1%	11.5%	11.4%	11.6%	11.3%	12.7%	4.9%
<i>NFI</i>	0.6%	1.8%	5.8%	9.1%	11.5%	11.4%	11.6%	11.3%	11.4%	5.1%
Infrastructure Composite	1.0%	0.6%	3.5%	3.8%	2.3%	2.5%	4.0%	5.1%	--	--
<i>CPI +4%</i>	0.3%	0.9%	4.9%	5.3%	4.6%	5.0%	5.0%	5.2%	5.6%	5.8%
Private Equity Composite	0.0%	0.0%	2.7%	3.1%	5.7%	9.3%	8.1%	9.1%	10.4%	8.4%
<i>Cambridge Associates All PE</i>	0.0%	0.0%	0.6%	2.2%	5.0%	8.8%	10.5%	10.9%	12.2%	9.7%

Investment Manager

Annualized Performance (Net of Fees)

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Ending September 30, 2016

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	0.6%	3.2%	5.5%	8.2%	4.9%	6.0%	7.6%	8.8%	7.8%	5.4%
<i>Total Fund Benchmark</i>	0.6%	3.3%	5.5%	8.2%	4.1%	5.5%	7.2%	8.3%	7.6%	5.2%
Fixed Income Composite	0.0%	0.3%	5.5%	4.7%	4.1%	4.0%	2.8%	3.3%	4.4%	5.1%
<i>Barclays Aggregate</i>	-0.1%	0.5%	5.8%	5.2%	4.1%	4.0%	2.6%	3.1%	4.1%	4.8%
J.P. Morgan	0.0%	0.3%	5.4%	4.6%	4.2%	4.0%	2.8%	3.3%	4.2%	4.9%
<i>Barclays Aggregate</i>	-0.1%	0.5%	5.8%	5.2%	4.1%	4.0%	2.6%	3.1%	4.1%	4.8%
Mellon Capital	-0.1%	0.4%	5.7%	5.1%	4.0%	4.0%	2.5%	3.0%	4.0%	4.7%
<i>Barclays Aggregate</i>	-0.1%	0.5%	5.8%	5.2%	4.1%	4.0%	2.6%	3.1%	4.1%	4.8%
U.S. Equity Composite	-0.2%	4.4%	6.7%	11.3%	6.1%	8.2%	12.0%	15.3%	12.2%	7.2%
<i>Wilshire 5000 Total Market</i>	0.1%	4.3%	8.4%	15.3%	7.2%	10.7%	13.1%	16.3%	13.2%	7.4%
Boston Partners	0.0%	4.5%	5.9%	10.8%	3.5%	7.9%	12.0%	16.3%	12.2%	7.6%
<i>Russell 1000 Value</i>	-0.2%	3.5%	10.0%	16.2%	5.4%	9.7%	12.7%	16.2%	12.3%	5.9%
Mellon Capital	0.0%	3.8%	7.8%	15.4%	7.1%	11.1%	13.1%	16.3%	13.1%	7.2%
<i>S&P 500</i>	0.0%	3.9%	7.8%	15.4%	7.1%	11.2%	13.2%	16.4%	13.2%	7.2%
Artisan Partners	0.1%	6.0%	3.6%	8.4%	5.9%	6.2%	12.2%	14.7%	14.4%	10.4%
<i>Russell MidCap Growth</i>	0.0%	4.6%	6.8%	11.2%	6.2%	8.9%	13.3%	15.8%	13.9%	8.5%
Geneva Capital	-1.9%	0.3%	2.8%	4.8%	7.0%	6.4%	10.1%	--	--	--
<i>Russell MidCap Growth</i>	0.0%	4.6%	6.8%	11.2%	6.2%	8.9%	13.3%	15.8%	13.9%	8.5%
Mesirow	-0.7%	2.8%	3.8%	6.1%	5.2%	5.6%	10.6%	13.9%	--	--
<i>Russell 2000 Value</i>	0.8%	8.9%	15.5%	18.8%	8.1%	6.8%	11.5%	15.4%	11.6%	5.8%
Silvercrest Asset Management	0.6%	9.3%	15.5%	18.0%	11.4%	8.9%	--	--	--	--
<i>Russell 2000 Value</i>	0.8%	8.9%	15.5%	18.8%	8.1%	6.8%	11.5%	15.4%	11.6%	5.8%
International Equity Composite	1.6%	7.4%	6.6%	11.3%	0.7%	2.3%	5.7%	7.2%	4.6%	1.0%
<i>MSCI ACWI ex USA</i>	1.2%	6.9%	5.8%	9.3%	-2.0%	0.2%	4.0%	6.0%	3.7%	2.2%
NTGI ACWI Ex-US	1.4%	7.1%	6.3%	10.1%	-1.1%	0.9%	4.7%	--	--	--
<i>MSCI ACWI ex USA</i>	1.2%	6.9%	5.8%	9.3%	-2.0%	0.2%	4.0%	6.0%	3.7%	2.2%
OFI Institutional Asset Management	2.6%	8.9%	13.0%	18.3%	-4.5%	--	--	--	--	--
<i>MSCI Emerging Markets</i>	1.3%	9.0%	16.0%	16.8%	-2.9%	-0.6%	-0.2%	3.0%	2.3%	3.9%
Segall Bryant & Hamill Intl Sm Cap	--	--	--	--	--	--	--	--	--	--
<i>MSCI EAFE Small Cap</i>	3.0%	8.6%	5.2%	12.3%	6.1%	5.1%	10.7%	11.1%	8.1%	4.4%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,675.6 Million and 100.0% of Fund

Ending September 30, 2016

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Hedged Equity Composite	0.4%	3.2%	0.3%	1.9%	2.9%	4.7%	6.9%	7.0%	--	--
<i>HFRX Equity Hedge Index</i>	1.5%	3.4%	-0.7%	0.1%	-1.4%	0.8%	2.6%	2.6%	0.3%	-0.7%
<i>Russell 3000</i>	0.2%	4.4%	8.2%	15.0%	7.0%	10.4%	13.1%	16.4%	13.2%	7.4%
<i>MSCI ACWI</i>	0.6%	5.3%	6.6%	12.0%	2.2%	5.2%	8.2%	10.6%	7.8%	4.3%
ABS	0.4%	4.2%	-4.4%	-1.9%	1.7%	3.8%	6.4%	6.1%	--	--
<i>HFRX Equity Hedge Index</i>	1.5%	3.4%	-0.7%	0.1%	-1.4%	0.8%	2.6%	2.6%	0.3%	-0.7%
<i>Russell 3000</i>	0.2%	4.4%	8.2%	15.0%	7.0%	10.4%	13.1%	16.4%	13.2%	7.4%
<i>MSCI ACWI</i>	0.6%	5.3%	6.6%	12.0%	2.2%	5.2%	8.2%	10.6%	7.8%	4.3%
Parametric Defensive Equity	0.4%	2.4%	5.7%	--	--	--	--	--	--	--
<i>HFRX Equity Hedge Index</i>	1.5%	3.4%	-0.7%	0.1%	-1.4%	0.8%	2.6%	2.6%	0.3%	-0.7%
<i>S&P 500</i>	0.0%	3.9%	7.8%	15.4%	7.1%	11.2%	13.2%	16.4%	13.2%	7.2%
K2										
Real Estate Composite	2.0%	1.9%	5.9%	9.1%	11.9%	12.1%	12.5%	12.3%	12.9%	5.5%
<i>Custom Real Estate Benchmark</i>	0.6%	1.8%	5.8%	9.1%	11.5%	11.4%	11.6%	11.3%	12.7%	4.9%
<i>NFI</i>	0.6%	1.8%	5.8%	9.1%	11.5%	11.4%	11.6%	11.3%	11.4%	5.1%
American Realty Advisors	1.6%	1.6%	5.0%	8.0%	10.4%	10.7%	10.9%	10.8%	--	--
<i>NFI</i>	0.6%	1.8%	5.8%	9.1%	11.5%	11.4%	11.6%	11.3%	11.4%	5.1%
Morgan Stanley	2.3%	2.3%	6.7%	10.0%	12.9%	13.0%	13.6%	13.3%	--	--
<i>NFI</i>	0.6%	1.8%	5.8%	9.1%	11.5%	11.4%	11.6%	11.3%	11.4%	5.1%
UBS	1.7%	1.4%	4.9%	7.8%	9.7%	9.7%	9.5%	--	--	--
<i>NFI</i>	0.6%	1.8%	5.8%	9.1%	11.5%	11.4%	11.6%	11.3%	11.4%	5.1%
Infrastructure Composite	1.0%	0.6%	3.5%	3.8%	2.3%	2.5%	4.0%	5.1%	--	--
<i>CPI +4%</i>	0.3%	0.9%	4.9%	5.3%	4.6%	5.0%	5.0%	5.2%	5.6%	5.8%
IFM	2.1%	1.3%	6.0%	6.6%	4.5%	3.8%	5.2%	6.1%	--	--
<i>CPI +4%</i>	0.3%	0.9%	4.9%	5.3%	4.6%	5.0%	5.0%	5.2%	5.6%	5.8%
J.P. Morgan Infrastructure	0.0%	0.0%	1.3%	1.3%	0.4%	1.7%	3.1%	4.2%	--	--
<i>CPI +4%</i>	0.3%	0.9%	4.9%	5.3%	4.6%	5.0%	5.0%	5.2%	5.6%	5.8%

Total Fund Composite

Fee Schedule

Market Value: \$1,675.6 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee ¹	Industry Average ²
Core Fixed Income	J.P. Morgan	0.20% on the first \$100 million 0.15% on the Balance	0.18% \$310,784	0.24%
Core Fixed Income	Mellon Capital	0.04% on the first \$200 million 0.02% on the Balance	0.04% \$41,511	0.08%
Large-Cap Value	Boston Partners	0.40% on the first \$15 million 0.30% on the next \$25 million 0.20% on the next \$25 million 0.15% on the next \$35 million 0.10% on the Balance	0.20% \$270,849	0.51%
Large-Cap Core	Mellon Capital	0.04% on the first \$200 million 0.02% on the Balance	0.04% \$36,923	0.09%
Mid-Cap Growth	Artisan Partners	0.80% on the first \$50 million 0.60% on the next \$50 million 0.50% on the Balance	0.80% \$351,359	0.78%
Mid-Cap Growth	Geneva Capital	0.55% on the Balance	0.55% \$229,574	0.78%
Small-Cap Value	Silvercrest Asset Management	0.65% on the first \$50 million 0.55% on the Balance	0.64% \$351,801	0.83%
Small-Cap Value	Mesirow	0.70% on the first \$10 million 0.65% on the next \$40 million 0.60% on the next \$25 million 0.50% on the Balance	0.66% \$340,576	0.83%
Non-U.S. All-Cap Core	NTGI ACWI Ex-US	0.08% on the Balance	0.08% \$165,522	0.09%
Non-U.S. Small-Cap Value	Segall Bryant & Hamill Intl Sm Cap	0.85% on the Balance	0.85% \$543,128	1.16%
Emerging Markets	OFI Institutional Asset Management	0.85% on the first \$50 million 0.80% on the next \$50 million 0.70% on the Balance	0.85% \$464,363	0.92%
Hedged Equity Hedge FoF	ABS	0.85% on the Balance *redemptions quarterly with 45 days notice	0.85% \$749,320	1.37%
Long/Short Hedge Fund	Parametric Defensive Equity	0.35% on the Balance	0.35% \$287,326	1.69%
Core Real Estate	American Realty Advisors	0.95% on the Balance	0.95% \$389,192	1.03%

Total Fund Composite

Fee Schedule

Market Value: \$1,675.6 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee ¹	Industry Average ²
Core Real Estate	Morgan Stanley	0.90% on the Balance	0.90% \$801,699	1.03%
Core Real Estate	UBS	0.955% on the first \$10 million 0.825% on the next \$15 million 0.805% on the next \$25 million 0.79% on the next \$50 million 0.67% on the next \$150 million 0.60% on the Balance	0.85% \$348,468	1.03%
Core Infrastructure	IFM	0.97% on the Balance Performance Fee: 20% of return above 8% on a rolling three year basis	0.97% \$728,776	1.80%
Core Infrastructure	J.P. Morgan Infrastructure	1.00% on the Balance Performance Fee: 15% with 7% Hurdle	1.00% \$771,611	1.80%
Private Equity	Adams Street	0.67% on the first \$50 million 0.60% on the Balance 10% carry on secondaries and co-invest (Effective Rate Over 15 Yr Term)	0.66% \$411,419	1.11%
U.S. Private Equity FoF	Siguler Guff II	0.69% on commitment	0.86% \$276,000	1.38%
U.S. Private Equity FoF	Siguler Guff III	0.89% on commitment	2.80% \$355,200	3.50%
U.S. Private Equity FoF	Mesirow VI	0.70% on commitment	2.14% \$210,000	3.40%
Cash Overlay	Northern Trust	0.07% on the first \$100 million 0.06% on the next \$150 million 0.05% on the Balance	0.07% \$25,634	0.20%
Total Investment Management Fees			0.50% \$8,461,036	0.79%
Custodian	BNY Mellon	\$100,000 Annual Fee (approximate)	\$100,000	N/A
Total Fund			0.51% \$8,561,036	

¹ Expense Ratio & Estimated Annual Fee are Based on Market Value at Month End.

² Source: 2010 Marquette Associates Investment Management Fee Study.