

# MWRA Employees' Retirement System

## Total Fund Performance Detail (Net) - Preliminary

May 31, 2016

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
<b>Composite</b>	<b>443,535,323</b>	<b>100.0</b>	<b>100.0</b>	<b>-0.1</b>	<b>0.7</b>	<b>-3.1</b>	<b>4.8</b>	<b>5.5</b>	<b>5.9</b>	<b>6.6</b>	<b>Jan-86</b>
Allocation Index				0.4	2.0	-0.9	5.5	5.9	5.2	--	Jan-86
Policy Index				0.5	2.2	-1.3	5.4	6.1	5.6	--	Jan-86
<b>Total Balanced</b>	<b>70,447,579</b>	<b>15.9</b>	<b>14.0</b>	<b>-1.1</b>	<b>2.8</b>	<b>-6.2</b>	<b>0.9</b>	<b>1.7</b>	<b>--</b>	<b>2.9</b>	<b>Dec-10</b>
PRIT Core Fund	2,925,172	0.7									
60% S&P 500 / 40% BC Agg											
Wellington Opportunistic Investment	26,247,701	5.9	5.0	-0.1	1.7	-5.0	3.3	1.6	--	8.0	Nov-08
65% MSCI ACWI (Net) / 35% BC Agg				0.1	2.5	-2.3	4.6	4.8	4.9	8.4	Nov-08
PIMCO All Asset	24,039,510	5.4	5.0	-2.2	6.0	-4.8	-0.7	1.9	--	7.9	Dec-08
PIMCO All Asset Index				0.0	4.3	2.3	3.0	4.1	5.5	7.2	Dec-08
William Blair	17,235,197	3.9	4.0	-1.3	0.5	-10.9	--	--	--	-8.1	Mar-15
60% MSCI ACWI (Net)/40% CITI WGBI				-0.5	3.9	-0.3	3.8	3.5	4.4	-0.5	Mar-15
<b>Total Domestic Equity</b>	<b>93,465,171</b>	<b>21.1</b>	<b>21.0</b>	<b>1.4</b>	<b>0.2</b>	<b>-3.4</b>	<b>8.9</b>	<b>9.8</b>	<b>7.6</b>	<b>5.7</b>	<b>May-99</b>
<b>Large Cap</b>	<b>65,653,834</b>	<b>14.8</b>	<b>15.0</b>	<b>1.3</b>	<b>-0.2</b>	<b>-2.3</b>	<b>9.7</b>	<b>10.5</b>	<b>--</b>	<b>12.4</b>	<b>Dec-10</b>
Rhumblin Advisors S&P 500 Index Fund	25,243,520	5.7	7.0	1.8	3.5	1.6	10.9	11.5	7.4	7.5	Apr-97
S&P 500				1.8	3.6	1.7	11.1	11.7	7.4	7.4	Apr-97
Coho Relative Value Equity	20,385,093	4.6	4.0	0.3	--	--	--	--	--	5.3	Mar-16
Russell 1000 Value				1.6	5.4	-0.1	9.2	10.7	6.1	11.2	Mar-16
Polen Focused Growth	20,025,221	4.5	4.0	1.7	--	--	--	--	--	3.2	Feb-16
Russell 1000 Growth				1.9	1.8	1.6	12.5	12.1	8.8	7.8	Feb-16
<b>Small Cap</b>	<b>27,811,337</b>	<b>6.3</b>	<b>6.0</b>	<b>1.7</b>	<b>1.1</b>	<b>-5.7</b>	<b>7.2</b>	<b>8.4</b>	<b>--</b>	<b>11.4</b>	<b>Dec-10</b>
Robeco Boston Partners Small Cap Value	14,258,884	3.2	3.0	1.1	4.1	-5.8	6.7	8.2	7.2	10.7	Feb-97
Russell 2000 Value				1.8	5.8	-2.7	6.1	7.5	5.2	8.7	Feb-97
Loomis Sayles Small Cap Growth	13,552,453	3.1	3.0	2.3	-1.9	-5.8	7.5	8.5	9.1	4.8	Jan-97
Russell 2000 Growth				2.7	-1.1	-9.1	7.7	8.1	7.2	5.9	Jan-97

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<b>Total Non-US Equity</b>	<b>67,959,966</b>	<b>15.3</b>	<b>19.0</b>	<b>-1.3</b>	<b>-0.7</b>	<b>-14.0</b>	<b>-0.5</b>	<b>-0.8</b>	<b>0.1</b>	<b>3.5</b>	<b>Mar-99</b>
<b>International Equity</b>	<b>48,755,070</b>	<b>11.0</b>	<b>15.0</b>	<b>-0.1</b>	<b>-0.9</b>	<b>-11.4</b>	<b>0.7</b>	<b>0.4</b>	<b>--</b>	<b>--</b>	<b>Sep-05</b>
SEG Baxter Street	22,918,530	5.2	5.0	-0.4	--	--	--	--	--	-0.4	May-16
MSCI ACWI ex USA				-1.7	0.5	-11.4	0.2	0.1	2.0	-1.7	May-16
Schroder International Alpha Fund	25,836,540	5.8	5.0	0.2	-0.8	-9.2	2.5	--	--	4.0	Mar-12
MSCI EAFE				-0.9	-1.1	-9.7	2.0	2.1	1.9	4.5	Mar-12
<b>Emerging Markets Equity</b>	<b>19,204,896</b>	<b>4.3</b>	<b>4.0</b>	<b>-4.3</b>	<b>-0.1</b>	<b>-20.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-7.8</b>	<b>Nov-13</b>
Lee Munder Emerging Market Equity	19,204,896	4.3	4.0	-4.3	-0.1	-20.3	--	--	--	-8.0	Dec-13
MSCI Emerging Markets				-3.7	2.3	-17.6	-4.9	-4.8	3.1	-6.8	Dec-13
<b>Total Fixed Income</b>	<b>101,087,990</b>	<b>22.8</b>	<b>21.0</b>	<b>0.0</b>	<b>4.8</b>	<b>0.8</b>	<b>2.8</b>	<b>4.4</b>	<b>6.6</b>	<b>7.0</b>	<b>Mar-99</b>
Invesco Core Bonds	39,377,646	8.9	9.0	0.0	4.2	2.7	3.1	4.0	5.5	5.4	Dec-98
Barclays Aggregate				0.0	3.5	3.0	2.9	3.3	5.0	5.1	Dec-98
Loomis Sayles - Multi Sector Bonds	42,367,276	9.6	8.0	-0.1	5.4	-1.2	2.1	4.4	7.0	8.2	Mar-99
Barclays Aggregate				0.0	3.5	3.0	2.9	3.3	5.0	5.2	Mar-99
Barclays High Yield				0.6	8.1	-0.8	3.0	5.4	7.4	6.8	Mar-99
Invesco Mortgage Fund	1,343,068	0.3		0.0	-1.2	17.1	20.0	11.9	--	21.0	Apr-10
Barclays Aggregate				0.0	3.5	3.0	2.9	3.3	5.0	4.0	Apr-10
Rhumblin TIPS	18,000,000	4.1	4.0								
Barclays US TIPS											
<b>Total Hedge Fund</b>	<b>38,527,847</b>	<b>8.7</b>	<b>9.0</b>	<b>0.4</b>	<b>-1.3</b>	<b>-8.0</b>	<b>1.1</b>	<b>2.5</b>	<b>--</b>	<b>2.8</b>	<b>Oct-06</b>
PRIM Absolute Return Fund	17,383,489	3.9	5.0								
91 Day T-Bill + 3%											
HFRI Fund of Funds Composite Index											
Permal Fixed Income Holdings	10,793,041	2.4	2.0	0.9	-0.1	-6.2	0.7	--	--	4.3	Oct-11
HFRI Fund of Funds Composite Index				0.6	-2.1	-5.9	1.6	1.5	1.6	3.0	Oct-11
EnTrust	10,351,317	2.3	2.0	0.5	-1.7	-10.9	-0.6	--	--	2.2	Jan-12
HFRI Fund of Funds Composite Index				0.6	-2.1	-5.9	1.6	1.5	1.6	3.3	Jan-12
<b>Other</b>	<b>5,561,385</b>	<b>1.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>0.1</b>	<b>--</b>	<b>0.1</b>	<b>Dec-10</b>
Cash Account	5,561,385	1.3		0.0	0.0	0.0	0.2	0.1	1.2	2.0	Feb-00
91 Day T-Bills				0.0	0.1	0.1	0.1	0.1	0.9	1.7	Feb-00

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<b>Total Real Estate</b>	<b>34,832,569</b>	<b>7.9</b>	<b>7.0</b>	<b>0.0</b>	<b>1.4</b>	<b>10.6</b>	<b>12.8</b>	<b>12.7</b>	<b>6.1</b>	<b>7.7</b>	<b>Apr-99</b>
PRIT Core Real Estate	15,409,004	3.5									
Morgan Stanley Prime Property	7,238,674	1.6		0.0	1.9	13.4	15.1	14.4	6.8	8.7	Sep-95
Intercontinental Real Estate Investment Fund IV	39,342	0.0		0.0	-8.9	1.9	13.3	7.3	-4.5	-5.7	Jun-05
Invesco Mortgage Recovery II (\$3M commitment in '15)	2,178,174	0.5		0.0	-2.8	--	--	--	--	-1.8	Oct-15
Landmark VI (\$2m commitment in '11)	847,596	0.2		0.0	0.0	2.4	12.9	13.9	--	14.2	Jul-11
Mesirow MFire Global (\$2m commitment in '11)	1,498,886	0.3		0.0	0.0	6.8	12.6	--	--	1.9	May-12
Cerberus (\$1.5m commitment in '12)	1,607,176	0.4		0.0	0.6	16.3	19.5	--	--	18.9	May-13
Realty Associates Fund X LP (\$3.5m commitment in '12)	3,669,190	0.8		0.0	2.1	14.1	11.4	--	--	11.0	May-13
TerraCap Partners III (Institutional), LP	2,344,527	0.5		0.0	-3.8	--	--	--	--	3.1	Jul-15
<i>NCREIF Property Index 1 Qtr Lag</i>				<i>0.0</i>	<i>2.9</i>	<i>13.3</i>	<i>12.0</i>	<i>12.2</i>	<i>7.8</i>	<i>9.4</i>	<i>Jul-15</i>
<b>Total Private Equity</b>	<b>31,652,816</b>	<b>7.1</b>	<b>9.0</b>	<b>0.0</b>	<b>-8.7</b>	<b>10.3</b>	<b>17.2</b>	<b>11.4</b>	<b>12.0</b>	<b>9.0</b>	<b>Apr-99</b>
PRIM Vintage Year 2008 (\$3m commitment in '08)	1,920,616	0.4									
PRIM Vintage Year 2009 (\$1m commitment in '09)	297,268	0.1									
PRIM Vintage Year 2010 (\$1m commitment in '10)	778,011	0.2									
PRIM Vintage Year 2011 (\$1.5m commitment in '11)	1,213,672	0.3									
PRIM Vintage Year 2012 (\$1m commitment in '12)	522,354	0.1									
PRIM Vintage Year 2014 (\$2m commitment in '14)	588,819	0.1									
Alcentra European DLF (\$5m commitment in '14)	4,342,729	1.0		0.0	-0.6	5.3	--	--	--	8.9	Jan-15
Ascent Fund II	134,884	0.0		0.0	37.8	94.2	48.5	27.7	20.9	17.6	Jan-99
Ascent Fund IV (\$2m commitment in '04)	541,914	0.1		0.0	-11.0	-35.8	-22.2	-18.7	-9.2	-8.8	Jul-04
Ascent Fund V (\$2m commitment in '08)	2,397,509	0.5		0.0	8.3	2.7	7.1	12.9	--	7.4	Oct-08
Ascent VI (\$3m commitment in '15)	441,137	0.1		0.0	-6.2	--	--	--	--	-14.0	Dec-15
Boston Capital	16,510	0.0		0.0	0.0	-6.6	-9.3	-0.4	16.4	8.5	Apr-99
Castile Ventures III, L.P. (\$3m commitment in '07)	983,118	0.2		0.0	-1.2	-22.6	-12.9	-9.8	--	-10.4	Jan-08
Invesco Fund IV (\$3m commitment in '03)	1,149,904	0.3		0.0	0.0	-0.3	14.4	11.9	14.7	10.5	Feb-04
Invesco Fund VI (\$5m commitment in '13)	3,965,745	0.9		0.0	0.0	7.1	--	--	--	14.3	Jul-13
Kayne Energy Fund VII (\$5m commitment in '15)	1,775,163	0.4		0.0	0.0	--	--	--	--	0.0	Jan-16
Foundry 2007 (\$3m commitment in '07)	3,476,841	0.8		0.0	-37.7	8.1	41.7	18.9	--	36.9	Dec-07
Foundry 2010 (\$3m commitment in '10)	3,324,191	0.7		0.0	-4.7	-3.2	7.1	11.3	--	9.5	Jan-11
Foundry 2010 Annex	177,069	0.0		0.0	-0.1	--	--	--	--	-6.2	Sep-15
Pinebridge PEP V (\$6m commitment in '07)	2,820,020	0.6		0.0	0.0	22.2	18.2	12.6	--	6.1	Mar-08
Landmark XV (\$3m commitment in '13)	785,342	0.2		0.0	0.0	4.2	--	--	--	14.4	Nov-13

### Notes

1 - Results for periods longer than one year are annualized.

2 - Total Balanced, Large Cap, Small Cap, and Other Composite performance starts 12/1/2010.

3 - Fiscal YTD begins July 1st.

4 - Market values for Real Estate, with the exception of PRIT Core Real Estate, Landmark VI and Mesiraw MFire are as of 3/31/2016 adjusted for cash flows. PRIT Core Real Estate's market values are as of 4/30/2016, MFire/Landmark VI as of 12/31/2015..

5 - Preliminary Total Composite gross of fee since inception return is 8.4% for the current month.

6 -Market values for the following private equity managers Private Equity managers are as of 3/31/2016 and are adjusted for cash flows: Alcentra DLF, Ascent II, Ascent IV, Ascent V, Ascent VI, Castile III, Foundry 2007, Foundry 2010. Boston Capital, Invesco IV, Invesco VI, Kayne Anderson VII, Pinebridge PEP V, Landmark XV as of 12/31/2015. PRIM accounts as of 4/30/2016

## Information Disclaimer and Reporting Methodology

### Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
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### Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.