

**City of Ann Arbor  
Employees' Retirement System and VEBA**

**February 7, 2023**

**Investment Review**

## **Retirement System Summary**

**Performance Update**  
as of December 31, 2022

Allocation vs. Targets and Policy

	Current Balance	Current Allocation	Policy	Policy Range
US Equity	\$206,717,992	36%	36%	25% - 42%
Developed Market Equity	\$81,441,545	14%	14%	9% - 17%
Emerging Market Equity	\$37,756,736	6%	7%	0% - 10%
Investment Grade Bonds	\$54,682,920	9%	10%	6% - 22%
TIPS	--	--	0%	0% - 10%
High Yield Bonds	\$6,845,199	1%	0%	0% - 5%
Bank Loans	--	--	0%	0% - 4%
Private Equity	\$45,169,386	8%	7%	0% - 10%
Private Debt	\$11,512,132	2%	7%	0% - 10%
Real Estate	\$76,060,856	13%	9%	2% - 12%
Natural Resources	\$15,899,183	3%	3%	0% - 5%
Infrastructure	\$32,706,150	6%	7%	0% - 10%
Hedge Funds	\$4,237,855	1%	0%	0% - 5%
Cash	\$8,369,357	1%	0%	0% - 5%
<b>Total</b>	<b>\$581,399,311</b>	<b>100%</b>	<b>100%</b>	

Asset Class Performance Summary											
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Fund Aggregate</b>	<b>581,399,311</b>	<b>100.0</b>	<b>6.0</b>	<b>2.5</b>	<b>-8.2</b>	<b>7.2</b>	<b>7.0</b>	<b>8.1</b>	<b>7.8</b>	<b>8.3</b>	<b>Oct-90</b>
<b>Total Fund Aggregate (Net)</b>			<b>6.0</b>	<b>2.5</b>	<b>-8.4</b>	<b>7.0</b>	<b>6.8</b>	<b>7.9</b>	<b>7.6</b>	--	
<i>Policy Benchmark</i>			6.1	-0.2	-11.5	5.9	6.2	7.8	7.1	8.3	Oct-90
<i>60% MSCI ACWI / 40% Bloomberg Aggregate</i>			6.6	0.3	-16.0	1.6	3.5	5.4	5.4	6.9	Oct-90
<i>60% MSCI ACWI / 40% Barclays Global Aggregate</i>			7.7	0.4	-17.3	0.8	2.7	5.1	4.7	6.7	Oct-90
<b>Total Domestic Equity</b>	<b>206,717,992</b>	<b>35.6</b>	<b>8.6</b>	<b>4.0</b>	<b>-15.8</b>	<b>7.6</b>	<b>8.8</b>	<b>11.2</b>	<b>12.1</b>	<b>10.2</b>	<b>Oct-90</b>
<i>Russell 3000</i>			7.2	2.4	-19.2	7.1	8.8	11.0	12.1	10.5	Oct-90
<b>Total International Developed Market Equity</b>	<b>81,441,545</b>	<b>14.0</b>	<b>20.0</b>	<b>9.2</b>	<b>-14.0</b>	<b>4.0</b>	<b>4.6</b>	<b>6.9</b>	<b>6.0</b>	<b>7.8</b>	<b>Oct-95</b>
<i>MSCI EAFE</i>			17.3	6.4	-14.5	0.9	1.5	4.5	4.7	4.6	Oct-95
<b>Total International Emerging Market Equity</b>	<b>37,756,736</b>	<b>6.5</b>	<b>7.6</b>	<b>-1.5</b>	<b>-14.6</b>	<b>1.6</b>	<b>1.0</b>	<b>7.4</b>	<b>2.9</b>	<b>3.4</b>	<b>Feb-12</b>
<i>MSCI Emerging Markets</i>			9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.9	Feb-12
<b>Total Investment Grade Bonds</b>	<b>54,682,920</b>	<b>9.4</b>	<b>1.8</b>	<b>-1.6</b>	<b>-9.1</b>	<b>-1.5</b>	<b>0.6</b>	<b>1.2</b>	<b>1.4</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Bloomberg US Aggregate TR</i>			1.9	-3.0	-13.0	-2.7	0.0	0.9	1.1	5.1	Oct-90
<i>Bloomberg US Universal TR</i>			2.2	-2.3	-13.0	-2.5	0.2	1.3	1.3	5.3	Oct-90
<b>Total High Yield Bonds*</b>	<b>6,845,199</b>	<b>1.2</b>									
<b>Total Private Credit</b>	<b>11,512,132</b>	<b>2.0</b>									
<b>Total Real Estate</b>	<b>76,060,856</b>	<b>13.1</b>	<b>-2.5</b>	<b>-0.4</b>	<b>10.6</b>	<b>12.4</b>	<b>10.7</b>	<b>9.6</b>	<b>11.9</b>	<b>8.8</b>	<b>Jul-03</b>
<i>NCREIF ODCE Equal Weighted</i>			-4.9	-4.0	8.4	10.6	9.2	9.0	10.4	8.3	Jul-03

## Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Natural Resources (Net)</b>	<b>15,899,183</b>	<b>2.7</b>	<b>18.5</b>	<b>8.4</b>	<b>-1.0</b>	<b>5.9</b>	<b>6.8</b>	<b>--</b>	<b>--</b>	<b>6.3</b>	<b>Jul-17</b>
<i>Bloomberg Commodity Index TR USD</i>			2.2	-2.0	16.1	12.7	6.4	6.5	-1.3	7.2	Jul-17
<i>S&amp;P Global Natural Resources Index TR USD</i>			17.2	11.9	10.3	11.6	7.3	12.7	4.9	10.3	Jul-17
<b>Total Infrastructure</b>	<b>32,706,150</b>	<b>5.6</b>									
<i>DJ Brookfield Global Infrastructure Net TR USD</i>			9.5	-2.6	-3.9	2.3	4.9	7.5	6.7	7.5	Aug-20
<b>Total Hedge Funds</b>	<b>4,237,855</b>	<b>0.7</b>	<b>0.3</b>	<b>-2.1</b>	<b>5.1</b>	<b>5.3</b>	<b>3.3</b>	<b>2.0</b>	<b>2.1</b>	<b>2.7</b>	<b>Jul-09</b>
<i>HFRI Fund Weighted Composite Index</i>			2.3	1.6	-4.1	5.7	4.4	5.2	4.7	5.0	Jul-09
<i>MSCI ACWI</i>			9.8	2.3	-18.4	4.0	5.2	8.1	8.0	9.1	Jul-09
<b>Total Private Equity</b>	<b>45,169,386</b>	<b>7.8</b>									
<b>Total Cash</b>	<b>8,369,357</b>	<b>1.4</b>									

\*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Trailing Performance												
	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Fund Aggregate</b>	<b>581,399,311</b>	<b>100.0</b>	<b>--</b>	<b>6.0</b>	<b>2.5</b>	<b>-8.2</b>	<b>7.2</b>	<b>7.0</b>	<b>8.1</b>	<b>7.8</b>	<b>8.3</b>	<b>Oct-90</b>
<b>Total Fund Aggregate (Net)</b>				<b>6.0</b>	<b>2.5</b>	<b>-8.4</b>	<b>7.0</b>	<b>6.8</b>	<b>7.9</b>	<b>7.6</b>	<b>--</b>	
<i>Policy Benchmark</i>				<i>6.1</i>	<i>-0.2</i>	<i>-11.5</i>	<i>5.9</i>	<i>6.2</i>	<i>7.8</i>	<i>7.1</i>	<i>8.3</i>	<i>Oct-90</i>
<i>60% MSCI ACWI / 40% Bloomberg Aggregate</i>				<i>6.6</i>	<i>0.3</i>	<i>-16.0</i>	<i>1.6</i>	<i>3.5</i>	<i>5.4</i>	<i>5.4</i>	<i>6.9</i>	<i>Oct-90</i>
<i>60% MSCI ACWI / 40% Barclays Global Aggregate</i>				<i>7.7</i>	<i>0.4</i>	<i>-17.3</i>	<i>0.8</i>	<i>2.7</i>	<i>5.1</i>	<i>4.7</i>	<i>6.7</i>	<i>Oct-90</i>
<b>Total Domestic Equity</b>	<b>206,717,992</b>	<b>35.6</b>	<b>35.6</b>	<b>8.6</b>	<b>4.0</b>	<b>-15.8</b>	<b>7.6</b>	<b>8.8</b>	<b>11.2</b>	<b>12.1</b>	<b>10.2</b>	<b>Oct-90</b>
<i>Russell 3000</i>				<i>7.2</i>	<i>2.4</i>	<i>-19.2</i>	<i>7.1</i>	<i>8.8</i>	<i>11.0</i>	<i>12.1</i>	<i>10.5</i>	<i>Oct-90</i>
RhumbLine HEDI	119,142,865	20.5	57.6	8.6	3.7	-15.1	--	--	--	--	11.5	Mar-20
RhumbLine HEDI (Net)				8.6	3.6	-15.1	--	--	--	--	11.4	
<i>Russell 1000 HEDI Moderate GR USD</i>				<i>8.6</i>	<i>3.7</i>	<i>-15.1</i>	<i>8.1</i>	<i>10.7</i>	<i>12.5</i>	<i>13.7</i>	<i>11.5</i>	<i>Mar-20</i>
<i>eV US Large Cap Core Equity Gross Median</i>				<i>8.6</i>	<i>3.4</i>	<i>-16.0</i>	<i>8.0</i>	<i>9.4</i>	<i>11.3</i>	<i>12.5</i>	<i>11.8</i>	<i>Mar-20</i>
<i>eV US Large Cap Core Equity Gross Rank</i>				<i>51</i>	<i>46</i>	<i>42</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>55</i>	<i>Mar-20</i>
Northern Trust Russell 1000 Index	58,568,408	10.1	28.3	7.2	2.3	-19.1	7.3	9.1	11.3	12.4	9.1	Jul-06
Northern Trust Russell 1000 Index (Net)				7.2	2.3	-19.1	7.3	9.1	11.2	12.3	9.1	
<i>Russell 1000</i>				<i>7.2</i>	<i>2.3</i>	<i>-19.1</i>	<i>7.3</i>	<i>9.1</i>	<i>11.3</i>	<i>12.4</i>	<i>9.1</i>	<i>Jul-06</i>
<i>eV US Large Cap Core Equity Gross Median</i>				<i>8.6</i>	<i>3.4</i>	<i>-16.0</i>	<i>8.0</i>	<i>9.4</i>	<i>11.3</i>	<i>12.5</i>	<i>9.4</i>	<i>Jul-06</i>
<i>eV US Large Cap Core Equity Gross Rank</i>				<i>75</i>	<i>69</i>	<i>78</i>	<i>65</i>	<i>58</i>	<i>54</i>	<i>55</i>	<i>63</i>	<i>Jul-06</i>

## Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Loomis Sayles Small Cap Value	18,947,156	3.3	9.2	11.9	9.4	-10.8	5.9	4.7	8.5	9.6	10.4	Apr-97
Loomis Sayles Small Cap Value (Net)				11.7	9.0	-11.4	5.1	4.0	7.8	8.9	--	
<i>Russell 2000 Value</i>				8.4	3.4	-14.5	4.7	4.1	8.2	8.5	8.6	Apr-97
<i>Russell 2000</i>				6.2	3.9	-20.4	3.1	4.1	7.9	9.0	8.0	Apr-97
<i>eV US Small Cap Value Equity Gross Median</i>				11.1	5.5	-11.0	7.4	5.7	9.5	10.2	10.7	Apr-97
<i>eV US Small Cap Value Equity Gross Rank</i>				42	16	48	68	73	71	64	64	Apr-97
Northern Trust S&P 400 MidCap Index	10,059,564	1.7	4.9	10.8	8.1	-13.1	7.2	6.7	9.9	10.8	8.2	Jun-07
Northern Trust S&P 400 MidCap Index (Net)				10.8	8.0	-13.1	7.2	6.7	9.9	10.7	--	
<i>S&amp;P 400 MidCap</i>				10.8	8.1	-13.1	7.2	6.7	9.9	10.8	8.1	Jun-07
<i>eV US Mid Cap Equity Gross Median</i>				9.1	5.5	-15.1	6.7	8.0	10.4	11.5	8.6	Jun-07
<i>eV US Mid Cap Equity Gross Rank</i>				35	20	42	43	74	58	70	65	Jun-07
<b>Total International Developed Market Equity</b>	<b>81,441,545</b>	<b>14.0</b>	<b>14.0</b>	<b>20.0</b>	<b>9.2</b>	<b>-14.0</b>	<b>4.0</b>	<b>4.6</b>	<b>6.9</b>	<b>6.0</b>	<b>7.8</b>	<b>Oct-95</b>
<i>MSCI EAFE</i>				17.3	6.4	-14.5	0.9	1.5	4.5	4.7	4.6	Oct-95
Northern Trust MSCI EAFE Index	24,450,049	4.2	30.0	18.5	6.5	-13.9	1.3	2.0	4.9	--	3.7	Dec-14
Northern Trust MSCI EAFE Index (Net)				18.5	6.5	-13.9	1.3	2.0	4.9	--	3.7	
<i>MSCI EAFE</i>				17.3	6.4	-14.5	0.9	1.5	4.5	4.7	3.4	Dec-14
<i>eV EAFE Core Equity Gross Median</i>				16.3	5.3	-16.4	1.4	1.9	5.2	6.0	4.6	Dec-14
<i>eV EAFE Core Equity Gross Rank</i>				8	23	30	51	48	62	--	76	Dec-14
WCM Focused Growth International	26,195,238	4.5	32.2	22.2	13.5	-22.0	7.4	9.6	--	--	10.4	Aug-17
WCM Focused Growth International (Net)				21.9	13.1	-22.6	6.6	8.8	--	--	9.5	
<i>MSCI ACWI ex USA</i>				14.3	3.0	-16.0	0.1	0.9	4.8	3.8	2.2	Aug-17
<i>MSCI EAFE Growth</i>				15.0	5.3	-22.9	0.5	2.5	5.1	5.6	3.7	Aug-17
<i>eV EAFE Core Equity Gross Median</i>				16.3	5.3	-16.4	1.4	1.9	5.2	6.0	3.3	Aug-17
<i>eV EAFE Core Equity Gross Rank</i>				1	1	85	2	1	--	--	1	Aug-17



## Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Artisan International Value	30,796,258	5.3	37.8	19.3	7.8	-5.9	--	--	--	--	6.1	Feb-21
Artisan International Value (Net)				19.0	7.3	-6.8	--	--	--	--	5.1	
<i>MSCI ACWI ex USA</i>				14.3	3.0	-16.0	0.1	0.9	4.8	3.8	-5.1	Feb-21
<i>MSCI EAFE Value</i>				19.6	7.4	-5.6	0.6	0.2	3.7	3.5	2.8	Feb-21
<i>eV EAFE All Cap Value Net Median</i>				18.5	5.7	-8.4	1.4	1.0	4.0	4.4	0.5	Feb-21
<i>eV EAFE All Cap Value Net Rank</i>				41	16	13	--	--	--	--	4	Feb-21
<b>Total International Emerging Market Equity</b>	<b>37,756,736</b>	<b>6.5</b>	<b>6.5</b>	<b>7.6</b>	<b>-1.5</b>	<b>-14.6</b>	<b>1.6</b>	<b>1.0</b>	<b>7.4</b>	<b>2.9</b>	<b>3.4</b>	<b>Feb-12</b>
<i>MSCI Emerging Markets</i>				9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.9	Feb-12
Dimensional Emerging Markets Value (Net)	23,502,768	4.0	62.2	10.3	-0.5	-10.7	1.0	-0.1	6.9	1.8	2.1	Feb-12
<i>MSCI Emerging Markets</i>				9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.9	Feb-12
<i>MSCI Emerging Markets Value NR USD</i>				9.8	-2.3	-15.8	-2.6	-1.6	4.5	0.1	0.3	Feb-12
<i>eV Emg Mkts Equity Net Median</i>				10.3	-0.7	-19.9	-1.6	-0.7	5.4	2.1	2.7	Feb-12
<i>eV Emg Mkts Equity Net Rank</i>				51	48	11	28	38	23	59	68	Feb-12
GQG Partners Emerging Markets Equity	14,253,968	2.5	37.8	3.4	-3.3	-20.7	2.0	2.4	--	--	5.2	Jul-17
GQG Partners Emerging Markets Equity (Net)				3.2	-3.6	-21.2	1.3	1.8	--	--	4.6	
<i>MSCI Emerging Markets</i>				9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.4	Jul-17
<i>MSCI Emerging Markets Growth NR USD</i>				9.6	-3.7	-24.0	-2.9	-1.3	5.7	2.7	2.0	Jul-17
<i>eV Emg Mkts Equity Gross Median</i>				10.4	-0.6	-19.4	-1.2	-0.1	6.2	2.9	2.6	Jul-17
<i>eV Emg Mkts Equity Gross Rank</i>				98	79	62	24	16	--	--	13	Jul-17

## Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Investment Grade Bonds</b>	<b>54,682,920</b>	<b>9.4</b>	<b>9.4</b>	<b>1.8</b>	<b>-1.6</b>	<b>-9.1</b>	<b>-1.5</b>	<b>0.6</b>	<b>1.2</b>	<b>1.4</b>	<b>5.2</b>	<b>Oct-90</b>
<i>Bloomberg US Aggregate TR</i>				1.9	-3.0	-13.0	-2.7	0.0	0.9	1.1	5.1	Oct-90
<i>Bloomberg US Universal TR</i>				2.2	-2.3	-13.0	-2.5	0.2	1.3	1.3	5.3	Oct-90
Northern Trust Barclays Aggregate Index	26,112,474	4.5	47.8	1.9	-2.9	-13.0	-2.8	0.0	0.9	1.0	3.9	Jul-98
Northern Trust Barclays Aggregate Index (Net)				1.9	-2.9	-13.0	-2.8	-0.1	0.8	1.0	--	
<i>Bloomberg US Aggregate TR</i>				1.9	-3.0	-13.0	-2.7	0.0	0.9	1.1	3.9	Jul-98
<i>eV US Core Fixed Inc Gross Median</i>				1.9	-2.7	-12.8	-2.1	0.5	1.4	1.5	4.3	Jul-98
<i>eV US Core Fixed Inc Gross Rank</i>				49	70	64	95	96	97	98	97	Jul-98
Northern Trust 1-5 Year Credit Bond	28,570,446	4.9	52.2	1.7	-0.4	-5.8	-0.5	1.2	1.5	1.5	1.5	Feb-13
Northern Trust 1-5 Year Credit Bond (Net)				1.7	-0.5	-5.9	-0.6	1.1	1.4	--	1.4	
<i>Bloomberg US Credit 1-5 Yr TR</i>				1.8	-0.2	-5.6	-0.4	1.3	1.6	1.5	1.6	Feb-13
<i>eV US Short Duration Fixed Inc Gross Median</i>				1.1	-0.1	-3.4	0.1	1.3	1.4	1.3	1.3	Feb-13
<i>eV US Short Duration Fixed Inc Gross Rank</i>				9	70	96	90	59	36	27	27	Feb-13
<b>Total High Yield Bonds*</b>	<b>6,845,199</b>	<b>1.2</b>	<b>1.2</b>									
Summit Partners Credit Fund II, L.P.	2,879,550	0.5	42.1									
Summit Partners Credit Fund III, L.P.	3,965,649	0.7	57.9									

Note: Total High Yield Bonds performance excludes the performance from Summit Credit Fund II and Summit Credit Fund III. Market values for both funds are as of 9/30/2022 adjusted for subsequent cash flows.



## City of Ann Arbor Employees' Retirement System

### Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Private Credit</b>	<b>11,512,132</b>	<b>2.0</b>	<b>2.0</b>									
Angelo Gordon Direct Lending IV	11,512,132	2.0	100.0									
<b>Total Real Estate</b>	<b>76,060,856</b>	<b>13.1</b>	<b>13.1</b>	<b>-2.5</b>	<b>-0.4</b>	<b>10.6</b>	<b>12.4</b>	<b>10.7</b>	<b>9.6</b>	<b>11.9</b>	<b>8.8</b>	<b>Jul-03</b>
<i>NCREIF ODCE Equal Weighted</i>				-4.9	-4.0	8.4	10.6	9.2	9.0	10.4	8.3	Jul-03
A.E.W Core Property Trust (Net)	52,003,115	8.9	68.4	-5.1	-3.4	7.6	9.4	8.0	7.9	--	8.9	Jul-13
<i>NCREIF ODCE (net)</i>				-5.2	-4.9	6.5	9.0	7.7	7.6	9.1	8.9	Jul-13
DRA Growth and Income Fund VIII	2,980,038	0.5	3.9									
DRA Growth and Income Fund IX	6,435,364	1.1	8.5									
DRA Growth and Income Fund X, LLC	4,802,760	0.8	6.3									
Carlyle Realty Partners VIII, L.P.	5,072,009	0.9	6.7									
INVESCO Mortgage Recovery Loans	40,602	0.0	0.1									
Torchlight Debt Fund VII, L.P.	4,726,968	0.8	6.2									

Private Credit and Real Estate market values, excluding the AEW Core Property Trust, are as of 9/30/2022 adjusted for subsequent cash flows. The A.E.W. Core Property Trust market value is as of 12/31/2022.

## Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Natural Resources (Net)</b>	<b>15,899,183</b>	<b>2.7</b>	<b>2.7</b>	<b>18.5</b>	<b>8.4</b>	<b>-1.0</b>	<b>5.9</b>	<b>6.8</b>	<b>--</b>	<b>--</b>	<b>6.3</b>	<b>Jul-17</b>
<i>Bloomberg Commodity Index TR USD</i>				2.2	-2.0	16.1	12.7	6.4	6.5	-1.3	7.2	Jul-17
<i>S&amp;P Global Natural Resources Index TR USD</i>				17.2	11.9	10.3	11.6	7.3	12.7	4.9	10.3	Jul-17
First Eagle Gold Fund (Net)	10,311,650	1.8	64.9	18.1	8.0	-1.3	5.8	6.8	--	--	6.3	Jul-17
<i>FTSE Gold Mines PR USD</i>				20.2	1.8	-15.5	-3.1	2.6	10.3	-4.7	3.4	Jul-17
<i>S&amp;P Global Natural Resources Index TR USD</i>				17.2	11.9	10.3	11.6	7.3	12.7	4.9	10.3	Jul-17
SSGA Global Natural Resources Index	5,587,533	1.0	35.1									
SSGA Global Natural Resources Index (Net)												
<b>Total Infrastructure</b>	<b>32,706,150</b>	<b>5.6</b>	<b>5.6</b>									
<i>DJ Brookfield Global Infrastructure Net TR USD</i>				9.5	-2.6	-3.9	2.3	4.9	7.5	6.7	7.5	Aug-20
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	3,070,607	0.5	9.4									
JP Morgan Infrastructure Fund	29,635,542	5.1	90.6	0.0	2.5	--	--	--	--	--	4.5	Apr-22
<i>DJ Brookfield Global Infrastructure Net TR USD</i>				9.5	-2.6	-3.9	2.3	4.9	7.5	6.7	-6.9	Apr-22
<b>Total Hedge Funds</b>	<b>4,237,855</b>	<b>0.7</b>	<b>0.7</b>	<b>0.3</b>	<b>-2.2</b>	<b>5.0</b>	<b>5.3</b>	<b>3.3</b>	<b>2.0</b>	<b>2.1</b>	<b>2.7</b>	<b>Jul-09</b>
<i>HFRI Fund Weighted Composite Index</i>				2.3	1.6	-4.1	5.7	4.4	5.2	4.7	5.0	Jul-09
<i>MSCI ACWI</i>				9.8	2.3	-18.4	4.0	5.2	8.1	8.0	9.1	Jul-09
Sculptor Credit Opportunities (Net)	4,237,855	0.7	100.0	0.3	-0.9	-3.5	4.9	4.5	7.2	--	5.6	Jun-15
<i>Bloomberg US High Yield TR</i>				4.2	3.5	-11.2	0.0	2.3	5.0	4.0	3.5	Jun-15

SSGA Global Natural Resources Index was funded on 12/19/2022. JP Morgan Infrastructure Fund market value is as of 9/30/2022 adjusted for subsequent cash flows.



## City of Ann Arbor Employees' Retirement System

Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Private Equity</b>	<b>45,169,386</b>	<b>7.8</b>	<b>7.8</b>									
Arboretum Ventures V, L.P.	5,928,976	1.0	13.1									
Arboretum Ventures VI, L.P.	33,129	0.0	0.1									
Ironsides Co-Investment Fund III, L.P.	2,015,269	0.3	4.5									
Ironsides Direct Investment Fund V, L.P.	4,581,853	0.8	10.1									
Ironsides Partnership Fund III, L.P.	7,046,001	1.2	15.6									
Ironsides Partnership Fund V, L.P.	2,725,338	0.5	6.0									
Strategic Investors Fund VIII L.P.	19,241,156	3.3	42.6									
Mesirow Financial Private Equity Fund VIII-A	3,597,664	0.6	8.0									
<b>Total Cash</b>	<b>8,369,357</b>	<b>1.4</b>	<b>1.4</b>									
Northern Trust Cash Account	8,369,357	1.4	100.0									

\*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Private Equity market values are as of 9/30/2022, adjusted for subsequent flows

Non-Marketable Securities Overview								
As of December 31, 2022								
Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	IRR
Infrastructure	BlackRock Global Renewable Power Infrastructure Fund III, L.P.	2020	\$8,000,000	\$3,657,422	\$588,729	\$3,070,607	\$3,659,336	NM
	<b>Total Infrastructure</b>		<b>\$8,000,000</b>	<b>\$3,657,422</b>	<b>\$588,729</b>	<b>\$3,070,607</b>	<b>\$3,659,336</b>	-
Private Debt	Angelo Gordon Direct Lending IV	2021	\$12,000,000	\$10,689,834	\$0	\$11,512,132	\$11,512,132	NM
	<b>Total Private Debt</b>		<b>\$12,000,000</b>	<b>\$10,689,834</b>	<b>\$0</b>	<b>\$11,512,132</b>	<b>\$11,512,132</b>	-
Private Equity	Arboretum Ventures V, L.P.	2019	\$8,000,000	\$5,304,000	\$0	\$5,928,976	\$5,928,976	NM
	Arboretum Ventures VI, L.P.	2022	\$6,000,000	\$39,000	\$0	\$33,129	\$33,129	NM
	Ironsides Co-Investment Fund III, L.P.	2013	\$6,000,000	\$7,349,055	\$13,944,672	\$2,015,269	\$15,959,941	20.8
	Ironsides Direct Investment Fund V, L.P.	2018	\$3,000,000	\$3,652,000	\$1,472,289	\$4,581,853	\$6,054,142	21.9
	Ironsides Partnership Fund III, L.P.	2013	\$6,000,000	\$4,011,754	\$6,120,174	\$7,046,001	\$13,166,175	27.6
	Ironsides Partnership Fund V, L.P.	2020	\$3,000,000	\$1,940,747	\$2,746	\$2,725,338	\$2,728,084	34.8
	Strategic Investors Fund VIII L.P.	2017	\$8,000,000	\$6,532,000	\$1,736,000	\$19,241,156	\$20,977,156	37.5
	Mesirow Financial Private Equity Fund VIII-A	2019	\$10,000,000	\$3,559,332	\$0	\$3,597,664	\$3,597,664	NM
	<b>Total Private Equity</b>		<b>\$50,000,000</b>	<b>\$32,387,888</b>	<b>\$23,275,881</b>	<b>\$45,169,386</b>	<b>\$68,445,267</b>	-

Strategic Investors Fund IRR is as of 6/30/2022. Remaining IRR's above are as of 9/30/2022.



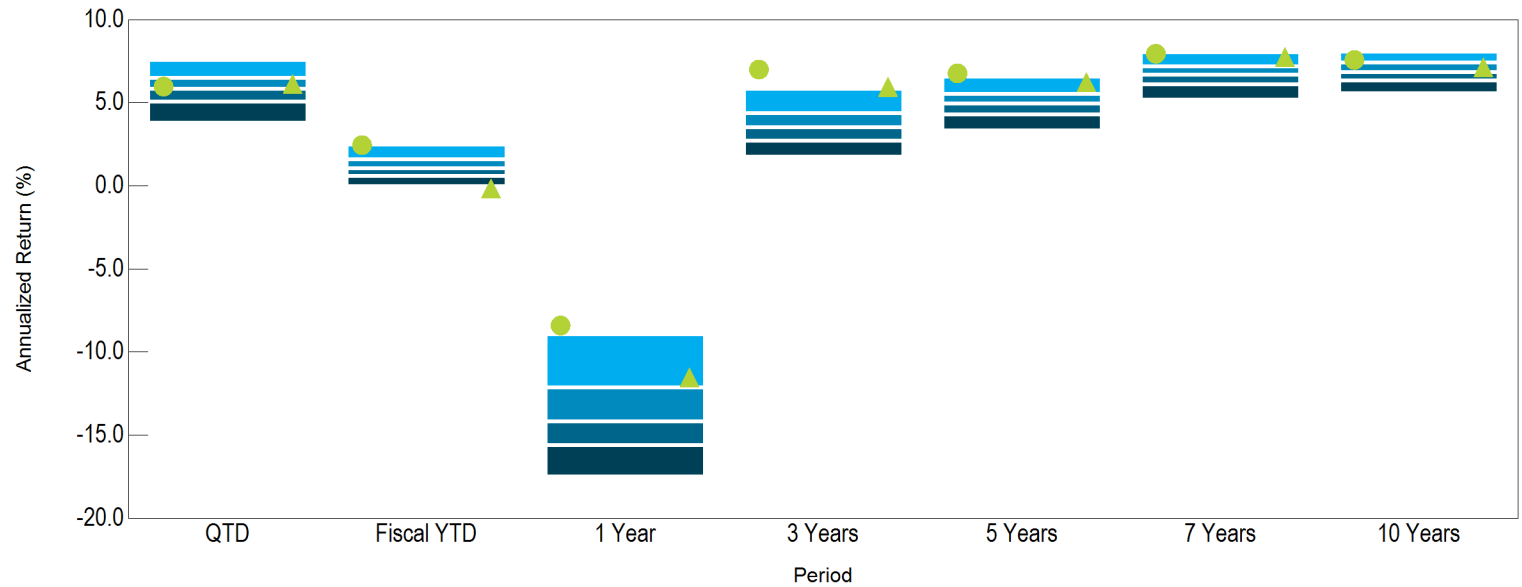
## City of Ann Arbor Employees' Retirement System

Total Fund Aggregate | As of December 31, 2022

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	IRR
Real Estate	DRA Growth and Income Fund VIII	2014	\$8,500,000	\$9,898,456	\$9,910,694	\$2,980,038	\$12,890,732	8.4
	DRA Growth and Income Fund IX	2017	\$8,500,000	\$8,975,379	\$7,641,458	\$6,435,364	\$14,076,822	18.8
	DRA Growth and Income Fund X, LLC	2020	\$6,000,000	\$4,551,348	\$735,896	\$4,802,760	\$5,538,656	29.0
	Carlyle Realty Partners VIII, L.P.	2017	\$8,000,000	\$3,281,458	\$2,110,192	\$5,072,009	\$7,182,201	32.5
	INVESCO Mortgage Recovery Loans	2008	\$11,000,000	\$7,938,905	\$10,599,669	\$40,602	\$10,640,271	17.2
	Torchlight Debt Fund VII, L.P.	2019	\$9,000,000	\$4,955,503	\$455,503	\$4,726,968	\$5,182,471	5.8
<b>Total Real Estate</b>			<b>\$51,000,000</b>	<b>\$39,601,049</b>	<b>\$31,453,412</b>	<b>\$24,057,741</b>	<b>\$55,511,153</b>	-
US Fixed Income High Yield	Summit Partners Credit Fund II, L.P.	2011	\$9,200,000	\$13,023,818	\$12,313,985	\$2,879,550	\$15,193,535	6.0
	Summit Partners Credit Fund III, L.P.	2018	\$9,000,000	\$9,293,670	\$9,389,579	\$3,965,649	\$13,355,228	18.0
<b>Total US Fixed Income High Yield</b>			<b>\$18,200,000</b>	<b>\$22,317,488</b>	<b>\$21,703,564</b>	<b>\$6,845,199</b>	<b>\$28,548,763</b>	-
<b>Total Account</b>			<b>\$139,200,000</b>	<b>\$108,653,680</b>	<b>\$76,432,857</b>	<b>\$90,655,065</b>	<b>\$167,676,651</b>	-

IRR's above are as of 9/30/2022.

#### InvMetrics Public DB Net Return Comparison Ending December 31, 2022



	QTD		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
<b>Return (Rank)</b>	7.6	2.5	-8.9	5.8	6.5	8.0	8.1	7.6	2.5	-8.4	5.8	6.5	8.0	8.1
5th Percentile	7.6	2.5	-8.9	5.8	6.5	8.0	8.1	7.6	2.5	-8.4	5.8	6.5	8.0	8.1
25th Percentile	6.5	1.6	-12.1	4.4	5.6	7.2	7.5	6.5	1.6	-12.1	4.4	5.6	7.2	7.5
Median	5.9	1.1	-14.2	3.5	5.0	6.7	6.9	5.9	1.1	-14.2	3.5	5.0	6.7	6.9
75th Percentile	5.1	0.6	-15.6	2.8	4.3	6.1	6.4	5.1	0.6	-15.6	2.8	4.3	6.1	6.4
95th Percentile	3.8	0.0	-17.5	1.8	3.4	5.2	5.6	3.8	0.0	-17.5	1.8	3.4	5.2	5.6
# of Portfolios	401	401	401	393	378	356	308	401	401	401	393	378	356	308
● Total Fund Aggregate	6.0	(46)	2.5	(6)	-8.4	(5)	7.0	(1)	6.8	(3)	7.9	(6)	7.6	(19)
▲ Policy Benchmark	6.1	(40)	-0.2	(96)	-11.5	(18)	5.9	(5)	6.2	(8)	7.8	(8)	7.1	(37)



## Retirement System Detail



## City of Ann Arbor Employees' Retirement System

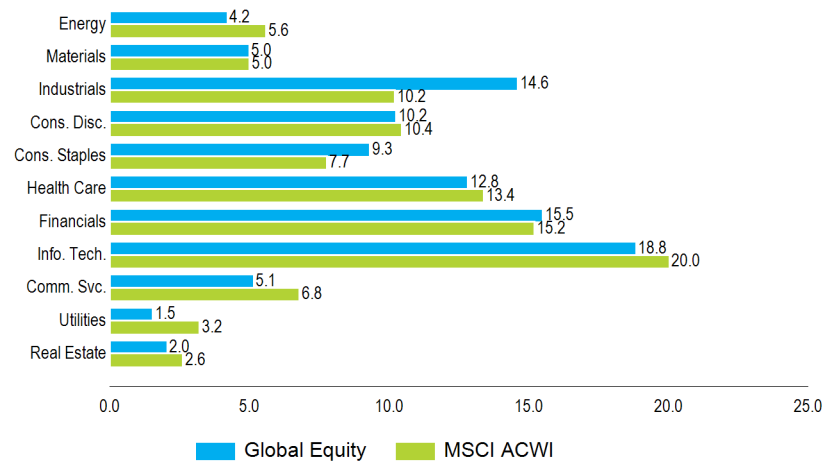
Global Equity | As of December 31, 2022

### Asset Allocation on December 31, 2022

	Actual	Actual
Artisan International Value	\$30,796,258	9.4%
Dimensional Emerging Markets Value	\$23,502,768	7.2%
GQG Partners Emerging Markets Equity	\$14,253,968	4.4%
Loomis Sayles Small Cap Value	\$18,947,156	5.8%
Northern Trust MSCI EAFE Index	\$24,450,049	7.5%
Northern Trust Russell 1000 Index	\$58,568,408	18.0%
Northern Trust S&P 400 MidCap Index	\$10,059,564	3.1%
RhumbLine HEDI	\$119,142,865	36.6%
WCM Focused Growth International	\$26,195,238	8.0%
<b>Total</b>	<b>\$325,916,274</b>	<b>100.0%</b>

Global Equity Characteristics			
	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
Market Value			
Market Value (\$M)	325.9	--	293.4
Number Of Holdings	5312	2883	5383
Characteristics			
Weighted Avg. Market Cap. (\$B)	233.4	274.2	263.4
Median Market Cap (\$B)	4.2	11.9	3.7
P/E Ratio	16.3	16.1	14.6
Yield	2.4	2.4	2.6
EPS Growth - 5 Yrs.	15.0	15.1	15.2
Price to Book	3.3	3.2	3.1

#### Sector Allocation (%) vs MSCI ACWI



#### Top 10 Holdings

APPLE INC	3.0%
MICROSOFT CORP	2.9%
BERKSHIRE HATHAWAY INC	0.9%
ALPHABET INC	0.9%
ALPHABET INC	0.9%
AMAZON.COM INC	0.9%
JOHNSON & JOHNSON	0.9%
UNITEDHEALTH GROUP INC	0.8%
NOVARTIS AG	0.7%
PROCTER & GAMBLE CO (THE)	0.7%
<b>Total</b>	<b>12.5%</b>

Global Equity Region Allocation

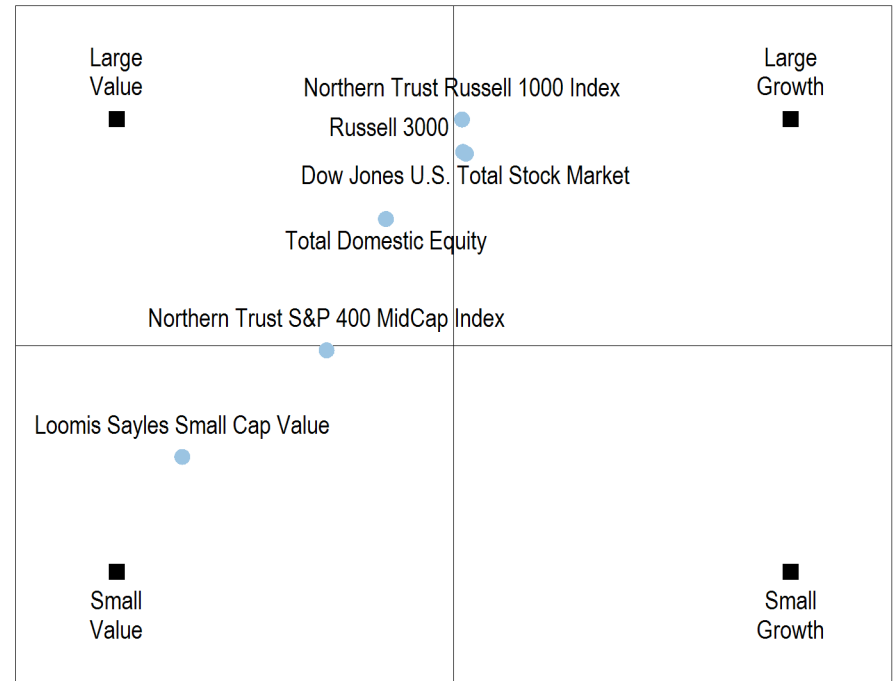
vs MSCI ACWI

Region	% of Total	% of Bench	% Diff
North America ex U.S.	1.4%	3.0%	-1.7%
United States	62.9%	60.4%	2.5%
Europe Ex U.K.	14.8%	12.6%	2.3%
United Kingdom	3.8%	3.9%	-0.1%
Pacific Basin Ex Japan	2.0%	3.2%	-1.2%
Japan	2.2%	5.6%	-3.4%
Emerging Markets	11.9%	11.1%	0.8%
Other	1.0%	0.3%	0.7%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

#### Asset Allocation on December 31, 2022

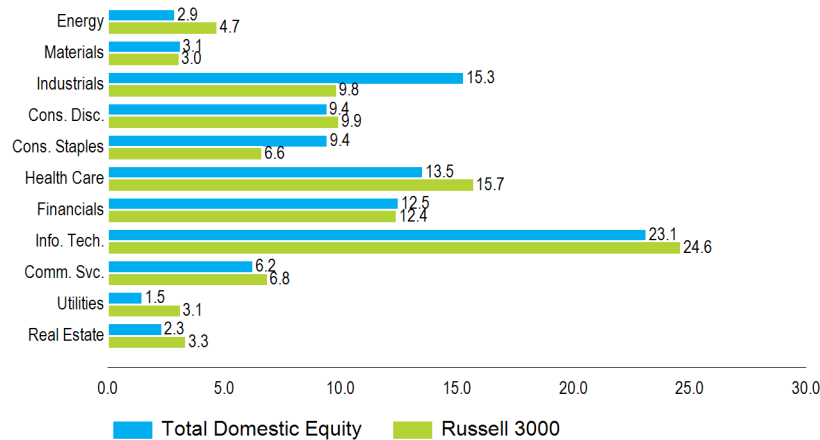
	Actual	Actual
Loomis Sayles Small Cap Value	\$18,947,156	9.2%
Northern Trust Russell 1000 Index	\$58,568,408	28.3%
Northern Trust S&P 400 MidCap Index	\$10,059,564	4.9%
RhumbLine HEDI	\$119,142,865	57.6%
<b>Total</b>	<b>\$206,717,992</b>	<b>100.0%</b>

#### Total Domestic Equity Style Map 3 Years Ending December 31, 2022



Total Domestic Equity Characteristics			
	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	206.7	--	190.3
Number Of Holdings	1219	2960	1228
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	324.9	360.3	359.3
Median Market Cap (\$B)	9.0	2.5	8.4
P/E Ratio	19.6	18.5	18.6
Yield	1.7	1.7	1.8
EPS Growth - 5 Yrs.	16.1	17.2	16.4
Price to Book	3.9	3.6	3.7

### Sector Allocation (%) vs Russell 3000



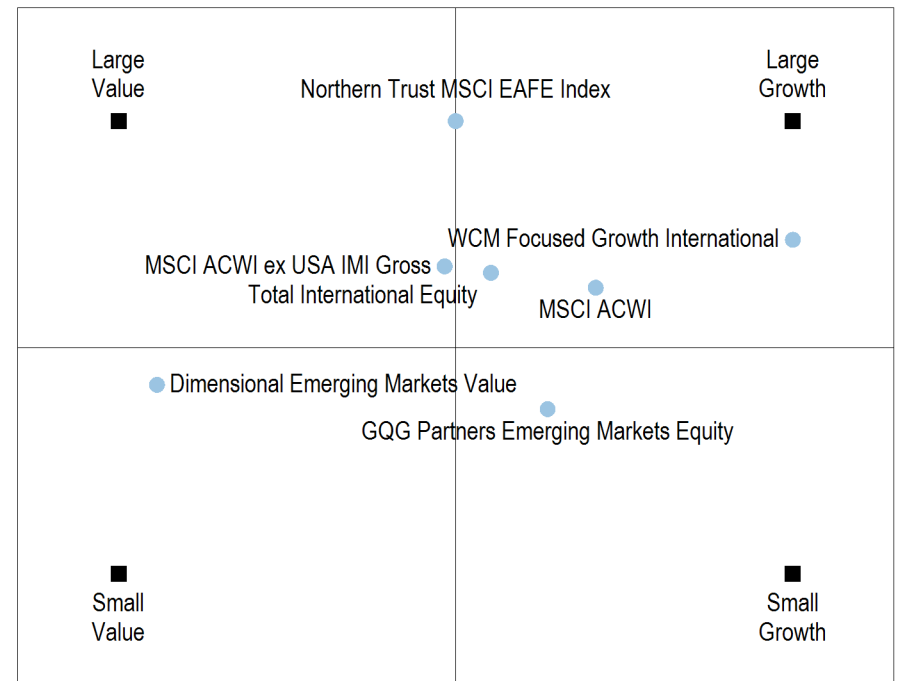
### Top 10 Holdings

APPLE INC	4.6%
MICROSOFT CORP	4.5%
BERKSHIRE HATHAWAY INC	1.5%
ALPHABET INC	1.4%
ALPHABET INC	1.4%
AMAZON.COM INC	1.4%
JOHNSON & JOHNSON	1.4%
UNITEDHEALTH GROUP INC	1.3%
PROCTER & GAMBLE CO (THE)	1.0%
VISA INC	1.0%
<b>Total</b>	<b>19.6%</b>

#### Asset Allocation on December 31, 2022

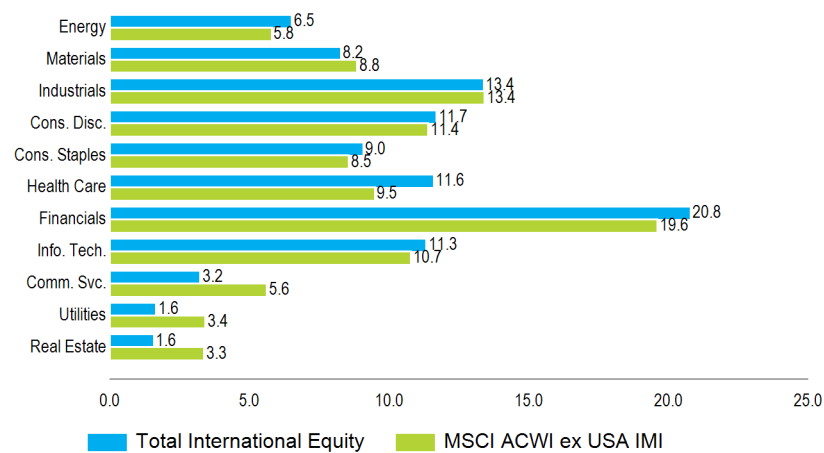
	Actual	Actual
Artisan International Value	\$30,796,258	25.8%
Dimensional Emerging Markets Value	\$23,502,768	19.7%
GQG Partners Emerging Markets Equity	\$14,253,968	12.0%
Northern Trust MSCI EAFE Index	\$24,450,049	20.5%
WCM Focused Growth International	\$26,195,238	22.0%
<b>Total</b>	<b>\$119,198,281</b>	<b>100.0%</b>

#### Total International Equity Style Map 3 Years Ending December 31, 2022



Total International Equity Characteristics			
	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	119.2	--	103.1
Number Of Holdings	4110	6585	4172
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	70.2	69.8	63.3
Median Market Cap (\$B)	1.1	1.6	0.9
P/E Ratio	12.4	12.6	9.8
Yield	3.7	3.4	4.4
EPS Growth - 5 Yrs.	13.2	11.5	12.3
Price to Book	2.5	2.4	2.2

#### Sector Allocation (%) vs MSCI ACWI ex USA IMI



#### Top 10 Holdings

NOVARTIS AG	1.8%
ARCH CAPITAL GROUP LTD	1.7%
DANONE	1.4%
NOVO NORDISK 'B'	1.3%
COMPASS GROUP PLC	1.3%
SAMSUNG ELECTRONICS CO LTD	1.3%
RELIANCE INDUSTRIES LTD	1.1%
NESTLE SA, CHAM UND VEVEY	1.1%
ABB LTD	1.1%
CANADIAN PACIFIC RAILWAY LTD	1.1%
<b>Total</b>	<b>13.4%</b>



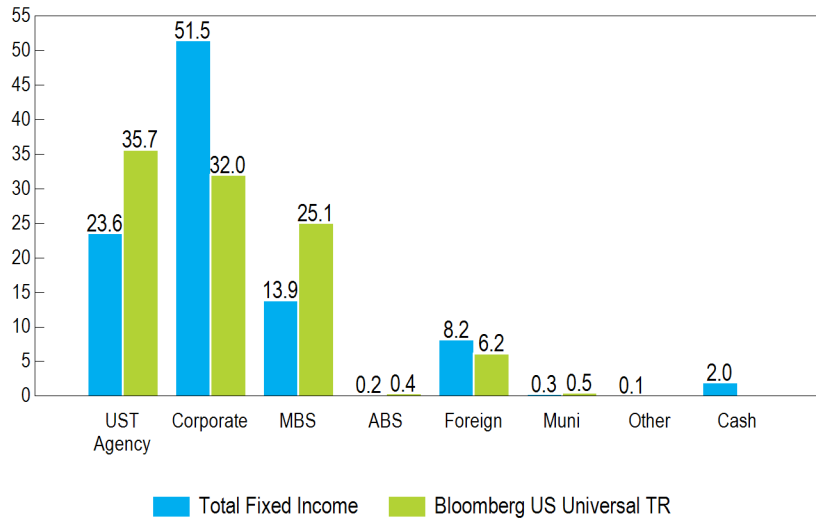
Total International Equity Region Allocation			
vs MSCI ACWI ex USA IMI			
Region	% of Total	% of Bench	% Diff
North America ex U.S.	3.6%	7.6%	-4.0%
United States	4.1%	0.0%	4.1%
Europe Ex U.K.	36.7%	30.5%	6.2%
United Kingdom	9.4%	9.8%	-0.4%
Pacific Basin Ex Japan	5.6%	8.4%	-2.8%
Japan	5.9%	15.0%	-9.1%
Emerging Markets	32.7%	27.7%	5.0%
Other	2.0%	0.9%	1.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

Total Fixed Income | As of December 31, 2022

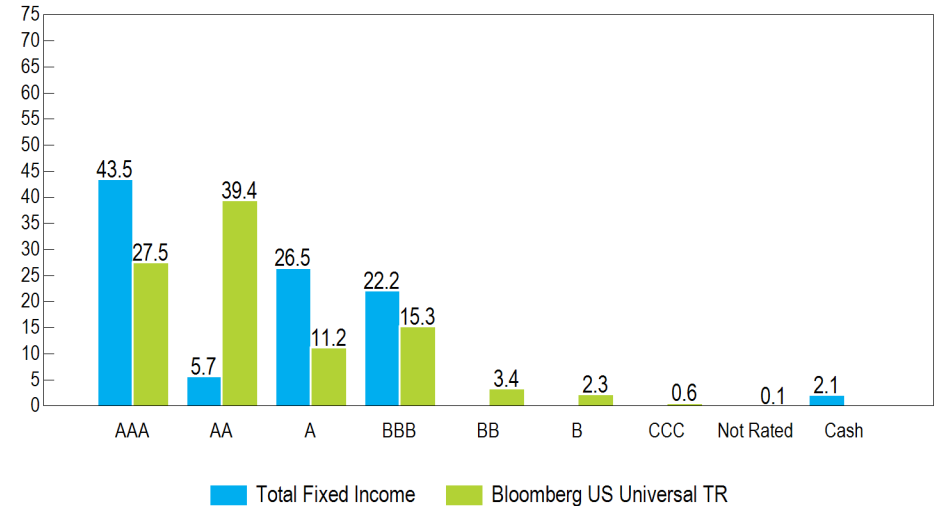
Asset Allocation on December 31, 2022		
	Actual	Actual
Angelo Gordon Direct Lending IV	\$11,512,132	15.8%
Northern Trust 1-5 Year Credit Bond	\$28,570,446	39.1%
Northern Trust Barclays Aggregate Index	\$26,112,474	35.8%
Summit Partners Credit Fund II, L.P.	\$2,879,550	3.9%
Summit Partners Credit Fund III, L.P.	\$3,965,649	5.4%
<b>Total</b>	<b>\$73,040,251</b>	<b>100.0%</b>

Total Fixed Income Characteristics vs. Bloomberg US Universal TR			
	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
Fixed Income Characteristics			
Yield to Maturity	4.8	5.1	6.3
Average Duration	4.5	6.0	3.9
Average Quality	A	AA	A
Weighted Average Maturity	5.9	12.2	5.8

### Sector Allocation



### Credit Quality Allocation



## **VEBA Summary**

**Performance Update**  
as of December 31, 2022



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

Allocation vs. Targets and Policy				
	Current Balance	Current Allocation	Policy	Policy Range
US Equity	\$80,167,218	34%	33%	27% - 39%
Developed Market Equity	\$27,565,728	12%	12%	9% - 15%
Emerging Market Equity	\$13,602,632	6%	7%	0% - 10%
Investment Grade Bonds	\$26,409,110	11%	10%	5% - 20%
TIPS	\$4,357,052	2%	2%	0% - 5%
Emerging Market Bonds	--	--	0%	0% - 5%
High Yield Bonds	\$8,476,261	4%	4%	0% - 6%
Bank Loans	--	--	0%	0% - 5%
Private Equity	\$9,818,654	4%	5%	0% - 8%
Private Debt	\$4,796,721	2%	7%	0% - 10%
Real Estate	\$29,661,321	13%	10%	2% - 12%
Natural Resources	\$7,416,999	3%	3%	0% - 5%
Infrastructure	\$10,278,585	4%	7%	0% - 10%
Cash	\$9,852,693	4%	0%	0% - 5%
<b>Total</b>	<b>\$232,402,974</b>	<b>100%</b>	<b>100%</b>	



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

Asset Class Performance Summary											
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Fund Aggregate</b>	<b>232,402,974</b>	<b>100.0</b>	<b>6.0</b>	<b>2.1</b>	<b>-11.1</b>	<b>5.1</b>	<b>5.9</b>	<b>7.6</b>	<b>7.1</b>	<b>6.2</b>	<b>Oct-99</b>
<b>Total Fund Aggregate (Net)</b>			<b>5.9</b>	<b>2.0</b>	<b>-11.2</b>	<b>4.9</b>	<b>5.7</b>	<b>7.4</b>	<b>6.9</b>	--	
<i>Policy Benchmark</i>			5.8	0.1	-11.0	4.7	5.6	7.6	7.1	5.9	Oct-99
<i>60% MSCI ACWI / 40% Bloomberg Aggregate</i>			6.6	0.3	-16.0	1.6	3.5	5.4	5.4	5.0	Oct-99
<i>60% MSCI ACWI / 40% Barclays Global Aggregate</i>			7.7	0.4	-17.3	0.8	2.7	5.1	4.7	4.6	Oct-99
<b>Total Domestic Equity</b>	<b>80,167,218</b>	<b>34.5</b>	<b>8.5</b>	<b>3.8</b>	<b>-16.2</b>	<b>7.7</b>	<b>8.8</b>	<b>11.2</b>	<b>11.7</b>	<b>7.6</b>	<b>Oct-99</b>
<i>Russell 3000</i>			7.2	2.4	-19.2	7.1	8.8	11.0	12.1	7.1	Oct-99
<b>Total International Developed Market Equity</b>	<b>27,565,728</b>	<b>11.9</b>	<b>20.6</b>	<b>10.3</b>	<b>-14.1</b>	<b>5.0</b>	<b>6.0</b>	<b>8.1</b>	<b>7.3</b>	<b>8.8</b>	<b>Jul-09</b>
<i>MSCI EAFE</i>			17.3	6.4	-14.5	0.9	1.5	4.5	4.7	5.8	Jul-09
<b>Total International Emerging Market Equity</b>	<b>13,602,632</b>	<b>5.9</b>	<b>6.7</b>	<b>-2.0</b>	<b>-16.1</b>	<b>2.0</b>	<b>1.6</b>	<b>7.7</b>	<b>3.3</b>	<b>3.8</b>	<b>Feb-12</b>
<i>MSCI Emerging Markets</i>			9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.9	Feb-12
<b>Total Investment Grade Bonds</b>	<b>26,409,110</b>	<b>11.4</b>	<b>1.9</b>	<b>-2.6</b>	<b>-12.0</b>	<b>-2.4</b>	<b>0.2</b>	<b>0.9</b>	<b>1.1</b>	<b>4.1</b>	<b>Oct-00</b>
<i>Bloomberg US Aggregate TR</i>			1.9	-3.0	-13.0	-2.7	0.0	0.9	1.1	3.8	Oct-00
<i>Bloomberg US Universal TR</i>			2.2	-2.3	-13.0	-2.5	0.2	1.3	1.3	4.1	Oct-00
<b>Total TIPS</b>	<b>4,357,052</b>	<b>1.9</b>	<b>1.3</b>	<b>-2.6</b>	<b>-7.5</b>	<b>1.9</b>	<b>2.5</b>	<b>2.6</b>	<b>--</b>	<b>1.8</b>	<b>Nov-13</b>
<i>Bloomberg US TIPS TR</i>			2.0	-3.2	-11.8	1.2	2.1	2.6	1.1	1.9	Nov-13
<i>Bloomberg US TIPS 1-10 Yr TR</i>			1.6	-2.4	-7.3	2.0	2.5	2.6	1.3	1.8	Nov-13
<b>Total High Yield Bonds*</b>	<b>8,476,261</b>	<b>3.6</b>	<b>3.2</b>	<b>2.1</b>	<b>-13.2</b>	<b>-0.2</b>	<b>2.0</b>	<b>4.7</b>	<b>3.9</b>	<b>6.3</b>	<b>Jul-09</b>
<i>Bloomberg US High Yield TR</i>			4.2	3.5	-11.2	0.0	2.3	5.0	4.0	7.1	Jul-09
<b>Total Private Credit</b>	<b>4,796,721</b>	<b>2.1</b>									

\* One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Real Estate</b>	<b>29,661,321</b>	<b>12.8</b>	<b>-0.7</b>	<b>-1.6</b>	<b>-2.2</b>	<b>8.2</b>	<b>8.5</b>	<b>8.2</b>	<b>8.4</b>	<b>8.9</b>	<b>Mar-05</b>
<i>NCREIF ODCE Equal Weighted</i>			-4.9	-4.0	8.4	10.6	9.2	9.0	10.4	8.2	Mar-05
<b>Total Natural Resources (Net)</b>	<b>7,416,999</b>	<b>3.2</b>	<b>18.9</b>	<b>8.8</b>	<b>-0.6</b>	<b>6.1</b>	<b>7.0</b>	<b>--</b>	<b>--</b>	<b>6.4</b>	<b>Jul-17</b>
<i>Bloomberg Commodity Index TR USD</i>			2.2	-2.0	16.1	12.7	6.4	6.5	-1.3	7.2	Jul-17
<i>S&amp;P Global Natural Resources Index TR USD</i>			17.2	11.9	10.3	11.6	7.3	12.7	4.9	10.3	Jul-17
<b>Total Infrastructure</b>	<b>10,278,585</b>	<b>4.4</b>									
<i>DJ Brookfield Global Infrastructure Net TR USD</i>			9.5	-2.6	-3.9	2.3	4.9	7.5	6.7	7.5	Aug-20
<b>Total Private Equity</b>	<b>9,818,654</b>	<b>4.2</b>									
<b>Total Cash</b>	<b>9,852,693</b>	<b>4.2</b>									

\*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.



# City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

Trailing Performance												
	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Fund Aggregate</b>	<b>232,402,974</b>	<b>100.0</b>	<b>--</b>	<b>6.0</b>	<b>2.1</b>	<b>-11.1</b>	<b>5.1</b>	<b>5.9</b>	<b>7.6</b>	<b>7.1</b>	<b>6.2</b>	<b>Oct-99</b>
<b>Total Fund Aggregate (Net)</b>				<b>5.9</b>	<b>2.0</b>	<b>-11.2</b>	<b>4.9</b>	<b>5.7</b>	<b>7.4</b>	<b>6.9</b>	<b>--</b>	
<i>Policy Benchmark</i>				5.8	0.1	-11.0	4.7	5.6	7.6	7.1	5.9	Oct-99
<i>60% MSCI ACWI / 40% Bloomberg Aggregate</i>				6.6	0.3	-16.0	1.6	3.5	5.4	5.4	5.0	Oct-99
<i>60% MSCI ACWI / 40% Barclays Global Aggregate</i>				7.7	0.4	-17.3	0.8	2.7	5.1	4.7	4.6	Oct-99
<b>Total Domestic Equity</b>	<b>80,167,218</b>	<b>34.5</b>	<b>34.5</b>	<b>8.5</b>	<b>3.8</b>	<b>-16.2</b>	<b>7.7</b>	<b>8.8</b>	<b>11.2</b>	<b>11.7</b>	<b>7.6</b>	<b>Oct-99</b>
<i>Russell 3000</i>				7.2	2.4	-19.2	7.1	8.8	11.0	12.1	7.1	Oct-99
RhumbLine HEDI	41,541,043	17.9	51.8	8.6	3.7	-15.1	--	--	--	--	11.5	Mar-20
RhumbLine HEDI (Net)				8.6	3.6	-15.1	--	--	--	--	11.4	
<i>Russell 1000 HEDI Moderate GR USD</i>				8.6	3.7	-15.1	8.1	10.7	12.5	13.7	11.5	Mar-20
<i>eV US Large Cap Core Equity Gross Median</i>				8.6	3.4	-16.0	8.0	9.4	11.3	12.5	11.8	Mar-20
<i>eV US Large Cap Core Equity Gross Rank</i>				51	47	42	--	--	--	--	55	Mar-20
Northern Trust Russell 1000 Index	27,703,088	11.9	34.6	7.2	2.3	-19.1	7.3	9.1	11.3	12.4	12.3	Feb-12
Northern Trust Russell 1000 Index (Net)				7.2	2.3	-19.1	7.3	9.1	11.2	12.3	12.3	
<i>Russell 1000</i>				7.2	2.3	-19.1	7.3	9.1	11.3	12.4	12.3	Feb-12
<i>eV US Large Cap Core Equity Gross Median</i>				8.6	3.4	-16.0	8.0	9.4	11.3	12.5	12.4	Feb-12
<i>eV US Large Cap Core Equity Gross Rank</i>				75	69	78	65	58	53	56	58	Feb-12
RhumbLine S&P 400 Index	6,647,921	2.9	8.3	10.8	8.1	-13.0	7.2	6.7	9.9	10.9	11.9	Feb-10
RhumbLine S&P 400 Index (Net)				10.8	8.0	-13.0	7.2	6.7	9.9	10.9	11.8	
<i>S&amp;P 400 MidCap</i>				10.8	8.1	-13.1	7.2	6.7	9.9	10.8	11.8	Feb-10
<i>eV US Mid Cap Equity Gross Median</i>				9.1	5.5	-15.1	6.7	8.0	10.4	11.5	12.4	Feb-10
<i>eV US Mid Cap Equity Gross Rank</i>				35	20	41	43	73	58	67	64	Feb-10





## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Loomis Sayles Small Cap Value Equity	4,275,167	1.8	5.3	11.9	9.4	-10.8	5.8	--	--	--	10.4	Jan-19
Loomis Sayles Small Cap Value Equity (Net)				11.7	9.0	-11.4	5.1	--	--	--	9.6	
<i>Russell 2000 Value</i>				8.4	3.4	-14.5	4.7	4.1	8.2	8.5	8.9	Jan-19
<i>Russell 2000</i>				6.2	3.9	-20.4	3.1	4.1	7.9	9.0	8.3	Jan-19
<i>eV US Small Cap Value Equity Gross Median</i>				11.1	5.5	-11.0	7.4	5.7	9.5	10.2	11.3	Jan-19
<i>eV US Small Cap Value Equity Gross Rank</i>				42	17	48	68	--	--	--	66	Jan-19
<b>Total International Developed Market Equity</b>	<b>27,565,728</b>	<b>11.9</b>	<b>11.9</b>	<b>20.6</b>	<b>10.3</b>	<b>-14.1</b>	<b>5.0</b>	<b>6.0</b>	<b>8.1</b>	<b>7.3</b>	<b>8.8</b>	<b>Jul-09</b>
<i>MSCI EAFE</i>				17.3	6.4	-14.5	0.9	1.5	4.5	4.7	5.8	Jul-09
WCM Focused Growth International	12,683,384	5.5	46.0	22.2	13.5	-22.0	7.4	9.6	--	--	10.4	Aug-17
WCM Focused Growth International (Net)				21.9	13.1	-22.6	6.6	8.8	--	--	9.5	
<i>MSCI ACWI ex USA</i>				14.3	3.0	-16.0	0.1	0.9	4.8	3.8	2.2	Aug-17
<i>MSCI EAFE Growth</i>				15.0	5.3	-22.9	0.5	2.5	5.1	5.6	3.7	Aug-17
<i>eV EAFE Core Equity Gross Median</i>				16.3	5.3	-16.4	1.4	1.9	5.2	6.0	3.3	Aug-17
<i>eV EAFE Core Equity Gross Rank</i>				1	1	85	2	1	--	--	1	Aug-17
Artisan International Value	14,882,343	6.4	54.0	19.3	7.8	-5.9	--	--	--	--	2.9	Mar-21
Artisan International Value (Net)				19.0	7.3	-6.8	--	--	--	--	2.0	
<i>MSCI ACWI ex USA</i>				14.3	3.0	-16.0	0.1	0.9	4.8	3.8	-6.4	Mar-21
<i>MSCI EAFE Value</i>				19.6	7.4	-5.6	0.6	0.2	3.7	3.5	0.4	Mar-21
<i>eV EAFE All Cap Value Net Median</i>				18.5	5.7	-8.4	1.4	1.0	4.0	4.4	-0.7	Mar-21
<i>eV EAFE All Cap Value Net Rank</i>				41	16	13	--	--	--	--	4	Mar-21

## Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total International Emerging Market Equity</b>	<b>13,602,632</b>	<b>5.9</b>	<b>5.9</b>	<b>6.7</b>	<b>-2.0</b>	<b>-16.1</b>	<b>2.0</b>	<b>1.6</b>	<b>7.7</b>	<b>3.3</b>	<b>3.8</b>	<b>Feb-12</b>
<i>MSCI Emerging Markets</i>				9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.9	Feb-12
DFA Emerging Markets Value Fund (Net)	6,670,163	2.9	49.0	10.3	-0.5	-10.7	1.0	-0.1	6.9	1.8	2.1	Feb-12
<i>MSCI Emerging Markets</i>				9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.9	Feb-12
<i>MSCI Emerging Markets Value NR USD</i>				9.8	-2.3	-15.8	-2.6	-1.6	4.5	0.1	0.3	Feb-12
<i>eV Emg Mkts Equity Net Median</i>				10.3	-0.7	-19.9	-1.6	-0.7	5.4	2.1	2.7	Feb-12
<i>eV Emg Mkts Equity Net Rank</i>				51	48	11	28	38	23	59	68	Feb-12
GQG Partners Emerging Markets Equity	6,932,469	3.0	51.0	3.4	-3.3	-20.7	1.9	2.4	--	--	5.2	Jul-17
GQG Partners Emerging Markets Equity (Net)				3.2	-3.6	-21.2	1.3	1.8	--	--	4.6	
<i>MSCI Emerging Markets</i>				9.7	-3.0	-20.1	-2.7	-1.4	5.2	1.4	1.4	Jul-17
<i>MSCI Emerging Markets Growth NR USD</i>				9.6	-3.7	-24.0	-2.9	-1.3	5.7	2.7	2.0	Jul-17
<i>eV Emg Mkts Equity Gross Median</i>				10.4	-0.6	-19.4	-1.2	-0.1	6.2	2.9	2.6	Jul-17
<i>eV Emg Mkts Equity Gross Rank</i>				98	79	62	24	16	--	--	13	Jul-17
<b>Total Investment Grade Bonds</b>	<b>26,409,110</b>	<b>11.4</b>	<b>11.4</b>	<b>1.9</b>	<b>-2.6</b>	<b>-12.0</b>	<b>-2.4</b>	<b>0.2</b>	<b>0.9</b>	<b>1.1</b>	<b>4.1</b>	<b>Oct-00</b>
<i>Bloomberg US Aggregate TR</i>				1.9	-3.0	-13.0	-2.7	0.0	0.9	1.1	3.8	Oct-00
<i>Bloomberg US Universal TR</i>				2.2	-2.3	-13.0	-2.5	0.2	1.3	1.3	4.1	Oct-00
Northern Trust 1-5 Year Credit Bond Index Fund	3,961,680	1.7	15.0	1.8	-0.4	-5.8	-0.5	1.2	1.5	--	1.4	Dec-15
Northern Trust 1-5 Year Credit Bond Index Fund (Net)				1.7	-0.4	-5.9	-0.6	1.1	1.4	--	1.3	
<i>Bloomberg US Credit 1-5 Yr TR</i>				1.8	-0.2	-5.6	-0.4	1.3	1.6	1.5	1.5	Dec-15
<i>eV US Short Duration Fixed Inc Gross Median</i>				1.1	-0.1	-3.4	0.1	1.3	1.4	1.3	1.3	Dec-15
<i>eV US Short Duration Fixed Inc Gross Rank</i>				7	63	96	89	60	38	--	39	Dec-15



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

### Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Northern Trust Barclays Aggregate Bond Index	22,447,430	9.7	85.0	1.9	-3.0	-13.0	-2.7	0.0	0.9	1.0	4.0	Oct-99
Northern Trust Barclays Aggregate Bond Index (Net)				1.9	-3.0	-13.1	-2.8	0.0	0.8	0.9	3.9	
<i>Bloomberg US Aggregate TR</i>				1.9	-3.0	-13.0	-2.7	0.0	0.9	1.1	3.9	Oct-99
<i>eV US Core Fixed Inc Gross Median</i>				1.9	-2.7	-12.8	-2.1	0.5	1.4	1.5	4.4	Oct-99
<i>eV US Core Fixed Inc Gross Rank</i>				48	72	67	94	95	97	98	96	Oct-99
<b>Total TIPS</b>	<b>4,357,052</b>	<b>1.9</b>	<b>1.9</b>	<b>1.3</b>	<b>-2.6</b>	<b>-7.5</b>	<b>1.9</b>	<b>2.5</b>	<b>2.6</b>	<b>--</b>	<b>1.8</b>	<b>Nov-13</b>
<i>Bloomberg US TIPS TR</i>				2.0	-3.2	-11.8	1.2	2.1	2.6	1.1	1.9	Nov-13
<i>Bloomberg US TIPS 1-10 Yr TR</i>				1.6	-2.4	-7.3	2.0	2.5	2.6	1.3	1.8	Nov-13
IR&M 1-10 Year Index	4,357,052	1.9	100.0	1.3	-2.6	-7.5	1.9	2.5	2.6	--	1.8	Nov-13
IR&M 1-10 Year Index (Net)				1.3	-2.7	-7.5	1.9	2.4	2.5	--	1.8	
<i>Bloomberg US TIPS 1-10 Yr TR</i>				1.6	-2.4	-7.3	2.0	2.5	2.6	1.3	1.8	Nov-13
<i>eV US TIPS / Inflation Fixed Inc Gross Median</i>				2.1	-2.9	-11.3	1.5	2.4	2.7	1.3	2.0	Nov-13
<i>eV US TIPS / Inflation Fixed Inc Gross Rank</i>				99	39	28	38	43	89	--	89	Nov-13
<b>Total High Yield Bonds*</b>	<b>8,476,261</b>	<b>3.6</b>	<b>3.6</b>	<b>3.2</b>	<b>2.1</b>	<b>-13.2</b>	<b>-0.2</b>	<b>2.0</b>	<b>4.7</b>	<b>3.9</b>	<b>6.3</b>	<b>Jul-09</b>
<i>Bloomberg US High Yield TR</i>				4.2	3.5	-11.2	0.0	2.3	5.0	4.0	7.1	Jul-09
Sky Harbor High Yield	6,654,805	2.9	78.5	3.2	2.1	-13.2	-0.2	2.0	4.7	3.9	4.0	Dec-12
Sky Harbor High Yield (Net)				3.1	2.0	-13.4	-0.5	1.7	4.3	3.5	3.6	
<i>Bloomberg US High Yield TR</i>				4.2	3.5	-11.2	0.0	2.3	5.0	4.0	4.2	Dec-12
<i>eV US High Yield Fixed Inc Gross Median</i>				4.1	3.8	-9.5	0.8	2.8	4.9	4.3	4.4	Dec-12
<i>eV US High Yield Fixed Inc Gross Rank</i>				84	93	96	84	93	64	71	74	Dec-12
Summit Credit Fund II, L.P.	719,885	0.3	8.5									
Summit Partners Credit Fund III, L.P.	1,101,571	0.5	13.0									

Note: Total High Yield Bonds performance excludes the performance from Summit Credit Fund II and Summit Credit Fund III. Market values for both funds are as of 9/30/2022 adjusted for subsequent cash flows.



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Private Credit</b>	<b>4,796,721</b>	<b>2.1</b>	<b>2.1</b>									
Angelo Gordon Direct Lending IV	4,796,721	2.1	100.0									
<b>Total Real Estate</b>	<b>29,661,321</b>	<b>12.8</b>	<b>12.8</b>	<b>-0.7</b>	<b>-1.6</b>	<b>-2.2</b>	<b>8.2</b>	<b>8.5</b>	<b>8.2</b>	<b>8.4</b>	<b>8.9</b>	<b>Mar-05</b>
<i>NCREIF ODCE Equal Weighted</i>				<i>-4.9</i>	<i>-4.0</i>	<i>8.4</i>	<i>10.6</i>	<i>9.2</i>	<i>9.0</i>	<i>10.4</i>	<i>8.2</i>	<i>Mar-05</i>
Vanguard REIT Index (Net)	4,848,340	2.1	16.3	4.3	-7.2	-26.2	-0.4	3.7	4.5	--	5.9	Mar-14
<i>Spliced Vanguard REIT Benchmark</i>				<i>4.3</i>	<i>-7.1</i>	<i>-26.1</i>	<i>-0.3</i>	<i>3.8</i>	<i>4.6</i>	<i>6.5</i>	<i>6.0</i>	<i>Mar-14</i>
<i>eV US REIT Net Median</i>				<i>4.1</i>	<i>-6.6</i>	<i>-25.4</i>	<i>0.6</i>	<i>4.5</i>	<i>5.1</i>	<i>6.5</i>	<i>6.7</i>	<i>Mar-14</i>
<i>eV US REIT Net Rank</i>				<i>40</i>	<i>65</i>	<i>66</i>	<i>77</i>	<i>68</i>	<i>55</i>	<i>--</i>	<i>70</i>	<i>Mar-14</i>
A.E.W Core Property Trust (Net)	15,473,017	6.7	52.2	-5.1	-3.4	7.5	9.4	8.0	7.8	--	8.9	Jul-13
<i>NCREIF ODCE (net)</i>				<i>-5.2</i>	<i>-4.9</i>	<i>6.5</i>	<i>9.0</i>	<i>7.7</i>	<i>7.6</i>	<i>9.1</i>	<i>8.9</i>	<i>Jul-13</i>
DRA Growth and Income Fund VIII	876,482	0.4	3.0									
DRA Growth and Income Fund IX	1,892,754	0.8	6.4									
DRA Growth and Income Fund X, LLC	3,201,839	1.4	10.8									
Carlyle Realty Partners VIII, L.P.	1,268,014	0.5	4.3									
Torchlight Debt Fund VII, L.P.	2,100,875	0.9	7.1									

Private Credit and Real Estate market values, with the exception of Vanguard REIT and A.E.W Core Property Trust, are as of 9/30/2022 adjusted for subsequent cash flows. A.E.W. Core property Trust and Vanguard REIT market values are as of 12/31/2022



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Natural Resources (Net)</b>	<b>7,416,999</b>	<b>3.2</b>	<b>3.2</b>	<b>18.9</b>	<b>8.8</b>	<b>-0.6</b>	<b>6.1</b>	<b>7.0</b>	<b>--</b>	<b>--</b>	<b>6.4</b>	<b>Jul-17</b>
<i>Bloomberg Commodity Index TR USD</i>				2.2	-2.0	16.1	12.7	6.4	6.5	-1.3	7.2	Jul-17
<i>S&amp;P Global Natural Resources Index TR USD</i>				17.2	11.9	10.3	11.6	7.3	12.7	4.9	10.3	Jul-17
First Eagle Gold Fund (Net)	2,946,186	1.3	39.7	18.1	8.0	-1.3	5.8	6.8	--	--	6.3	Jul-17
<i>FTSE Gold Mines PR USD</i>				20.2	1.8	-15.5	-3.1	2.6	10.3	-4.7	3.4	Jul-17
<i>S&amp;P Global LargeMidCap Commodity and Resources GR USD</i>				14.0	12.4	15.5	14.5	9.7	13.9	4.8	12.4	Jul-17
SSGA Global Natural Resources Index	4,470,813	1.9	60.3									
SSGA Global Natural Resources Index (Net)												
<b>Total Infrastructure</b>	<b>10,278,585</b>	<b>4.4</b>	<b>4.4</b>									
<i>DJ Brookfield Global Infrastructure Net TR USD</i>				9.5	-2.6	-3.9	2.3	4.9	7.5	6.7	7.5	Aug-20
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	1,151,476	0.5	11.2									
JP Morgan Infrastructure Fund	9,127,108	3.9	88.8	0.0	2.5	--	--	--	--	--	4.5	Apr-22
<i>DJ Brookfield Global Infrastructure Net TR USD</i>				9.5	-2.6	-3.9	2.3	4.9	7.5	6.7	-6.9	Apr-22

SSGA Global Natural Resources Index was funded on 12/19/2022. JP Morgan Infrastructure Fund market value is as of 9/30/2022 adjusted for subsequent cash flows



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
<b>Total Private Equity</b>	<b>9,818,654</b>	<b>4.2</b>	<b>4.2</b>									
Arboretum Ventures V, L.P.	1,482,245	0.6	15.1									
Arboretum Ventures VI, L.P.	11,043	0.0	0.1									
Ironsides Direct Investment Fund V, L.P.	1,527,284	0.7	15.6									
Ironsides Partnership Fund V, L.P.	908,446	0.4	9.3									
Strategic Investors Fund VIII	4,810,318	2.1	49.0									
Mesirow Financial Private Equity Fund VIII-A	1,079,318	0.5	11.0									
<b>Total Cash</b>	<b>9,852,693</b>	<b>4.2</b>	<b>4.2</b>									
NT Cash	9,852,693	4.2	100.0									

\*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Private Equity market values are as of 9/30/2022 adjusted for subsequent flows.



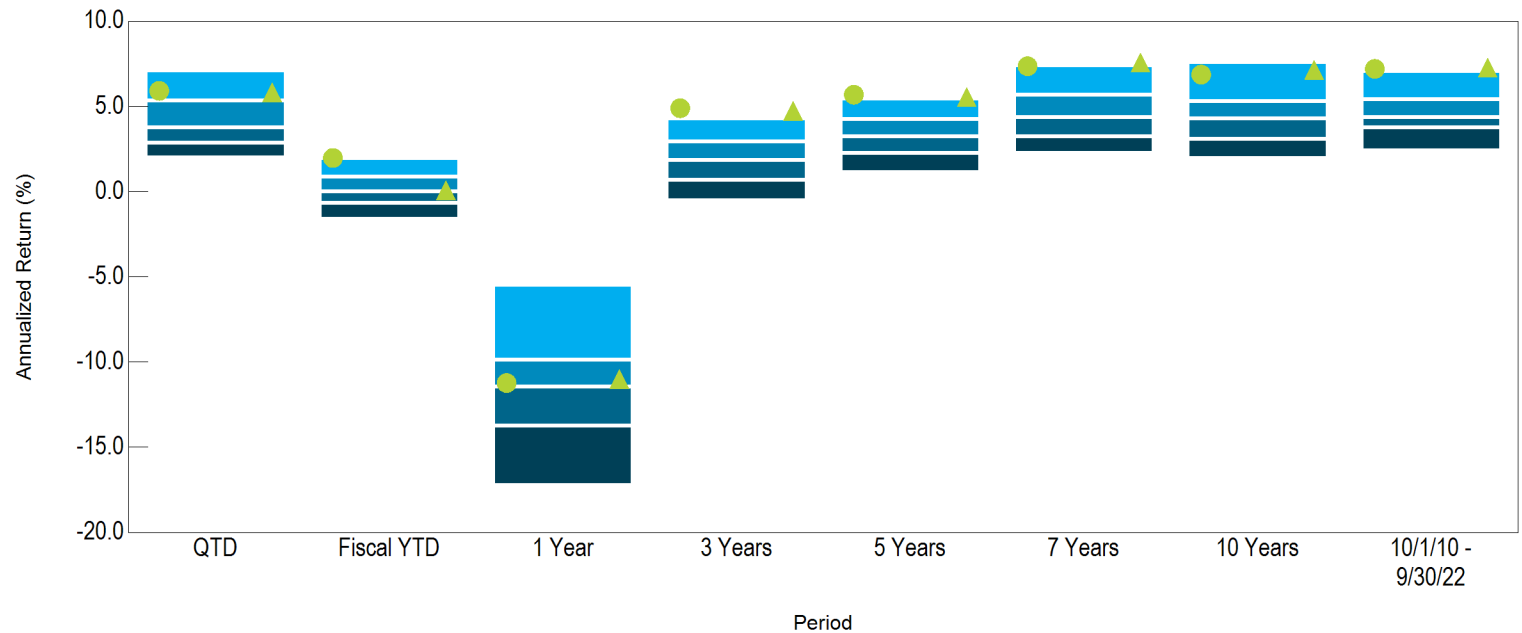
## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

Non-Marketable Securities Overview								
As of December 31, 2022								
Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	IRR
Infrastructure	BlackRock Global Renewable Power Infrastructure Fund III, L.P.	2020	\$3,000,000	\$1,371,534	\$220,776	\$1,151,476	\$1,372,252	NM
	<b>Total Infrastructure</b>		<b>\$3,000,000</b>	<b>\$1,371,534</b>	<b>\$220,776</b>	<b>\$1,151,476</b>	<b>\$1,372,252</b>	-
Private Debt	Angelo Gordon Direct Lending IV	2021	\$5,000,000	\$4,633,189	\$0	\$4,796,721	\$4,796,721	NM
	<b>Total Private Debt</b>		<b>\$5,000,000</b>	<b>\$4,633,189</b>	<b>\$0</b>	<b>\$4,796,721</b>	<b>\$4,796,721</b>	-
Private Equity	Arboretum Ventures V, L.P.	2019	\$2,000,000	\$1,326,000	\$0	\$1,482,245	\$1,482,245	NM
	Arboretum Ventures VI, L.P.	2022	\$2,000,000	\$13,000	\$0	\$11,043	\$11,043	NM
	Ironsides Direct Investment Fund V, L.P.	2019	\$1,000,000	\$1,227,408	\$490,763	\$1,527,284	\$2,018,047	21.9
	Ironsides Partnership Fund V, L.P.	2020	\$1,000,000	\$646,000	\$0	\$908,446	\$908,446	34.8
	Strategic Investors Fund VIII	2017	\$2,000,000	\$1,500,000	\$301,000	\$4,810,318	\$5,111,318	37.5
	Mesirow Financial Private Equity Fund VIII-A	2019	\$3,000,000	\$1,067,800	\$0	\$1,079,318	\$1,079,318	NM
	<b>Total Private Equity</b>		<b>\$11,000,000</b>	<b>\$5,780,208</b>	<b>\$791,763</b>	<b>\$9,818,654</b>	<b>\$10,610,417</b>	-
Real Estate	DRA Growth and Income Fund VIII	2014	\$2,500,000	\$2,855,413	\$2,869,770	\$876,482	\$3,746,252	8.4
	DRA Growth and Income Fund IX	2017	\$2,500,000	\$2,645,061	\$2,485,588	\$1,892,754	\$4,378,342	18.8
	DRA Growth and Income Fund X, LLC	2020	\$4,000,000	\$3,016,754	\$473,119	\$3,201,839	\$3,674,958	29.0
	Carlyle Realty Partners VIII, L.P.	2017	\$2,000,000	\$853,040	\$463,648	\$1,268,014	\$1,731,662	32.5
	Torchlight Debt Fund VII, L.P.	2019	\$4,000,000	\$2,202,446	\$202,446	\$2,100,875	\$2,303,321	5.8
	<b>Total Real Estate</b>		<b>\$15,000,000</b>	<b>\$11,572,714</b>	<b>\$6,494,571</b>	<b>\$9,339,964</b>	<b>\$15,834,535</b>	-
US Fixed Income High Yield	Summit Credit Fund II, L.P.	2011	\$2,300,000	\$3,205,095	\$3,027,648	\$719,885	\$3,747,533	6.0
	Summit Partners Credit Fund III, L.P.	2018	\$2,500,000	\$2,888,873	\$2,765,434	\$1,101,571	\$3,867,005	18.0
	<b>Total US Fixed Income High Yield</b>		<b>\$4,800,000</b>	<b>\$6,093,968</b>	<b>\$5,793,082</b>	<b>\$1,821,456</b>	<b>\$7,614,538</b>	-
	<b>Total Account</b>		<b>\$38,800,000</b>	<b>\$29,451,613</b>	<b>\$13,300,191</b>	<b>\$26,928,272</b>	<b>\$40,228,463</b>	-

Strategic Investors Fund VIII IRR is as of 6/30/2022. All other remaining IRR's are as of 9/30/2022.

#### InvMetrics Health & Welfare \$50mm - \$250mm Net Accounts



	Period															
	QTD		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years		10/1/10 - 9/30/22	
Return (Rank)	5th	25th	5th	25th	5th	25th	5th	25th	5th	25th	5th	25th	5th	25th	5th	25th
5th Percentile	7.1	2.0	-5.5	4.3	5.4	7.4	7.6	7.1								
25th Percentile	5.4	0.9	-9.9	3.0	4.3	5.7	5.3	5.5								
Median	3.8	0.0	-11.4	1.9	3.3	4.4	4.3	4.4								
75th Percentile	2.9	-0.6	-13.7	0.7	2.3	3.3	3.1	3.8								
95th Percentile	2.0	-1.6	-17.2	-0.5	1.2	2.3	2.0	2.4								
# of Portfolios	74	74	74	74	72	66	58	49								
● Total Fund Aggregate	5.9	(17)	2.0	(5)	-11.2	(44)	4.9	(1)	5.7	(4)	7.4	(6)	6.9	(14)	7.2	(4)
▲ Policy Benchmark	5.8	(18)	0.1	(46)	-11.0	(39)	4.7	(3)	5.6	(5)	7.6	(4)	7.1	(8)	7.3	(3)



## **VEBA Detail**



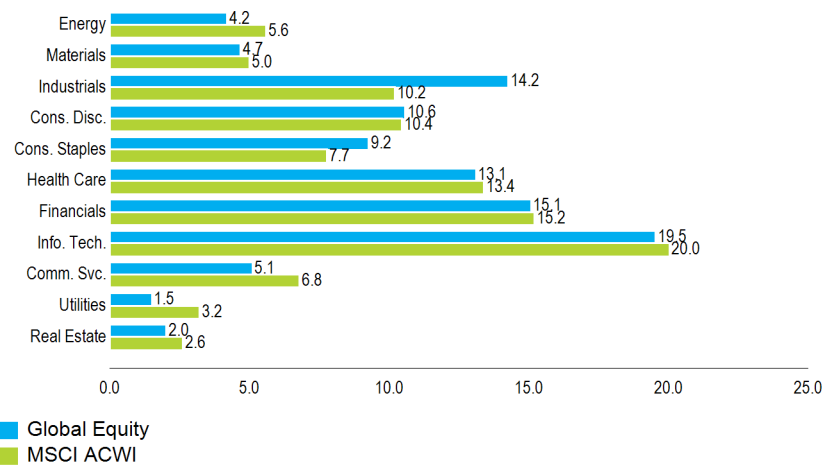
## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Global Equity | As of December 31, 2022

Asset Allocation on December 31, 2022		
	Actual	Actual
Artisan International Value	\$14,882,343	12.3%
DFA Emerging Markets Value Fund	\$6,670,163	5.5%
GQG Partners Emerging Markets Equity	\$6,932,469	5.7%
Loomis Sayles Small Cap Value Equity	\$4,275,167	3.5%
Northern Trust Russell 1000 Index	\$27,703,088	22.8%
RhumbLine HEDI	\$41,541,043	34.2%
RhumbLine S&P 400 Index	\$6,647,921	5.5%
WCM Focused Growth International	\$12,683,384	10.5%
<b>Total</b>	<b>\$121,335,578</b>	<b>100.0%</b>

Global Equity Characteristics			
	Portfolio	Index	Portfolio
	Q4-22	Q4-22	Q3-22
<b>Market Value</b>			
Market Value (\$M)	121.3	--	109.6
Number Of Holdings	4495	2883	4561
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	241.3	274.2	273.5
Median Market Cap (\$B)	2.7	11.9	2.3
P/E Ratio	16.9	16.1	14.8
Yield	2.3	2.4	2.5
EPS Growth - 5 Yrs.	15.5	15.1	15.5
Price to Book	3.4	3.2	3.1

#### Sector Allocation (%) vs MSCI ACWI



#### Top Holdings

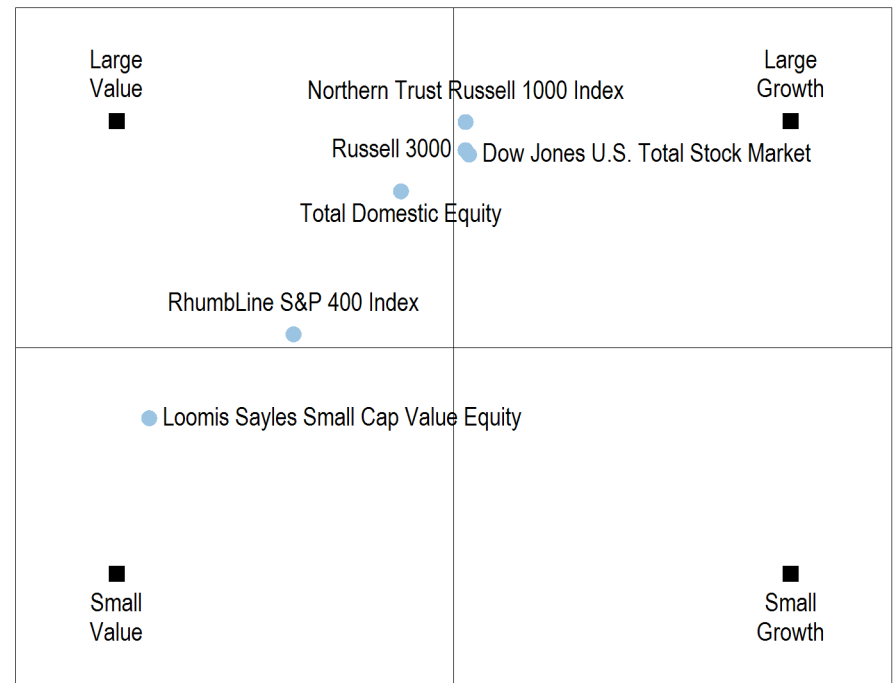
APPLE INC	3.1%
MICROSOFT CORP	3.0%
BERKSHIRE HATHAWAY INC	1.0%
AMAZON.COM INC	1.0%
ALPHABET INC	0.9%
ALPHABET INC	0.9%
JOHNSON & JOHNSON	0.9%
UNITEDHEALTH GROUP INC	0.9%
ARCH CAPITAL GROUP LTD	0.8%
NOVARTIS AG	0.7%
<b>Total</b>	<b>13.2%</b>

Global Equity Region Allocation			
vs MSCI ACWI			
Region	% of Total	% of Bench	% Diff
North America ex U.S.	1.8%	3.0%	-1.3%
United States	66.0%	60.4%	5.6%
Europe Ex U.K.	13.7%	12.6%	1.2%
United Kingdom	3.7%	3.9%	-0.2%
Pacific Basin Ex Japan	1.3%	3.2%	-1.9%
Japan	0.7%	5.6%	-4.9%
Emerging Markets	11.9%	11.1%	0.8%
Other	1.1%	0.3%	0.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

#### Asset Allocation on December 31, 2022

	Actual	Actual
Loomis Sayles Small Cap Value Equity	\$4,275,167	5.3%
Northern Trust Russell 1000 Index	\$27,703,088	34.6%
RhumbLine HEDI	\$41,541,043	51.8%
RhumbLine S&P 400 Index	\$6,647,921	8.3%
<b>Total</b>	<b>\$80,167,218</b>	<b>100.0%</b>

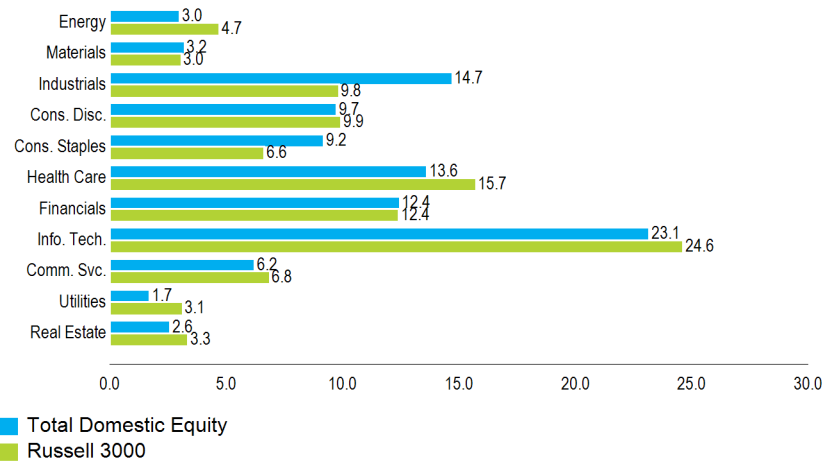
#### Total Domestic Equity Style Map 3 Years Ending December 31, 2022



Total Domestic Equity | As of December 31, 2022

Total Domestic Equity Characteristics			
	Portfolio	Index	Portfolio
	Q4-22	Q4-22	Q3-22
Market Value			
Market Value (\$M)	80.2	--	73.9
Number Of Holdings	1225	2960	1237
Characteristics			
Weighted Avg. Market Cap. (\$B)	325.5	360.3	360.4
Median Market Cap (\$B)	9.0	2.5	8.4
P/E Ratio	19.4	18.5	18.4
Yield	1.7	1.7	1.8
EPS Growth - 5 Yrs.	16.2	17.2	16.7
Price to Book	3.9	3.6	3.7

Sector Allocation (%) vs Russell 3000



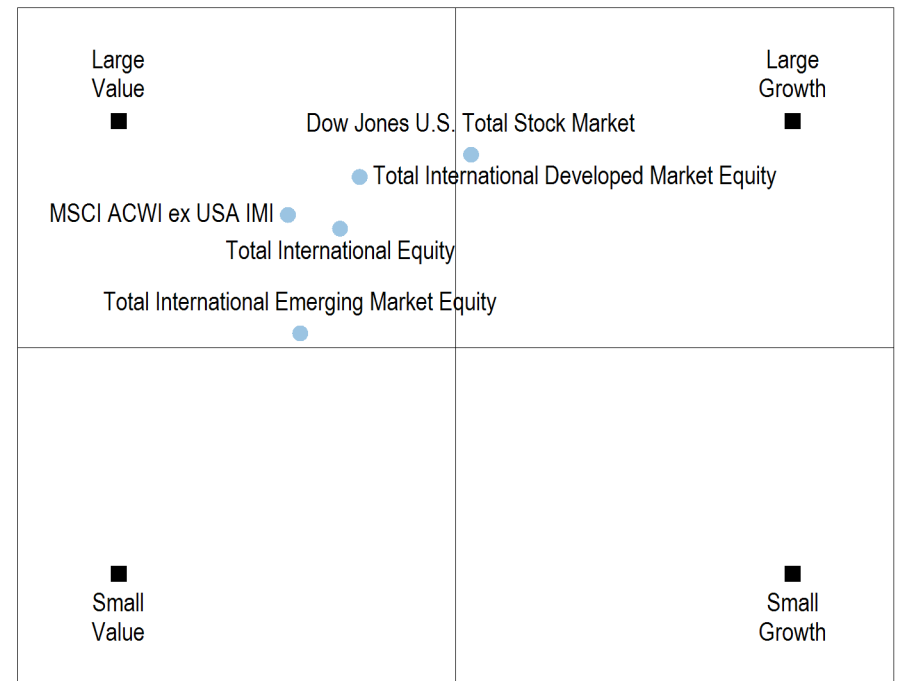
Top Holdings

APPLE INC	4.7%
MICROSOFT CORP	4.5%
BERKSHIRE HATHAWAY INC	1.5%
AMAZON.COM INC	1.5%
ALPHABET INC	1.4%
ALPHABET INC	1.4%
JOHNSON & JOHNSON	1.3%
UNITEDHEALTH GROUP INC	1.3%
PROCTER & GAMBLE CO (THE)	1.0%
VISA INC	1.0%
<b>Total</b>	<b>19.6%</b>

#### Asset Allocation on December 31, 2022

	Actual	Actual
Artisan International Value	\$14,882,343	36.1%
DFA Emerging Markets Value Fund	\$6,670,163	16.2%
GQG Partners Emerging Markets Equity	\$6,932,469	16.8%
WCM Focused Growth International	\$12,683,384	30.8%
<b>Total</b>	<b>\$41,168,360</b>	<b>100.0%</b>

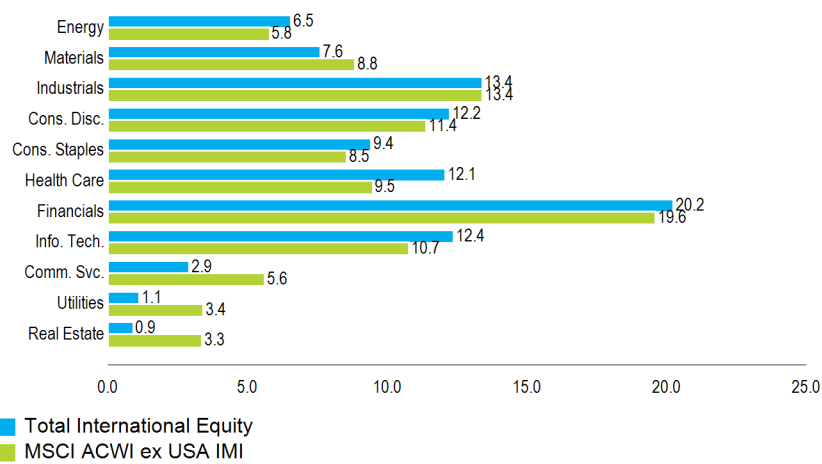
#### Total International Equity Style Map 3 Years Ending December 31, 2022



### Total International Equity | As of December 31, 2022

Total International Equity Characteristics			
	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	41.2	--	35.7
Number Of Holdings	3286	6585	3339
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	72.2	69.8	66.0
Median Market Cap (\$B)	0.5	1.6	0.5
P/E Ratio	13.0	12.6	9.9
Yield	3.6	3.4	4.4
EPS Growth - 5 Yrs.	14.3	11.5	12.6
Price to Book	2.5	2.4	2.1

### Sector Allocation (%) vs MSCI ACWI ex USA IMI



### Top Holdings

ARCH CAPITAL GROUP LTD	2.4%
NOVARTIS AG	2.2%
DANONE	2.0%
COMPASS GROUP PLC	1.7%
SAMSUNG ELECTRONICS CO LTD	1.7%
CANADIAN PACIFIC RAILWAY LTD	1.5%
ABB LTD	1.5%
NOVO NORDISK 'B'	1.4%
WILLIS TOWERS WATSON PLC	1.4%
SAFRAN SA	1.3%
<b>Total</b>	<b>17.1%</b>



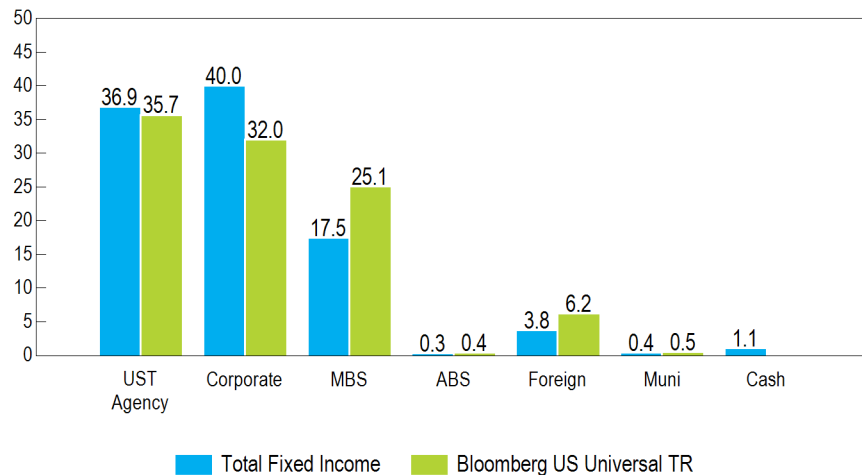
Total International Equity Region Allocation				
vs MSCI ACWI ex USA IMI				
Region	% of Total	% of Bench	% Diff	
North America ex U.S.	5.1%	7.6%	-2.6%	
United States	5.3%	0.0%	5.3%	
Europe Ex U.K.	36.4%	30.5%	5.9%	
United Kingdom	9.7%	9.8%	-0.1%	
Pacific Basin Ex Japan	3.7%	8.4%	-4.7%	
Japan	2.0%	15.0%	-13.0%	
Emerging Markets	35.2%	27.7%	7.6%	
Other	2.5%	0.9%	1.6%	
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>	

### Total Fixed Income | As of December 31, 2022

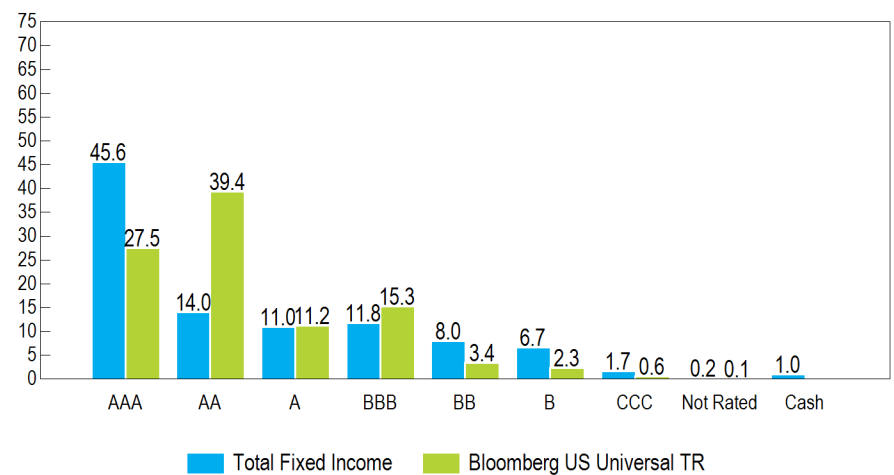
Asset Allocation on December 31, 2022		
	Actual	Actual
Angelo Gordon Direct Lending IV	\$4,796,721	10.9%
IR&M 1-10 Year Index	\$4,357,052	9.9%
Northern Trust 1-5 Year Credit Bond Index Fund	\$3,961,680	9.0%
Northern Trust Barclays Aggregate Bond Index	\$22,447,430	51.0%
Sky Harbor High Yield	\$6,654,805	15.1%
Summit Credit Fund II, L.P.	\$719,885	1.6%
Summit Partners Credit Fund III, L.P.	\$1,101,571	2.5%
<b>Total</b>	<b>\$44,039,144</b>	<b>100.0%</b>

Total Fixed Income Fixed Income Characteristics vs. Bloomberg US Universal TR			
	Portfolio	Index	Portfolio
	Q4-22	Q4-22	Q3-22
Fixed Income Characteristics			
Yield to Maturity	5.0	5.1	5.9
Average Duration	5.5	6.0	4.8
Average Quality	A	AA	A
Weighted Average Maturity	7.1	12.2	6.8

### US Sector Allocation



### Credit Quality Allocation



## Retirement System and VEBA Portfolio Reviews

### RhumbLine HEDI | As of December 31, 2022

#### Account Information

Account Name	RhumbLine HEDI
Account Structure	Separate Account
Investment Style	Passive
Inception Date	3/01/20
Account Type	US Equity
Benchmark	Russell 1000 HEDI Moderate GR USD
Universe	eV US Large Cap Core Equity Gross

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
RhumbLine HEDI	8.6	-15.1	--	--	--	--	11.5	Mar-20
RhumbLine HEDI (Net)	8.6	-15.1	--	--	--	--	11.4	
<i>Russell 1000 HEDI Moderate GR USD</i>	8.6	-15.1	8.1	10.7	12.5	13.7	11.5	Mar-20
<i>eV US Large Cap Core Equity Gross Median</i>	8.6	-16.0	8.0	9.4	11.3	12.5	11.8	Mar-20
<i>eV US Large Cap Core Equity Gross Rank</i>	51	42	--	--	--	--	55	Mar-20

#### Top 10 Holdings

MICROSOFT CORP	5.3%
APPLE INC	5.3%
BERKSHIRE HATHAWAY INC	1.8%
ALPHABET INC	1.8%
ALPHABET INC	1.7%
JOHNSON & JOHNSON	1.7%
UNITEDHEALTH GROUP INC	1.6%
AMAZON.COM INC	1.4%
PROCTER & GAMBLE CO (THE)	1.3%
VISA INC	1.2%

#### RhumbLine HEDI Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	119.1	--	109.7
Number Of Holdings	232	1010	230
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	367.2	381.2	403.4
Median Market Cap (\$B)	34.4	12.9	32.1
P/E Ratio	22.1	19.1	21.0
Yield	1.6	1.7	1.7
EPS Growth - 5 Yrs.	15.3	17.3	16.0
Price to Book	4.8	3.8	4.5
<b>Sector Distribution</b>			
Energy	0.9	4.5	0.8
Materials	2.7	3.0	2.6
Industrials	16.8	9.4	16.3
Consumer Discretionary	9.2	9.9	9.9
Consumer Staples	12.2	6.8	11.7
Health Care	13.1	15.6	12.7
Financials	11.9	12.1	11.7
Information Technology	24.6	25.4	25.1
Communication Services	6.6	7.1	7.4
Utilities	0.3	3.1	0.3
Real Estate	1.3	3.1	1.5

### Northern Trust Russell 1000 Index | As of December 31, 2022

#### Account Information

Account Name	Northern Trust Russell 1000 Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	7/01/06
Account Type	US Stock Large Cap Core
Benchmark	Russell 1000
Universe	eV US Large Cap Core Equity Gross

#### Portfolio Performance Summary

	QTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.	S.I. Date
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
Northern Trust Russell 1000 Index	7.2	-19.1	7.3	9.1	11.3	12.4	9.1	Jul-06
Northern Trust Russell 1000 Index (Net)	7.2	-19.1	7.3	9.1	11.2	12.3	9.1	
<i>Russell 1000</i>	<i>7.2</i>	<i>-19.1</i>	<i>7.3</i>	<i>9.1</i>	<i>11.3</i>	<i>12.4</i>	<i>9.1</i>	<i>Jul-06</i>
<i>eV US Large Cap Core Equity Gross Median</i>	<i>8.6</i>	<i>-16.0</i>	<i>8.0</i>	<i>9.4</i>	<i>11.3</i>	<i>12.5</i>	<i>9.4</i>	<i>Jul-06</i>
<i>eV US Large Cap Core Equity Gross Rank</i>	<i>75</i>	<i>78</i>	<i>65</i>	<i>58</i>	<i>54</i>	<i>55</i>	<i>63</i>	<i>Jul-06</i>

#### Top 10 Holdings

APPLE INC	5.5%
MICROSOFT CORP	5.1%
AMAZON.COM INC	2.1%
BERKSHIRE HATHAWAY INC	1.6%
ALPHABET INC	1.5%
UNITEDHEALTH GROUP INC	1.4%
ALPHABET INC	1.3%
JOHNSON & JOHNSON	1.3%
EXXON MOBIL CORP	1.3%
JPMORGAN CHASE & CO	1.1%

#### Northern Trust Russell 1000 Index Characteristics

	Portfolio	Index	Portfolio
	Q4-22	Q4-22	Q3-22
<b>Market Value</b>			
Market Value (\$M)	58.6	--	54.6
Number Of Holdings	1008	1010	1018
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	381.5	381.2	425.3
Median Market Cap (\$B)	12.9	12.9	12.3
P/E Ratio	18.8	19.1	17.8
Yield	1.7	1.7	1.8
EPS Growth - 5 Yrs.	17.3	17.3	17.7
Price to Book	3.8	3.8	3.7
<b>Sector Distribution</b>			
Energy	5.2	4.5	4.7
Materials	2.9	3.0	2.7
Industrials	9.3	9.4	8.5
Consumer Discretionary	9.9	9.9	11.5
Consumer Staples	6.8	6.8	6.4
Health Care	15.5	15.6	14.7
Financials	12.0	12.1	11.4
Information Technology	25.1	25.4	25.9
Communication Services	7.1	7.1	7.8
Utilities	3.0	3.1	2.9
Real Estate	3.1	3.1	3.2

### Northern Trust S&P 400 MidCap Index | As of December 31, 2022

#### Account Information

Account Name	Northern Trust S&P 400 MidCap Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	6/01/07
Account Type	US Stock Mid Cap Core
Benchmark	S&P 400 MidCap
Universe	eV US Mid Cap Equity Gross

#### Portfolio Performance Summary

	QTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.	S.I. Date
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
Northern Trust S&P 400 MidCap Index	10.8	-13.1	7.2	6.7	9.9	10.8	8.2	Jun-07
Northern Trust S&P 400 MidCap Index (Net)	10.8	-13.1	7.2	6.7	9.9	10.7	--	
<i>S&amp;P 400 MidCap</i>	<i>10.8</i>	<i>-13.1</i>	<i>7.2</i>	<i>6.7</i>	<i>9.9</i>	<i>10.8</i>	<i>8.1</i>	<i>Jun-07</i>
<i>eV US Mid Cap Equity Gross Median</i>	<i>9.1</i>	<i>-15.1</i>	<i>6.7</i>	<i>8.0</i>	<i>10.4</i>	<i>11.5</i>	<i>8.6</i>	<i>Jun-07</i>
<i>eV US Mid Cap Equity Gross Rank</i>	<i>35</i>	<i>42</i>	<i>43</i>	<i>74</i>	<i>58</i>	<i>70</i>	<i>65</i>	<i>Jun-07</i>

#### Top 10 Holdings

FAIR ISAAC CORPORATION	0.7%
FIRST HORIZON CORP	0.6%
UNITED THERAPEUTICS CORP	0.6%
HUBBELL INC	0.6%
RPM INTERNATIONAL INC	0.6%
CARLISLE COS INC	0.6%
RELIANCE STEEL & ALUMINUM CO	0.6%
TORO CO (THE)	0.6%
AECOM	0.6%
NEUROCRINE BIOSCIENCES INC	0.6%

#### Northern Trust S&P 400 MidCap Index Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	10.1	--	9.1
Number Of Holdings	403	401	403
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	6.6	6.7	6.3
Median Market Cap (\$B)	5.2	5.2	4.6
P/E Ratio	13.6	13.5	12.7
Yield	1.8	1.8	2.0
EPS Growth - 5 Yrs.	18.2	18.4	18.5
Price to Book	2.5	2.5	2.4
<b>Sector Distribution</b>			
Energy	3.8	4.0	3.8
Materials	6.3	6.9	6.3
Industrials	19.2	19.1	18.1
Consumer Discretionary	13.3	14.0	12.8
Consumer Staples	3.9	4.6	3.9
Health Care	9.9	10.2	9.9
Financials	14.7	14.8	15.1
Information Technology	11.6	12.9	12.1
Communication Services	2.0	2.0	1.8
Utilities	4.0	3.9	3.8
Real Estate	7.9	7.7	7.8

### Loomis Sayles Small Cap Value | As of December 31, 2022

#### Account Information

Account Name	Loomis Sayles Small Cap Value
Account Structure	Separate Account
Investment Style	Active
Inception Date	4/01/97
Account Type	US Stock Small Cap Value
Benchmark	Russell 2000 Value
Universe	eV US Small Cap Value Equity Gross

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Loomis Sayles Small Cap Value	11.9	-10.8	5.9	4.7	8.5	9.6	10.4	Apr-97
Loomis Sayles Small Cap Value (Net)	11.7	-11.4	5.1	4.0	7.8	8.9	--	
<i>Russell 2000 Value</i>	<i>8.4</i>	<i>-14.5</i>	<i>4.7</i>	<i>4.1</i>	<i>8.2</i>	<i>8.5</i>	<i>8.6</i>	<i>Apr-97</i>
<i>Russell 2000</i>	<i>6.2</i>	<i>-20.4</i>	<i>3.1</i>	<i>4.1</i>	<i>7.9</i>	<i>9.0</i>	<i>8.0</i>	<i>Apr-97</i>
<i>eV US Small Cap Value Equity Gross Median</i>	<i>11.1</i>	<i>-11.0</i>	<i>7.4</i>	<i>5.7</i>	<i>9.5</i>	<i>10.2</i>	<i>10.7</i>	<i>Apr-97</i>
<i>eV US Small Cap Value Equity Gross Rank</i>	<i>42</i>	<i>48</i>	<i>68</i>	<i>73</i>	<i>71</i>	<i>64</i>	<i>64</i>	<i>Apr-97</i>

#### Top 10 Holdings

HERC HOLDINGS INC	2.1%
WEATHERFORD INTL.	1.7%
RAMBUS INC	1.5%
CROCS INC	1.5%
WINTRUST FINANCIAL CORP.	1.5%
NORTHERN OIL AND GAS INC	1.5%
UNITED THERAPEUTICS CORP	1.4%
AECOM	1.3%
HOME BANCSHARES INC	1.3%
AMERIS BANCORP	1.2%

#### Loomis Sayles Small Cap Value Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	18.9	--	16.9
Number Of Holdings	117	1383	115
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	4.0	2.4	3.8
Median Market Cap (\$B)	3.0	0.9	2.8
P/E Ratio	13.3	10.5	13.9
Yield	1.5	2.3	1.6
EPS Growth - 5 Yrs.	17.6	13.3	14.2
Price to Book	2.1	1.6	2.1
<b>Sector Distribution</b>			
Energy	7.6	6.3	7.8
Materials	4.3	4.0	4.0
Industrials	22.0	13.3	20.5
Consumer Discretionary	7.2	9.8	7.6
Consumer Staples	3.1	2.7	2.8
Health Care	11.8	10.5	11.7
Financials	16.1	28.9	17.6
Information Technology	13.5	5.6	12.8
Communication Services	3.3	2.8	3.8
Utilities	2.7	5.3	2.7
Real Estate	3.0	10.7	3.6

## Northern Trust MSCI EAFE Index | As of December 31, 2022

### Account Information

Account Name	Northern Trust MSCI EAFE Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	12/01/14
Account Type	Non-US Stock Developed
Benchmark	MSCI EAFE
Universe	eV EAFE Core Equity Gross

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Northern Trust MSCI EAFE Index	18.5	-13.9	1.3	2.0	4.9	--	3.7	Dec-14
Northern Trust MSCI EAFE Index (Net)	18.5	-13.9	1.3	2.0	4.9	--	3.7	
<i>MSCI EAFE</i>	17.3	-14.5	0.9	1.5	4.5	4.7	3.4	Dec-14
<i>eV EAFE Core Equity Gross Median</i>	16.3	-16.4	1.4	1.9	5.2	6.0	4.6	Dec-14
<i>eV EAFE Core Equity Gross Rank</i>	8	30	51	48	62	--	76	Dec-14

### Top 10 Holdings

NESTLE SA, CHAM UND VEVEY	2.2%
NOVO NORDISK 'B'	1.6%
ROCHE HOLDING AG	1.6%
ASML HOLDING NV	1.5%
ASTRAZENECA PLC	1.5%
SHELL PLC	1.4%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.4%
NOVARTIS AG	1.4%
TOTALENERGIES SE	1.1%
BHP GROUP LTD	1.1%

### Northern Trust MSCI EAFE Index Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	24.5	--	20.6
Number Of Holdings	875	796	873
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	79.1	78.1	68.4
Median Market Cap (\$B)	11.1	11.8	9.9
P/E Ratio	13.8	13.7	12.3
Yield	3.4	3.4	3.7
EPS Growth - 5 Yrs.	9.8	9.9	11.1
Price to Book	2.5	2.4	2.4
<b>Sector Distribution</b>			
Energy	4.9	5.0	4.8
Materials	7.8	7.8	7.3
Industrials	14.7	15.1	14.4
Consumer Discretionary	11.0	11.1	10.7
Consumer Staples	10.2	10.5	10.8
Health Care	13.5	13.6	13.5
Financials	18.8	18.7	17.4
Information Technology	7.7	7.8	7.6
Communication Services	4.5	4.5	4.7
Utilities	3.5	3.5	3.3
Real Estate	2.6	2.6	2.7





## City of Ann Arbor Employees' Retirement System

### First Eagle Gold Fund | As of December 31, 2022

#### Account Information

Account Name	First Eagle Gold Fund
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	7/01/17
Account Type	Other
Benchmark	FTSE Gold Mines PR USD
Universe	

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
First Eagle Gold Fund (Net)	18.1	-1.3	5.8	6.8	--	--	6.3	Jul-17
<i>FTSE Gold Mines PR USD</i>	20.2	-15.5	-3.1	2.6	10.3	-4.7	3.4	Jul-17
<i>S&amp;P Global Natural Resources Index TR USD</i>	17.2	10.3	11.6	7.3	12.7	4.9	10.3	Jul-17

#### Top 10 Holdings

WHEATON PRECIOUS METALS CORP	14.5%
NEWMONT CORPORATION	12.1%
BARRICK GOLD CORP	9.7%
ALAMOS GOLD INC	7.2%
AGNICO EAGLE MINES LTD	7.1%
NOVAGOLD RESOURCES INC	7.0%
NEWCREST MINING LTD	6.5%
ROYAL GOLD INC	6.4%
FRANCO-NEVADA CORP	6.0%
B2GOLD CORP	5.6%

#### First Eagle Gold Fund Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	10.3	--	8.7
Number Of Holdings	20	1508	20
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	15.9	295.1	14.0
Median Market Cap (\$B)	7.7	16.4	5.5
P/E Ratio	25.5	17.0	20.4
Yield	2.1	2.3	2.5
EPS Growth - 5 Yrs.	23.9	15.0	24.3
Price to Book	1.9	3.3	1.8
<b>Sector Distribution</b>			
Energy	0.0	5.7	0.0
Materials	97.3	4.5	93.5
Industrials	0.0	10.7	0.0
Consumer Discretionary	0.0	10.0	0.0
Consumer Staples	0.0	7.9	0.0
Health Care	0.0	14.5	0.0
Financials	0.0	14.3	0.0
Information Technology	0.0	20.2	0.0
Communication Services	0.0	6.4	0.0
Utilities	0.0	3.2	0.0
Real Estate	0.0	2.7	0.0

## WCM Focused Growth International | As of December 31, 2022

### Account Information

Account Name	WCM Focused Growth International
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	8/01/17
Account Type	Non-US Stock Developed
Benchmark	MSCI ACWI ex USA
Universe	eV EAFE Core Equity Gross

### Portfolio Performance Summary

	QTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.	S.I. Date
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
WCM Focused Growth International (Net)	21.9	-22.6	6.6	8.8	--	--	9.5	Aug-17
MSCI ACWI ex USA	14.3	-16.0	0.1	0.9	4.8	3.8	2.2	Aug-17
MSCI EAFE Growth	15.0	-22.9	0.5	2.5	5.1	5.6	3.7	Aug-17
eV EAFE Core Equity Gross Median	16.3	-16.4	1.4	1.9	5.2	6.0	3.3	Aug-17
eV EAFE Core Equity Gross Rank	1	86	3	1	--	--	1	Aug-17

### Top 10 Holdings

CANADIAN PACIFIC RAILWAY LTD	5.1%
NOVO NORDISK 'B'	4.7%
AON PLC	4.0%
FERRARI NV	3.6%
EXPERIAN PLC	3.5%
ACCENTURE PLC	3.5%
ASTRAZENECA PLC	3.4%
SCHNEIDER ELECTRIC SA	3.3%
CSL LTD	3.3%
ALCON INC	3.2%

### WCM Focused Growth International Characteristics

	Portfolio	Index	Portfolio
	Q4-22	Q4-22	Q3-22
<b>Market Value</b>			
Market Value (\$M)	26.2	--	21.5
Number Of Holdings	36	2259	40
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	91.7	80.7	80.2
Median Market Cap (\$B)	41.0	8.9	31.4
P/E Ratio	31.9	12.8	18.7
Yield	1.1	3.4	2.9
EPS Growth - 5 Yrs.	17.4	11.6	8.3
Price to Book	4.7	2.4	2.4
<b>Sector Distribution</b>			
Energy	0.0	6.0	2.1
Materials	5.2	8.4	8.4
Industrials	21.2	12.3	13.6
Consumer Discretionary	13.8	11.4	10.5
Consumer Staples	5.6	8.9	3.6
Health Care	26.1	9.8	13.0
Financials	9.4	21.0	21.5
Information Technology	18.6	10.8	13.4
Communication Services	0.0	5.9	3.7
Utilities	0.0	3.4	4.4
Real Estate	0.0	2.3	1.3

### Artisan International Value | As of December 31, 2022

#### Account Information

Account Name	Artisan International Value
Account Structure	Mutual Fund
Investment Style	Passive
Inception Date	2/01/21
Account Type	International
Benchmark	MSCI ACWI ex USA
Universe	eV EAFE All Cap Value Net

#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Artisan International Value (Net)	19.0	-6.8	--	--	--	--	5.1	Feb-21
MSCI ACWI ex USA	14.3	-16.0	0.1	0.9	4.8	3.8	-5.1	Feb-21
MSCI EAFE Value	19.6	-5.6	0.6	0.2	3.7	3.5	2.8	Feb-21
eV EAFE All Cap Value Net Median	18.5	-8.4	1.4	1.0	4.0	4.4	0.5	Feb-21
eV EAFE All Cap Value Net Rank	43	19	--	--	--	--	5	Feb-21

#### Top 10 Holdings

ARCH CAPITAL GROUP LTD	6.6%
NOVARTIS AG	5.9%
DANONE	5.3%
COMPASS GROUP PLC	4.7%
SAMSUNG ELECTRONICS CO LTD	4.2%
ABB LTD	4.0%
WILLIS TOWERS WATSON PLC	3.7%
SAFRAN SA	3.6%
HCL TECHNOLOGIES LTD	3.4%
HOLCIM LTD	3.1%

#### Artisan International Value Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	30.8	--	25.9
Number Of Holdings	40	2259	39
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	67.0	80.7	59.9
Median Market Cap (\$B)	29.6	8.9	25.7
P/E Ratio	13.2	12.8	10.5
Yield	2.6	3.4	2.6
EPS Growth - 5 Yrs.	9.3	11.6	13.4
Price to Book	2.3	2.4	2.1
<b>Sector Distribution</b>			
Energy	1.7	6.0	1.8
Materials	4.4	8.4	4.1
Industrials	14.6	12.3	13.8
Consumer Discretionary	18.2	11.4	11.0
Consumer Staples	12.2	8.9	14.5
Health Care	9.0	9.8	7.8
Financials	21.4	21.0	17.3
Information Technology	11.4	10.8	11.3
Communication Services	4.3	5.9	5.4
Utilities	0.0	3.4	0.0
Real Estate	0.0	2.3	0.0

## Dimensional Emerging Markets Value | As of December 31, 2022

### Account Information

Account Name	<b>Dimensional Emerging Markets Value</b>
Account Structure	<b>Mutual Fund</b>
Investment Style	<b>Active</b>
Inception Date	<b>2/01/12</b>
Account Type	<b>Non-US Stock Emerging</b>
Benchmark	<b>MSCI Emerging Markets</b>
Universe	<b>eV Emg Mkts Equity Net</b>

### Portfolio Performance Summary

	QTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.	S.I. Date
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
Dimensional Emerging Markets Value (Net)	10.3	-10.7	1.0	-0.1	6.9	1.8	2.1	Feb-12
<i>MSCI Emerging Markets</i>	9.7	-20.1	-2.7	-1.4	5.2	1.4	1.9	Feb-12
<i>MSCI Emerging Markets Value NR USD</i>	9.8	-15.8	-2.6	-1.6	4.5	0.1	0.3	Feb-12
<i>eV Emg Mkts Equity Net Median</i>	10.3	-19.9	-1.6	-0.7	5.4	2.1	2.7	Feb-12
<i>eV Emg Mkts Equity Net Rank</i>	51	11	28	38	23	59	68	Feb-12

### Top 10 Holdings

RELIANCE INDUSTRIES LTD	3.4%
CHINA CONSTRUCTION BANK CORP	2.6%
PING AN INSURANCE GROUP	1.4%
SK HYNIX INC	1.2%
HON HAI PRECISION INDUSTRY CO LTD	1.2%
INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED	1.1%
AXIS BANK	1.1%
PETROLEO BRASILEIRO S.A.- PETROBRAS	0.9%
ALIBABA GROUP HOLDING LTD	0.9%
SAMSUNG ELECTRONICS CO LTD	0.9%

### Dimensional Emerging Markets Value Characteristics

	Portfolio	Index	Portfolio
	Q4-22	Q4-22	Q3-22
<b>Market Value</b>			
Market Value (\$M)	23.5	--	21.3
Number Of Holdings	3174	1375	3228
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	30.2	95.7	29.9
Median Market Cap (\$B)	0.5	6.5	0.4
P/E Ratio	7.1	11.4	6.4
Yield	5.8	3.4	6.5
EPS Growth - 5 Yrs.	12.5	14.6	11.9
Price to Book	1.6	2.6	1.6
<b>Sector Distribution</b>			
Energy	10.2	4.9	10.4
Materials	15.2	8.9	14.2
Industrials	9.7	6.1	9.2
Consumer Discretionary	8.5	14.1	8.1
Consumer Staples	3.0	6.4	3.1
Health Care	2.5	4.1	2.6
Financials	30.4	22.1	29.6
Information Technology	11.2	18.6	11.6
Communication Services	2.8	9.9	2.9
Utilities	1.5	3.0	1.7
Real Estate	4.7	1.9	4.9

## GQG Partners Emerging Markets Equity | As of December 31, 2022

### Account Information

Account Name	GQG Partners Emerging Markets Equity
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	7/01/17
Account Type	Non-US Stock Emerging
Benchmark	MSCI Emerging Markets
Universe	eV Emg Mkts Equity Gross

### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
GQG Partners Emerging Markets Equity	3.4	-20.7	2.0	2.4	--	--	5.2	Jul-17
MSCI Emerging Markets	9.7	-20.1	-2.7	-1.4	5.2	1.4	1.4	Jul-17
MSCI Emerging Markets Growth NR USD	9.6	-24.0	-2.9	-1.3	5.7	2.7	2.0	Jul-17
eV Emg Mkts Equity Gross Median	10.4	-19.4	-1.2	-0.1	6.2	2.9	2.6	Jul-17
eV Emg Mkts Equity Gross Rank	98	62	24	16	--	--	13	Jul-17

### Top 10 Holdings

ITC LTD	6.5%
VALE SA	6.1%
HOUSING DEVELOPMENT FINANCE CORP LTD	5.3%
PETROLEO BRASILEIRO S.A.- PETROBRAS	4.5%
RELIANCE INDUSTRIES LTD	3.9%
TOTALENERGIES SE	3.9%
ITAU UNIBANCO HOLDING PN	3.0%
ICICI BANK	2.9%
CENTRAIS ELETRICAS BRASILEIRAS SA-ELETRONBRAS	2.9%
PETROLEO BRASILEIRO S.A.- PETROBRAS	2.6%

### GQG Partners Emerging Markets Equity Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	14.3	--	13.8
Number Of Holdings	69	1375	62
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	88.0	95.7	87.0
Median Market Cap (\$B)	29.4	6.5	44.8
P/E Ratio	8.6	11.4	8.2
Yield	8.1	3.4	7.4
EPS Growth - 5 Yrs.	23.9	14.6	18.5
Price to Book	2.3	2.6	2.5
<b>Sector Distribution</b>			
Energy	24.7	4.9	22.5
Materials	11.2	8.9	8.5
Industrials	0.8	6.1	0.0
Consumer Discretionary	0.3	14.1	4.0
Consumer Staples	16.2	6.4	15.9
Health Care	3.3	4.1	3.2
Financials	26.6	22.1	25.4
Information Technology	4.6	18.6	8.9
Communication Services	4.9	9.9	6.3
Utilities	5.0	3.0	3.5
Real Estate	0.7	1.9	0.0

**Account Information**

Account Name	Ironsides Partnership Fund III, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	6/01/15
Account Type	Private Equity
Benchmark	

**Non-Marketable Securities Overview by Account Type**

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ironsides Partnership Fund III, L.P.	2013	\$6,000,000	\$4,011,754	\$6,120,174	\$7,046,001	\$13,166,175	\$1,988,246
	<b>Total Account</b>		<b>\$6,000,000</b>	<b>\$4,011,754</b>	<b>\$6,120,174</b>	<b>\$7,046,001</b>	<b>\$13,166,175</b>	<b>\$1,988,246</b>

**Investment Strategy**

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Ironsides Partnership Fund III IRR is 27.6% as of 9/30/2022

**Account Information**

Account Name	Ironsides Co-Investment Fund III, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	6/01/15
Account Type	Private Equity
Benchmark	

**Non-Marketable Securities Overview by Account Type**

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ironsides Co-Investment Fund III, L.P.	2013	\$6,000,000	\$7,349,055	\$13,944,672	\$2,015,269	\$15,959,941	-\$1,349,055
	<b>Total Account</b>		<b>\$6,000,000</b>	<b>\$7,349,055</b>	<b>\$13,944,672</b>	<b>\$2,015,269</b>	<b>\$15,959,941</b>	<b>-\$1,349,055</b>

**Investment Strategy**

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Ironsides Co-Investment Fund II IRR is 20.8% as of 9/30/2022

**Account Information**

Account Name	Ironsides Direct Investment Fund V, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	11/01/18
Account Type	Private Equity
Benchmark	

**Non-Marketable Securities Overview by Account Type**

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ironsides Direct Investment Fund V, L.P.	2018	\$3,000,000	\$3,652,000	\$1,472,289	\$4,581,853	\$6,054,142	-\$652,000
	<b>Total Account</b>		<b>\$3,000,000</b>	<b>\$3,652,000</b>	<b>\$1,472,289</b>	<b>\$4,581,853</b>	<b>\$6,054,142</b>	<b>-\$652,000</b>

**Investment Strategy**

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Ironsides Direct Investment Fund V IRR is 21.9% as of 9/30/2022



**Account Information**

Account Name	Ironsides Partnership Fund V, L.P.
Account Structure	Other
Investment Style	Passive
Inception Date	4/01/20
Account Type	Private Equity
Benchmark	

**Non-Marketable Securities Overview by Account Type**

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Ironsides Partnership Fund V, L.P.	2020	\$3,000,000	\$1,940,747	\$2,746	\$2,725,338	\$2,728,084	\$1,059,253
	<b>Total Account</b>		<b>\$3,000,000</b>	<b>\$1,940,747</b>	<b>\$2,746</b>	<b>\$2,725,338</b>	<b>\$2,728,084</b>	<b>\$1,059,253</b>

**Investment Strategy**

Constitution Capital seeks investments in underlying private equity funds ranging in size from \$200 million to approximately \$1.0 billion, with a few larger potentially. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution has noted their preference to invest the majority of capital to funds of less than \$1 billion. Constitution targets a variety of fund types (domestic middle-market buyout, special situations, growth equity, distressed, and sector-specific) and will allocate amongst them opportunistically. The group will not invest in early-stage venture capital funds or mega buyout funds. The portfolio will have 12 to 15 underlying fund investments of approximately \$10 million to \$20 million each. For co-investments, it is anticipated that a total of 12-15 co-investments will each range from \$5 million to \$25 million. The enterprise values of the underlying companies are expected to range from \$100 million to \$1.5 billion.

Ironsides Partnership Fund V IRR is 34.8% as of 9/30/2022



## City of Ann Arbor Employees' Retirement System

Strategic Investors Fund VIII L.P. | As of December 31, 2022

### Account Information

Account Name	Strategic Investors Fund VIII L.P.
Account Structure	Other
Investment Style	Active
Inception Date	2/01/17
Account Type	Private Equity
Benchmark	

### Non-Marketable Securities Overview

As of December 31, 2022

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Strategic Investors Fund VIII L.P.	2017	\$8,000,000	\$6,532,000	\$1,736,000	\$19,241,156	\$20,977,156	\$1,468,000
	<b>Total Account</b>		<b>\$8,000,000</b>	<b>\$6,532,000</b>	<b>\$1,736,000</b>	<b>\$19,241,156</b>	<b>\$20,977,156</b>	<b>\$1,468,000</b>

Strategic Investors Fund VIII IRR is 37.5% as of 6/30/2022

**Account Information**

Account Name	Arboretum Ventures V, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	6/01/19
Account Type	Private Equity
Benchmark	

**Non-Marketable Securities Overview**

As of December 31, 2022

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Private Equity	Arboretum Ventures V, L.P.	2019	\$8,000,000	\$5,304,000	\$0	\$5,928,976	\$5,928,976	\$2,696,000
	<b>Total Account</b>		<b>\$8,000,000</b>	<b>\$5,304,000</b>	<b>\$0</b>	<b>\$5,928,976</b>	<b>\$5,928,976</b>	<b>\$2,696,000</b>

### Northern Trust Barclays Aggregate Index | As of December 31, 2022

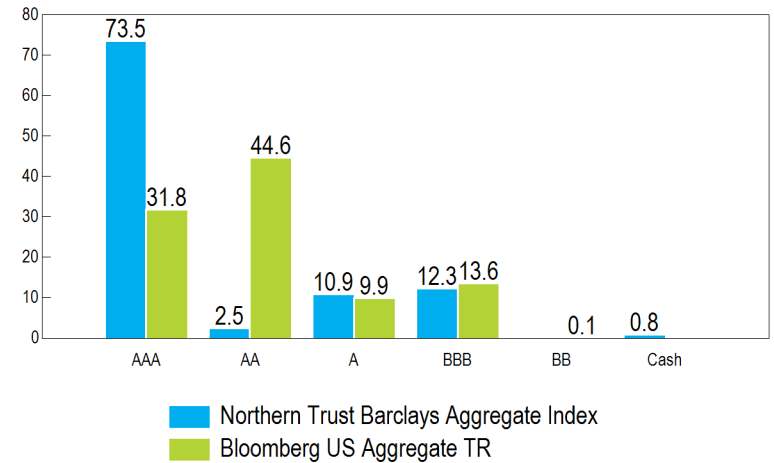
#### Account Information

Account Name	Northern Trust Barclays Aggregate Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	7/01/98
Account Type	US Fixed Income Investment Grade
Benchmark	Bloomberg US Aggregate TR
Universe	eV US Core Fixed Inc Gross

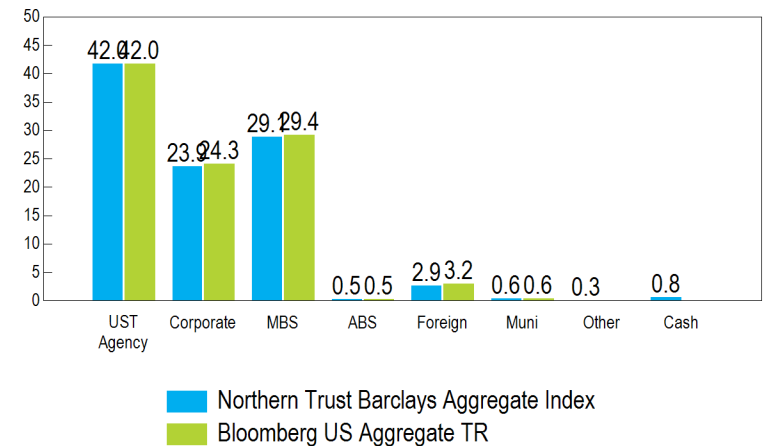
#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Northern Trust Barclays Aggregate Index	1.9	-13.0	-2.8	0.0	0.9	1.0	3.9	Jul-98
Northern Trust Barclays Aggregate Index (Net)	1.9	-13.0	-2.8	-0.1	0.8	1.0	--	
<i>Bloomberg US Aggregate TR</i>	1.9	-13.0	-2.7	0.0	0.9	1.1	3.9	Jul-98
<i>eV US Core Fixed Inc Gross Median</i>	1.9	-12.8	-2.1	0.5	1.4	1.5	4.3	Jul-98
<i>eV US Core Fixed Inc Gross Rank</i>	49	64	95	96	97	98	97	Jul-98

#### Credit Quality Allocation



#### Sector Allocation



#### Northern Trust Barclays Aggregate Index Characteristics vs. Bloomberg US Aggregate TR

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Fixed Income Characteristics</b>			
Yield to Maturity	4.6	4.6	4.6
Average Duration	6.5	6.2	6.6
Average Quality	AA	AA	AA
Weighted Average Maturity	8.8	13.1	8.9

### Northern Trust 1-5 Year Credit Bond | As of December 31, 2022

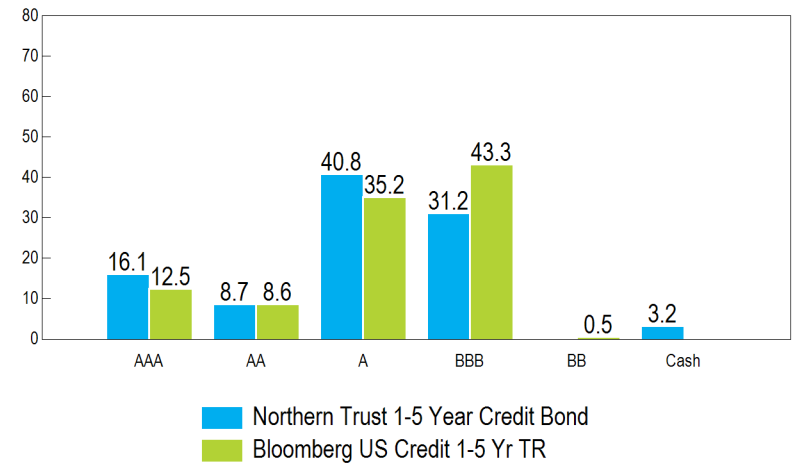
#### Account Information

Account Name	Northern Trust 1-5 Year Credit Bond
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	2/01/13
Account Type	US Fixed Income Investment Grade
Benchmark	Bloomberg US Credit 1-5 Yr TR
Universe	eV US Short Duration Fixed Inc Gross

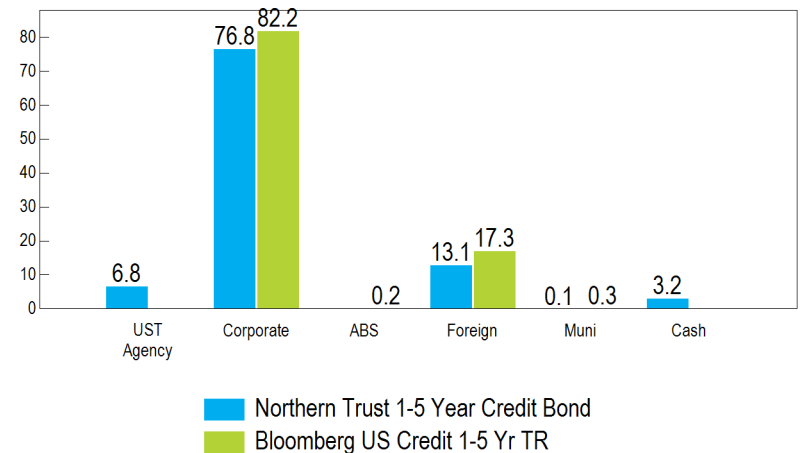
#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Northern Trust 1-5 Year Credit Bond	1.7	-5.8	-0.5	1.2	1.5	1.5	1.5	Feb-13
Northern Trust 1-5 Year Credit Bond (Net)	1.7	-5.9	-0.6	1.1	1.4	--	1.4	
Bloomberg US Credit 1-5 Yr TR	1.8	-5.6	-0.4	1.3	1.6	1.5	1.6	Feb-13
eV US Short Duration Fixed Inc Gross Median	1.1	-3.4	0.1	1.3	1.4	1.3	1.3	Feb-13
eV US Short Duration Fixed Inc Gross Rank	9	96	90	59	36	27	27	Feb-13

#### Credit Quality Allocation



#### Sector Allocation



#### Northern Trust 1-5 Year Credit Bond Characteristics vs. Bloomberg US Credit 1-5 Yr TR

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Fixed Income Characteristics</b>			
Yield to Maturity	5.0	5.1	5.1
Average Duration	2.6	2.7	2.7
Average Quality	A	A	A
Weighted Average Maturity	3.2	2.9	3.3

**Account Information**

Account Name	Summit Partners Credit Fund II, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	12/01/14
Account Type	US Fixed Income High Yield
Benchmark	

**Non-Marketable Securities Overview by Account Type**

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
US Fixed Income High Yield	Summit Partners Credit Fund II, L.P.	2011	\$9,200,000	\$13,023,818	\$12,313,985	\$2,879,550	\$15,193,535	-\$3,823,818
	<b>Total Account</b>		<b>\$9,200,000</b>	<b>\$13,023,818</b>	<b>\$12,313,985</b>	<b>\$2,879,550</b>	<b>\$15,193,535</b>	<b>-\$3,823,818</b>

**Investment Strategy**

Summit Partners Credit Fund II ("Fund II" or the "Fund") will invest in middle market companies through directly originated, senior secured (first or second lien) loans. When in a second lien position, Summit prefers to be junior to an asset-backed loan from a bank, and ideally a senior lender that it has brought into the transaction itself, often by syndicating a portion of unitranche loan at a lower rate while keeping a portion for itself at a much higher effective interest rate. The Fund will target middle market companies of scale that have stable and recurring revenue, while avoiding highly cyclical companies with high CAPEX requirements. Borrowers' use of proceeds will vary and may include acquisition capital, working capital, or refinancing capital. The Fund will seek to reduce repayment risk through call protections and will seek upside through penny warrants.

Summit Partners Credit Fund II IRR is 6.0% as of 9/30/2022



# City of Ann Arbor Employees' Retirement System

## Summit Partners Credit Fund III, L.P. | As of December 31, 2022

### Account Information

Account Name	Summit Partners Credit Fund III, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	11/01/18
Account Type	US Fixed Income High Yield
Benchmark	

### Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
US Fixed Income High Yield	Summit Partners Credit Fund III, L.P.	2018	\$9,000,000	\$9,293,670	\$9,389,579	\$3,965,649	\$13,355,228	-\$293,670
	<b>Total Account</b>		<b>\$9,000,000</b>	<b>\$9,293,670</b>	<b>\$9,389,579</b>	<b>\$3,965,649</b>	<b>\$13,355,228</b>	<b>-\$293,670</b>

### Investment Strategy

Summit Partners Credit Fund III ("Fund III" or the "Fund") seeks to make opportunistic investments in non-sponsored, middle-market companies with business models characterized by stable, predictable cash generation. Summit continue to believe that middle market yields provide compelling value versus the syndicated market, and together with a variety of macroeconomic factors and secular trends, this has helped to create a dynamic market opportunity for alternative capital sources. Through their disciplined approach to credit investing – combining their deep credit market expertise and proactive approach to deal origination with the reach of the broader Summit platform – they remain committed to building a uniquely comprehensive understanding of middle market companies and proactively identifying a differentiated credit investment opportunity set.

Summit Partners Credit Fund III IRR is 18.0% as of 9/30/2022

#### Account Information

Account Name	A.E.W Core Property Trust
Account Structure	Separate Account
Investment Style	Active
Inception Date	7/01/13
Account Type	Real Estate
Benchmark	NCREIF ODCE (net)
Universe	

#### Portfolio Performance Summary

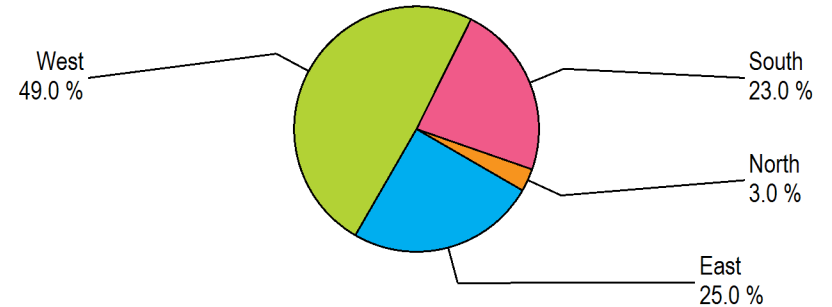
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
A.E.W Core Property Trust (Net)	-5.1	7.6	9.4	8.0	7.9	--	8.9	Jul-13
NCREIF ODCE (net)	-5.2	6.5	9.0	7.7	7.6	9.1	8.9	Jul-13

#### Investment Strategy

AEW employs leverage that is in-line with NFI-ODCE and currently has 10% of the net asset value in non-core investments, but in an investment with primarily core characteristics (mezzanine loan). The strategy invests mostly in the East and South, with significantly less exposure to the Midwest.

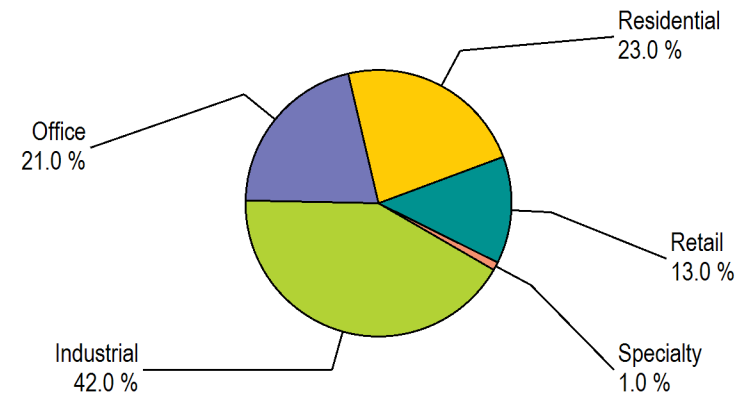
AEW Core Property Trust IRR is 8.3% as of 12/31/2022

#### Geographic Diversification



Geographic Diversification: North represents Midwest region

#### Property Type Allocation







# City of Ann Arbor Employees' Retirement System

## INVESCO Mortgage Recovery Loans | As of December 31, 2022

### Account Information

Account Name	INVESCO Mortgage Recovery Loans
Account Structure	Other
Investment Style	Active
Inception Date	3/01/10
Account Type	Real Estate
Benchmark	

### Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	INVESCO Mortgage Recovery Loans	2008	\$11,000,000	\$7,938,905	\$10,599,669	\$40,602	\$10,640,271	\$3,061,095
	<b>Total Account</b>		<b>\$11,000,000</b>	<b>\$7,938,905</b>	<b>\$10,599,669</b>	<b>\$40,602</b>	<b>\$10,640,271</b>	<b>\$3,061,095</b>

### Investment Strategy

Using matching funds provided by the U.S. Treasury under the Public-Private Investment Program (PPIP), the INVESCO Mortgage Recovery Fund will invest, directly or indirectly, in a broad spectrum of mortgage-related assets. The Fund will have a specific focus on legacy residential mortgage-backed securities ("RMBS") and commercial mortgage-backed securities ("CMBS"), residential mortgage and commercial real estate loans, and other distressed mortgage-related assets. The Funds will seek to construct a diverse portfolio of mortgage-related investments with sector allocations that will change as markets evolve and opportunities develop.

INVESCO Mortgage Recovery Loans IRR is 17.2% as of 9/30/2022

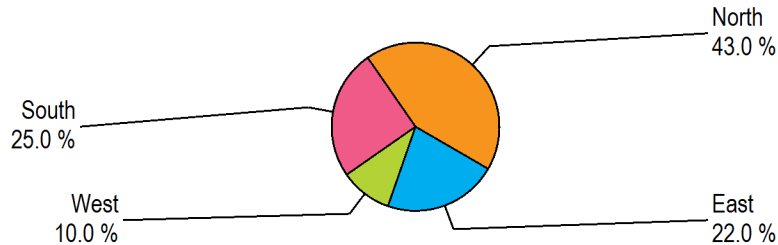
#### Account Information

Account Name	DRA Growth and Income Fund VIII
Account Structure	Other
Investment Style	Active
Inception Date	10/01/14
Account Type	Real Estate
Benchmark	NCREIF ODCE
Universe	

#### Non-Marketable Securities Overview by Account Type

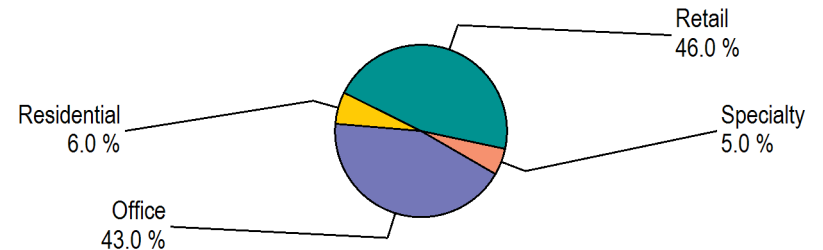
Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	DRA Growth and Income Fund VIII	2014	\$8,500,000	\$9,898,456	\$9,910,694	\$2,980,038	\$12,890,732	-\$1,398,456
	<b>Total Account</b>		<b>\$8,500,000</b>	<b>\$9,898,456</b>	<b>\$9,910,694</b>	<b>\$2,980,038</b>	<b>\$12,890,732</b>	<b>-\$1,398,456</b>

#### Geographic Diversification



Geographic Diversification: North represents Midwest region

#### Property Type Allocation



#### Investment Strategy

Fund VIII will invest in a diversified portfolio of office, retail, multi-family, industrial and other real-estate related properties and assets across the United States and its territories. The Company will seek to generate an attractive return to investors of 12-15%, net of fees, expenses and carried interest, and a significant portion of this return is expected to be from cash flow. Fund VIII will attempt to capitalize on inefficiencies in real estate markets to acquire high quality operating assets at discounts to replacement cost. Such inefficiencies can result from (i) taking advantage of sellers' strategic or financial motivations, (ii) investing in markets or properties that are perceived as out of favor by other investors, (iii) leveraging DRA's industry relationships with both private and public joint venture partners to access deals, and (iv) utilizing DRA's financial experience and resources to exploit pricing inefficiencies in complex transactions.

DRA Growth and Income Fund VIII IRR is 8.4% as of 9/30/2022

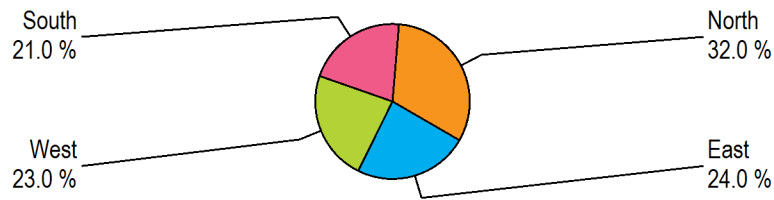
#### Account Information

Account Name	DRA Growth and Income Fund IX
Account Structure	Other
Investment Style	Active
Inception Date	1/01/17
Account Type	Real Estate
Benchmark	NCREIF ODCE
Universe	

#### Non-Marketable Securities Overview by Account Type

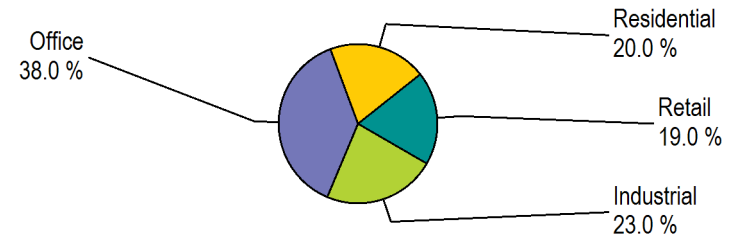
Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	DRA Growth and Income Fund IX	2017	\$8,500,000	\$8,975,379	\$7,641,458	\$6,435,364	\$14,076,822	-\$475,379
	<b>Total Account</b>		<b>\$8,500,000</b>	<b>\$8,975,379</b>	<b>\$7,641,458</b>	<b>\$6,435,364</b>	<b>\$14,076,822</b>	<b>-\$475,379</b>

#### Geographic Diversification



**Geographic Diversification:** North represents Midwest region

#### Property Type Allocation



#### Investment Strategy

Fund IX will invest in a diversified portfolio of office, retail, multi-family, industrial and other real-estate related properties and assets across the United States and its territories. The Company will seek to generate an attractive return to investors of 12-15%, net of fees, expenses and carried interest, and a significant portion of this return is expected to be from cash flow. Fund IX will attempt to capitalize on inefficiencies in real estate markets to acquire high quality operating assets at discounts to replacement cost. Such inefficiencies can result from (i) taking advantage of sellers' strategic or financial motivations, (ii) investing in markets or properties that are perceived as out of favor by other investors, (iii) leveraging DRA's industry relationships with both private and public joint venture partners to access deals, and (iv) utilizing DRA's financial experience and resources to exploit pricing inefficiencies in complex transactions.

DRA Growth and Income Fund IX IRR is 18.8% as of 9/30/2022

### DRA Growth and Income Fund X, LLC | As of December 31, 2022

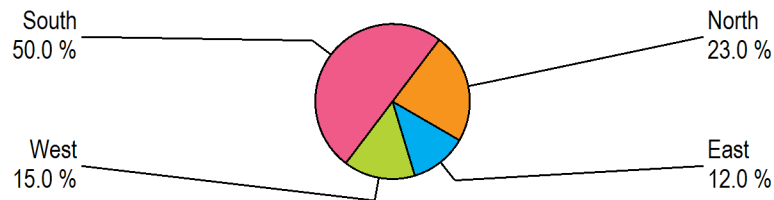
#### Account Information

Account Name	DRA Growth and Income Fund X, LLC
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	3/25/20
Account Type	Real Estate
Benchmark	NCREIF ODCE
Universe	

#### Non-Marketable Securities Overview by Account Type

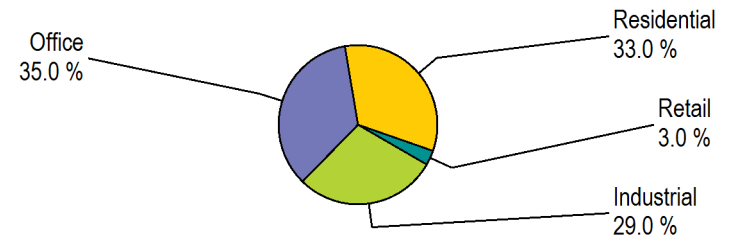
Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	DRA Growth and Income Fund X, LLC	2020	\$6,000,000	\$4,551,348	\$735,896	\$4,802,760	\$5,538,656	\$1,448,652
	<b>Total Account</b>		<b>\$6,000,000</b>	<b>\$4,551,348</b>	<b>\$735,896</b>	<b>\$4,802,760</b>	<b>\$5,538,656</b>	<b>\$1,448,652</b>

#### Geographic Diversification



**Geographic Diversification:** North represents Midwest region

#### Property Type Allocation



#### Investment Strategy

Fund X will invest in a diversified portfolio of office, retail, multi-family, industrial and other real-estate related properties and assets across the United States and its territories. The Company will seek to generate an attractive return to investors of 12-15%, net of fees, expenses and carried interest, and a significant portion of this return is expected to be from cash flow. Fund X will attempt to capitalize on inefficiencies in real estate markets to acquire high quality operating assets at discounts to replacement cost. Such inefficiencies can result from (i) taking advantage of sellers' strategic or financial motivations, (ii) investing in markets or properties that are perceived as out of favor by other investors, (iii) leveraging DRA's industry relationships with both private and public joint venture partners to access deals, and (iv) utilizing DRA's financial experience and resources to exploit pricing inefficiencies in complex transactions.

DRA Growth and Income Fund X IRR is 29.0% as of 9/30/2022



## City of Ann Arbor Employees' Retirement System

Carlyle Realty Partners VIII, L.P. | As of December 31, 2022

### Account Information

Account Name	Carlyle Realty Partners VIII, L.P.
Account Structure	Other
Investment Style	Active
Inception Date	9/01/17
Account Type	Real Estate
Benchmark	

### Non-Marketable Securities Overview by Account Type

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	Carlyle Realty Partners VIII, L.P.	2017	\$8,000,000	\$3,281,458	\$2,110,192	\$5,072,009	\$7,182,201	\$4,718,542
	<b>Total Account</b>		<b>\$8,000,000</b>	<b>\$3,281,458</b>	<b>\$2,110,192</b>	<b>\$5,072,009</b>	<b>\$7,182,201</b>	<b>\$4,718,542</b>

Carlyle Realty Partners IRR is 32.5% as of 9/30/2022

**Account Information**

Account Name	Torchlight Debt Fund VII, L.P.
Account Structure	Other
Investment Style	Passive
Inception Date	10/26/20
Account Type	Real Estate
Benchmark	

**Non-Marketable Securities Overview by Account Type**

Account Type	Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	Total Value (RV + Dist)	Unfunded Commitment
Real Estate	Torchlight Debt Fund VII, L.P. 2019		\$9,000,000	\$4,955,503	\$455,503	\$4,726,968	\$5,182,471	\$4,044,497
	<b>Total Account</b>		<b>\$9,000,000</b>	<b>\$4,955,503</b>	<b>\$455,503</b>	<b>\$4,726,968</b>	<b>\$5,182,471</b>	<b>\$4,044,497</b>

Torchlight Debt Fund VII IRR is 5.8% as of 9/30/2022



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

### RhumbLine S&P 400 Index | As of December 31, 2022

#### Account Information

Account Name	RhumbLine S&P 400 Index
Account Structure	Separate Account
Investment Style	Passive
Inception Date	2/01/10
Account Type	US Stock Mid
Benchmark	S&P 400 MidCap
Universe	eV US Mid Cap Equity Gross

#### Portfolio Performance

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
RhumbLine S&P 400 Index	10.8	-13.0	7.2	6.7	9.9	10.9	11.9	Feb-10
RhumbLine S&P 400 Index (Net)	10.8	-13.0	7.2	6.7	9.9	10.9	11.8	
<i>S&amp;P 400 MidCap</i>	10.8	-13.1	7.2	6.7	9.9	10.8	11.8	Feb-10
<i>eV US Mid Cap Equity Gross Median</i>	9.1	-15.1	6.7	8.0	10.4	11.5	12.4	Feb-10
<i>eV US Mid Cap Equity Gross Rank</i>	35	41	43	73	58	67	64	Feb-10

#### Top 10 Holdings

FAIR ISAAC CORPORATION	0.7%
ISHARES CORE S&P MID-CAP ETF	0.7%
FIRST HORIZON CORP	0.6%
UNITED THERAPEUTICS CORP	0.6%
HUBBELL INC	0.6%
RPM INTERNATIONAL INC	0.6%
AECOM	0.6%
CARLISLE COS INC	0.6%
RELIANCE STEEL & ALUMINUM CO	0.6%
TORO CO (THE)	0.6%

#### RhumbLine S&P 400 Index Characteristics

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Market Value</b>			
Market Value (\$M)	6.6	--	6.0
Number Of Holdings	404	401	403
<b>Characteristics</b>			
Weighted Avg. Market Cap. (\$B)	7.1	6.7	6.5
Median Market Cap (\$B)	5.2	5.2	4.6
P/E Ratio	13.6	13.5	12.8
Yield	1.8	1.8	1.9
EPS Growth - 5 Yrs.	18.2	18.4	18.5
Price to Book	2.5	2.5	2.4
<b>Sector Distribution</b>			
Energy	3.8	4.0	3.6
Materials	6.4	6.9	6.5
Industrials	19.2	19.1	18.8
Consumer Discretionary	13.9	14.0	13.4
Consumer Staples	4.1	4.6	4.1
Health Care	10.0	10.2	10.3
Financials	15.0	14.8	15.6
Information Technology	11.8	12.9	12.4
Communication Services	1.8	2.0	1.5
Utilities	4.1	3.9	4.0
Real Estate	7.8	7.7	8.0

### Sky Harbor High Yield | As of December 31, 2022

#### Account Information

Account Name	Sky Harbor High Yield
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	12/01/12
Account Type	US Fixed Income High Yield
Benchmark	Bloomberg US High Yield TR
Universe	eV US High Yield Fixed Inc Gross

#### Portfolio Performance Summary

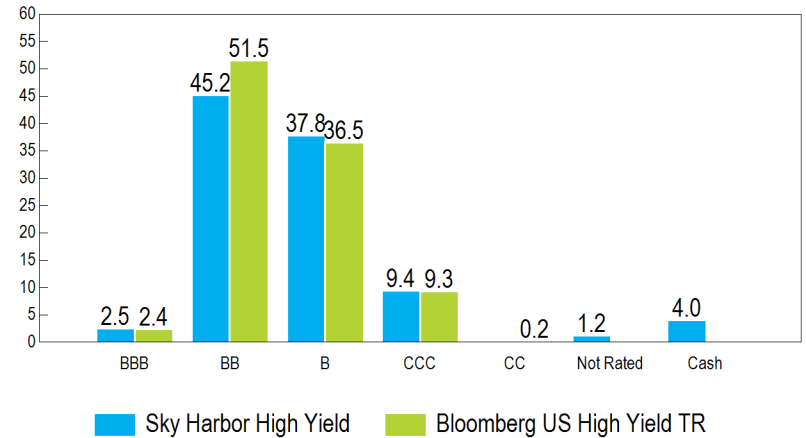
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Sky Harbor High Yield	3.2	-13.2	-0.2	2.0	4.7	3.9	4.0	Dec-12
Sky Harbor High Yield (Net)	3.1	-13.4	-0.5	1.7	4.3	3.5	3.6	
<i>Bloomberg US High Yield TR</i>	4.2	-11.2	0.0	2.3	5.0	4.0	4.2	Dec-12
<i>eV US High Yield Fixed Inc Gross Median</i>	4.1	-9.5	0.8	2.8	4.9	4.3	4.4	Dec-12
<i>eV US High Yield Fixed Inc Gross Rank</i>	84	96	84	93	64	71	74	Dec-12

#### Sky Harbor High Yield Fixed Income Characteristics

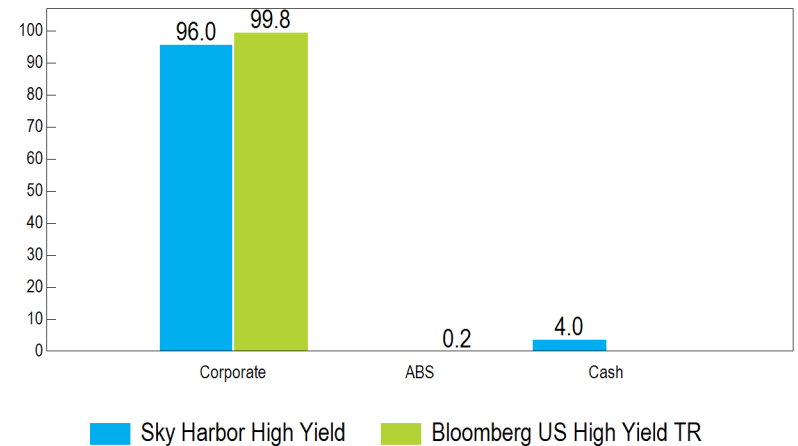
##### vs. Bloomberg US High Yield TR

	Portfolio Q4-22	Index Q4-22	Portfolio Q3-22
<b>Fixed Income Characteristics</b>			
Yield to Maturity	8.7	8.9	9.1
Average Duration	4.1	4.3	4.2
Average Quality	B	B	B
Weighted Average Maturity	5.1	5.5	5.3

#### Credit Quality Allocation



#### US Sector Allocation







## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

### Vanguard REIT Index | As of December 31, 2022

#### Account Information

Account Name	Vanguard REIT Index
Account Structure	Mutual Fund
Investment Style	Active
Inception Date	3/01/14
Account Type	REITS
Benchmark	Spliced Vanguard REIT Benchmark
Universe	eV US REIT Net

#### Portfolio Performance Summary

	QTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.	S.I.
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Vanguard REIT Index (Net)	4.3	-26.2	-0.4	3.7	4.5	--	5.9	Mar-14
<i>Spliced Vanguard REIT Benchmark</i>	4.3	-26.1	-0.3	3.8	4.6	6.5	6.0	Mar-14
<i>eV US REIT Net Median</i>	4.1	-25.4	0.6	4.5	5.1	6.5	6.7	Mar-14
<i>eV US REIT Net Rank</i>	40	66	77	68	55	--	70	Mar-14

#### Top 10 Holdings

PROLOGIS INC	8.4%
AMERICAN TOWER CORP	8.0%
EQUINIX INC	4.8%
CROWN CASTLE INC	4.8%
PUBLIC STORAGE	3.6%
REALTY INCOME CORP.	3.2%
SIMON PROPERTY GROUP INC.	3.0%
SBA COMMUNICATIONS CORP	2.5%
WELLTOWER INC	2.4%
DIGITAL REALTY TRUST INC	2.2%

#### Vanguard REIT Index Characteristics

	Portfolio Q4-22	Portfolio Q3-22
<b>Market Value</b>		
Market Value (\$M)	4.8	6.5
Number Of Holdings	166	167
<b>Characteristics</b>		
Weighted Avg. Market Cap. (\$B)	36.3	15.3
Median Market Cap (\$B)	2.8	2.7
P/E Ratio	24.3	20.1
Yield	3.8	4.5
EPS Growth - 5 Yrs.	13.3	7.1
Price to Book	2.4	1.8
<b>Sector Distribution</b>		
Energy	0.0	0.0
Materials	0.0	0.0
Industrials	0.0	0.0
Consumer Discretionary	0.0	0.0
Consumer Staples	0.0	0.0
Health Care	0.0	0.0
Financials	0.0	0.0
Information Technology	0.0	0.0
Communication Services	0.0	0.0
Utilities	0.0	0.0
Real Estate	99.1	99.1



## City of Ann Arbor Employees' Retirement System

Total Fund Aggregate | As of December 31, 2022

Investment Expense Analysis				
As Of December 31, 2022				
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Total Domestic Equity</b>		<b>\$206,717,992</b>		
RhumbLine HEDI	0.05% of Assets	\$119,142,865	\$59,571	0.05%
Northern Trust Russell 1000 Index	0.02% of Assets	\$58,568,408	\$11,714	0.02%
Loomis Sayles Small Cap Value	0.70% of First 30.0 Mil, 0.60% of Next 20.0 Mil, 0.50% Thereafter	\$18,947,156	\$132,630	0.70%
Northern Trust S&P 400 MidCap Index	0.02% of Assets	\$10,059,564	\$2,012	0.02%
<b>Total International Equity</b>		<b>\$119,198,281</b>		
<b>Total International Developed Market Equity</b>		<b>\$81,441,545</b>		
Northern Trust MSCI EAFE Index	0.03% of Assets	\$24,450,049	\$7,335	0.03%
WCM Focused Growth International	0.75% of Assets	\$26,195,238	\$196,464	0.75%
Artisan International Value	0.96% of Assets	\$30,796,258	\$295,644	0.96%
<b>Total International Emerging Market Equity</b>		<b>\$37,756,736</b>		
Dimensional Emerging Markets Value	0.38% of Assets	\$23,502,768	\$89,311	0.38%
GQG Partners Emerging Markets Equity	0.65% of Assets	\$14,253,968	\$92,651	0.65%
<b>Total Fixed Income</b>		<b>\$72,356,232</b>		
<b>Total Investment Grade Bonds</b>		<b>\$54,682,920</b>		
Northern Trust Barclays Aggregate Index	0.03% of Assets	\$26,112,474	\$7,834	0.03%
<b>Short Duration Bonds</b>		<b>\$28,570,446</b>		
Northern Trust 1-5 Year Credit Bond	0.05% of Assets	\$28,570,446	\$14,285	0.05%
<b>Total High Yield Bonds</b>		<b>\$6,845,199</b>		
Summit Partners Credit Fund II, L.P.	1.5% management fee on committed; 20% carried interest	\$2,879,550	\$138,000	
Summit Partners Credit Fund III, L.P.	1.5% management fee on committed; 20% carried interest	\$3,965,649	\$135,000	
<b>Total Private Credit</b>		<b>\$11,512,132</b>		
Angelo Gordon Direct Lending IV	0.90% annual management fee and 15% performance fee	\$11,512,132	\$108,000	



## City of Ann Arbor Employees' Retirement System

Total Fund Aggregate | As of December 31, 2022

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Total Real Estate</b>		<b>\$76,060,856</b>		
A.E.W Core Property Trust	1.10% of First 10.0 Mil, 1.00% of Next 15.0 Mil	\$52,003,115	\$530,031	1.02%
DRA Growth and Income Fund VIII	0.90% on gross cost during investment period; 0.60% thereafter; 8% preferred return and 20% carried interest.	\$2,980,038	\$76,500	
DRA Growth and Income Fund IX	Annual asset mgmt. fee of 0.9% of the gross cost of investments during the Acquisition Period, dropping to 0.6% thereafter, with gross cost reduced by leverage in excess of 65%	\$6,435,364	\$76,500	
DRA Growth and Income Fund X, LLC	0.90% on gross cost during investment period; 0.60% thereafter; 8% preferred return and 20% carried interest.	\$4,802,760	\$54,000	
Carlyle Realty Partners VIII, L.P.	1.50% of Assets	\$5,072,009	\$76,080	1.50%
INVESCO Mortgage Recovery Loans	1.0% management fee on invested capital; 8% preferred return; 20% carried interest	\$40,602	N/A	
Torchlight Debt Fund VII, L.P.	1.50% of Assets	\$4,726,968	\$70,905	1.50%
<b>Total Alternative Assets</b>		<b>\$97,979,445</b>		
<b>Total Natural Resources</b>		<b>\$15,899,183</b>		
First Eagle Gold Fund	0.96% of Assets	\$10,311,650	\$98,992	0.96%
SSGA Global Natural Resources Index	0.13% of Assets	\$5,587,533	\$7,264	0.13%
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	0.75% of available capital commitments and 1.50% of invested capital during investment period; 1.50% of invested capital thereafter.	\$3,070,607	\$80,000	
JP Morgan Infrastructure Fund	0.90% annual management fee based on NAV; 15% carried interest with a 7% preferred return	\$29,635,542	\$266,720	
<b>Total Hedge Funds</b>		<b>\$4,237,855</b>		
Sculptor Credit Opportunities	1.00% of Assets	\$4,237,855	\$42,379	1.00%



## City of Ann Arbor Employees' Retirement System

Total Fund Aggregate | As of December 31, 2022

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Total Private Equity</b>		<b>\$45,169,386</b>		
Arboretum Ventures V, L.P.	2.0% Management Fee; carried interest distributions of 20% once the fund has returned all capital contributions	\$5,928,976	\$160,000	
Arboretum Ventures VI, L.P.	2.0% Management Fee; carried interest distributions of 20% once the fund has returned all capital contributions	\$33,129	\$120,000	
Ironsides Co-Investment Fund III, L.P.	1% Management Fee; 8% preferred return and 15% carried interest	\$2,015,269	\$60,000	
Ironsides Direct Investment Fund V, L.P.	0.5% Management Fee; 8% preferred return and 15% carried interest	\$4,581,853	\$15,000	
Ironsides Partnership Fund III, L.P.	0% Management Fee; 8% preferred return and 5% carried interest	\$7,046,001	\$0	
Ironsides Partnership Fund V, L.P.	0% Management Fee; 8% preferred return and 5% carried interest	\$2,725,338	\$0	
Strategic Investors Fund VIII L.P.	The management fee is based on the investor's commitment. 0.95% < \$15 million; 0.85% on commitments between \$15 million and \$30 million; 0.75% > \$30 million. Blended fee of 86bps over 12 years	\$19,241,156	\$76,000	
Mesirow Financial Private Equity Fund VIII-A	0.81% Management Fee; 10% carried interest on Secondary and Co-Investments	\$3,597,664	\$81,000	
<b>Total Cash</b>		<b>\$8,369,357</b>		
Northern Trust Cash Account		\$8,369,357		
<b>Total</b>		<b>\$581,399,311</b>	<b>\$3,181,822</b>	<b>0.54%</b>



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

Investment Expense Analysis				
As Of December 31, 2022				
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Global Equity</b>		<b>\$121,335,578</b>		
<b>Total Domestic Equity</b>		<b>\$80,167,218</b>		
RhumbLine HEDI	0.05% of Assets	\$41,541,043	\$20,771	0.05%
Northern Trust Russell 1000 Index	0.03% of Assets	\$27,703,088	\$8,311	0.03%
RhumbLine S&P 400 Index	0.02% of Assets	\$6,647,921	\$1,330	0.02%
Loomis Sayles Small Cap Value Equity	0.70% of First 30.0 Mil, 0.60% of Next 20.0 Mil, 0.50% Thereafter	\$4,275,167	\$29,926	0.70%
<b>Total International Equity</b>		<b>\$41,168,360</b>		
<b>Total International Developed Market Equity</b>		<b>\$27,565,728</b>		
WCM Focused Growth International	0.75% of Assets	\$12,683,384	\$95,125	0.75%
Artisan International Value	0.96% of Assets	\$14,882,343	\$142,870	0.96%
<b>Total International Emerging Market Equity</b>		<b>\$13,602,632</b>		
DFA Emerging Markets Value Fund	0.38% of Assets	\$6,670,163	\$25,347	0.38%
GQG Partners Emerging Markets Equity	0.65% of Assets	\$6,932,469	\$45,061	0.65%
<b>Total Fixed Income</b>		<b>\$44,039,144</b>		
<b>Total Investment Grade Bonds</b>		<b>\$26,409,110</b>		
Northern Trust 1-5 Year Credit Bond Index Fund	0.06% of Assets	\$3,961,680	\$2,377	0.06%
Northern Trust Barclays Aggregate Bond Index	0.05% of Assets	\$22,447,430	\$11,224	0.05%
<b>Total TIPS</b>		<b>\$4,357,052</b>		
IR&M 1-10 Year Index	0.05% of Assets	\$4,357,052	\$2,179	0.05%
<b>Total High Yield Bonds</b>		<b>\$8,476,261</b>		
Sky Harbor High Yield	0.30% of Assets	\$6,654,805	\$19,964	0.30%



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Summit Credit Fund II, L.P.	1.5% management fee on committed; 20% carried interest	\$719,885	\$34,500	
Summit Partners Credit Fund III, L.P.	1.5% management fee on committed; 20% carried interest	\$1,101,571	\$37,500	
<b>Total Private Credit</b>		<b>\$4,796,721</b>		
Angelo Gordon Direct Lending IV	0.90% annual management fee and 15% performance fee.	\$4,796,721	\$43,170	
<b>Total Real Estate</b>		<b>\$29,661,321</b>		
Vanguard REIT Index	0.07% of Assets	\$4,848,340	\$3,394	0.07%
A.E.W Core Property Trust	1.10% of First 10.0 Mil, 1.00% of Next 15.0 Mil	\$15,473,017	\$164,730	1.06%
DRA Growth and Income Fund VIII	0.90% on gross cost during investment period; 0.60% thereafter; 8% preferred return and 20% carried interest.	\$876,482	\$22,500	
DRA Growth and Income Fund IX	Annual asset mgmt. fee of 0.9% of the gross cost of investments during the Acquisition Period, dropping to 0.6% thereafter, with gross cost reduced by leverage in excess of 65%	\$1,892,754	\$22,500	
DRA Growth and Income Fund X, LLC	0.90% on gross cost during investment period; 0.60% thereafter; 8% preferred return and 20% carried interest.	\$3,201,839	\$36,000	
Carlyle Realty Partners VIII, L.P.	1.50% of Assets	\$1,268,014	\$19,020	1.50%
Torchlight Debt Fund VII, L.P.	1.50% of Assets	\$2,100,875	\$31,513	1.50%
<b>Total Natural Resources</b>		<b>\$7,416,999</b>		
First Eagle Gold Fund	0.96% of Assets	\$2,946,186	\$28,283	0.96%
SSGA Global Natural Resources Index	0.13% of Assets	\$4,470,813	\$5,812	0.13%



## City of Ann Arbor Retiree Health Care Benefit Plan & Trust (VEBA)

Total Fund Aggregate | As of December 31, 2022

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Global Renewable Power Infrastructure Fund III, L.P.	0.75% of available capital commitments and 1.50% of invested capital during investment period; 1.50% of invested capital thereafter.	\$1,151,476	\$30,000	
JP Morgan Infrastructure Fund	0.90% annual management fee based on NAV; 15% carried interest with a 7% preferred return	\$9,127,108	\$82,144	
<b>Total Private Equity</b>		<b>\$9,818,654</b>		
Arboretum Ventures V, L.P.	2.0% Management Fee; carried interest distributions of 20% once the fund has returned all capital contributions	\$1,482,245	\$40,000	
Arboretum Ventures VI, L.P.	2.0% Management Fee; carried interest distributions of 20% once the fund has returned all capital contributions	\$11,043	\$40,000	
Ironsides Direct Investment Fund V, L.P.	0.5% Management Fee; 8% preferred return and 15% carried interest	\$1,527,284	\$5,000	
Ironsides Partnership Fund V, L.P.	0% Management Fee; 8% preferred return and 5% carried interest	\$908,446	\$0	
Strategic Investors Fund VIII	The management fee is based on the investor's commitment. 0.95% < \$15 million; 0.85% on commitments between \$15 million and \$30 million; 0.75% > \$30 million. Blended fee of 86bps over 12 years	\$4,810,318	\$19,000	
Mesirow Financial Private Equity Fund VIII-A	0.81% Management fee; 10% carried interest on Secondary and Co-Investments	\$1,079,318	\$24,300	
<b>Total Cash</b>		<b>\$9,852,693</b>		
NT Cash		\$9,852,693		
<b>Total</b>		<b>\$232,402,974</b>	<b>\$1,093,851</b>	<b>0.47%</b>