

**South Central Connecticut Regional Water Authority**

90 Sargent Drive, New Haven, Connecticut

or

**\*\*Dial-in by phone**

[+1 469-965-2517](tel:+14699652517), [32067014#](tel:+132067014) United States, Dallas

Phone conference ID: 320 670 14#

**AGENDA**

**Regular Meeting of Thursday, October 24, 2024 at 12:30 p.m.**

- A. Safety Moment
- B. Public Comment: Statements limited to the legislative function of the Authority. The time limit granted to each speaker shall be three (3) minutes. Residents may address the Board.
- C. Meet as Pension & Benefit Committee: C. LaMarr
  - 1. Approve Minutes – July 25, 2024 meeting
  - 2. Quarterly Investment Performance Review: S. Kelliher, J. McLaughlin, and A. Kantapin
- D. Act on matters arising from committee meeting.
- E. Consent Agenda
  - 1. Approve Minutes – September 26, 2024 meeting
  - 2. Capital Budget Authorization - November 2024
  - 3. Capital Budget Transfer Notifications (no action required) – November 2024
  - 4. Monthly Financial Report – September 2024
  - 5. Accounts Receivable Update – September 2024
  - 6. Revisions to RWA Rules and Regulations
- F. Reports on RPB Committee meetings
- G. Business Updates: L. Bingaman
  - 1. RWAY CIS Update: P. Singh
  - 2. Monthly Business Highlights: L. Bingaman
- H. \*Disposition Application (continuation) – 56 Squantuck Road, Seymour: S. Lakshminarayanan and J. Triana
- I. Blue Drop Acquisition Update: L. Bingaman and R. Kowalski - - *Upon 2/3 vote, convene in executive session pursuant to C.G.S. Section 1-200(6)(E) to discuss matters covered by Section 1-210(b)(5)(A)(B), pertaining to trade secrets and commercial and financial information.*
- J. Finance: R. Kowalski
  - 1. Consider and act on resolution authorizing term sheets for financing associated with Blue Drop - *Upon 2/3 vote, convene in possible executive session pursuant to C.G.S. Section 1-200(6)(E) to discuss matters covered by Section 1-210(b)(5)(B), pertaining to commercial and financial information.*
  - 2. Ten Year Model - *Upon 2/3 vote, convene in executive session pursuant to C.G.S. Section 1-200(6)(E) to discuss matters covered by Section 1-210(b)(5)(B), pertaining to commercial and financial information.*

**\*\*** Members of the public may attend the meeting in person or via conference call. For information on attending the meeting and to view meeting documents, please visit <http://tinyurl.com/3hhtm38z>. For questions, contact the board office at [jslubowski@rwater.com](mailto:jslubowski@rwater.com) or by calling 203-401-2515.

\*RPB member (Jamie Mowat Young) will be excused at Item H.

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# SAFETY MOMENT

Is your workplace or home fireproof? Each year, the National Fire Protection Association (NFPA) celebrates National Fire Safety Month in October. Fire safety awareness in the workplace should be second nature and should be translated into our personal lives to keep our loved ones safe in the event of a fire at home.

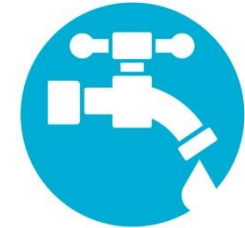
Follow the steps below to ensure that your workplace and homes are fireproof:

1. Eliminate Clutter
2. Designate Smoking Areas
3. Maintain fire extinguishers
4. Use and store chemicals safely
5. Limit the accumulation of flammable or combustible materials
6. Ensure emergency exits routes are in place

Service – Teamwork – Accountability – Respect – Safety

Safety is a core company value at the Regional Water Authority .  
It is our goal to reduce workplace injuries to zero.

Tap Into  
Safety



Regional Water Authority



**South Central Connecticut Regional Water Authority  
Pension & Benefit Committee**

**Minutes of the July 25, 2024 Meeting**

A regular meeting of the South Central Connecticut Regional Water Authority (“RWA”) Pension & Benefit Committee took place on Thursday, July 25, 2024, at 90 Sargent Drive, New Haven, Connecticut and via remote access. Chair LaMarr presided.

**Committee members present** – Mss. LaMarr and Sack, and Messrs. Borowy, Curseaden and Ricozzi  
**Management:** Mss. Kowalski and Calo(R), and Messrs. Bingaman, Hill(R), Lakshminarayanan and Singh(R)  
**RPB:** Ms. Campbell(R)  
**Morgan Stanley:** Messrs. Kelliher(R), McLaughlin(R), and Kantapin(R)  
**Staff:** Mrs. Slubowski

**C. MEET AS PENSION & BENEFIT COMMITTEE**

Chair LaMarr called the meeting to order at 12:31 p.m.

**C.1 APPROVE MINUTES – APRIL 25, 2024 MEETING**

On motion made by Mr. Curseaden, seconded by Mr. Ricozzi, and unanimously carried, the Committee approved the minutes its April 25, 2024 meeting.

Borowy	Aye
Curseaden	Aye
LaMarr	Aye
Ricozzi	Aye
Sack	Aye

**C.2 QUARTERLY PERFORMANCE INVESTMENT REVIEW**

Mr. Kelliher, the RWA’s investment advisor, reported on the Authority’s Pension Investment Performance for RWA’s Salaried and Union Pension Plans and its Voluntary Employees’ Beneficiary Association Plan (VEBA), for the period ended June 30, 2024. He also reviewed the asset allocations and market commentary.

**C.3 401K ANNUAL UPDATE**

Mr. McLaughlin, of Morgan Stanley, the RWA’s investment advisor provided an annual review of the RWA’s 401K Plan including investment options, asset values, and 401K plan initiatives and metrics.

At 1:06 p.m., on motion made by Mr. Curseaden and seconded by Mr. Ricozzi, the Committee voted to adjourn the meeting.

Borowy	Aye
Curseaden	Aye
LaMarr	Aye
Ricozzi	Aye
Sack	Aye

\_\_\_\_\_  
Catherine E. LaMarr, Chair

(R) = Attended remotely.

# Morgan Stanley

## THE KELLIHER CORBETT GROUP AT MORGAN STANLEY

141 Longwater Drive, Suite 102  
Norwell, MA. 02061  
877.535.4437



### **Stephen Kelliher, QPFC®**

Managing Director  
Senior Portfolio Management Director  
Corporate Client Group Director  
CA Insurance #: 4284041

781.681.4933  
Stephen.Kelliher@ms.com

### **Alan Kantapin, CFA®**

Assistant Vice President  
Portfolio Management Associate Director

781.681.4936  
Alan.Kantapin@ms.com

### **Joseph McLaughlin, QPFC®, CRPS®**

Senior Vice President  
Corporate Retirement Director  
Financial Wellness Director

781.681.4904  
Joseph.McLaughlin@ms.com

## Discussion Outline & Agenda

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	Section
Market Commentary	I.
Asset Allocation & Investment Matrices	II.
Investment Results	III.
SCCTRWA Liability/Cash Flow Analysis: Summary	IV.
Appendix	
- Liability/Cash Flow Analysis: Detailed	V.
- Historical Cost Savings Discussion	
- Investment Holdings Analysis	

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## Market Commentary





# S&P 500 Index at inflection points

Equities

## S&P 500 Price Index



Source: Compustat, FactSet, Federal Reserve, Refinitiv Datastream, Standard & Poor's, J.P. Morgan Asset Management. Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price-to-earnings ratio is a bottom-up calculation based on IBES estimates and FactSet estimates since January 2022. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.  
 Guide to the Markets – U.S. Data are as of September 30, 2024.

**J.P.Morgan**  
 ASSET MANAGEMENT





# S&P 500: Index concentration and valuations

GTM

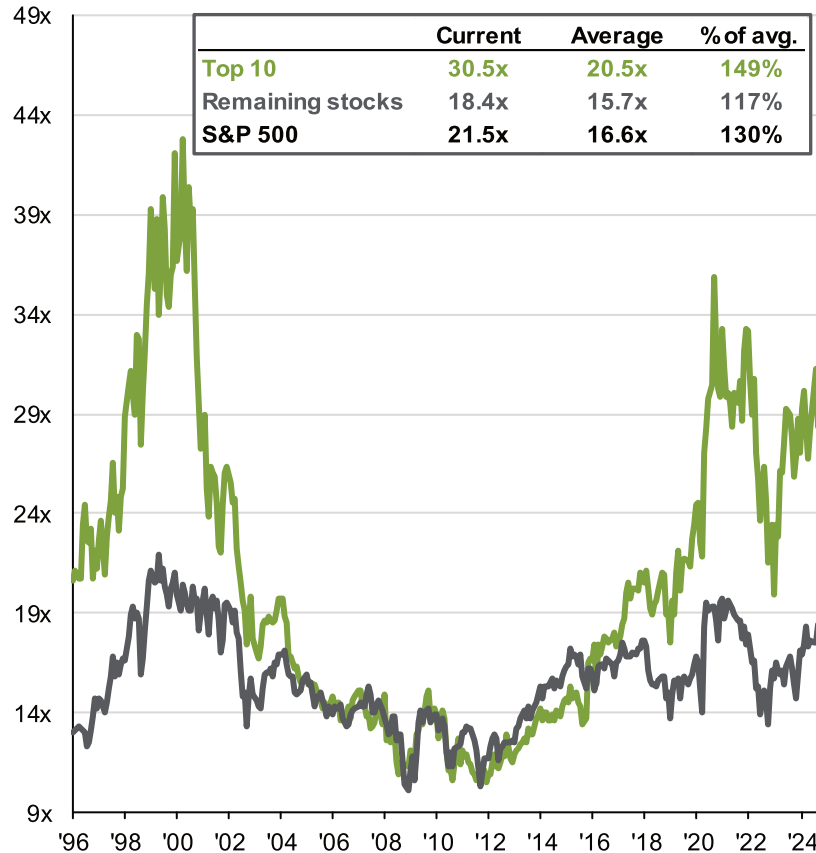
U.S.

11

Equities

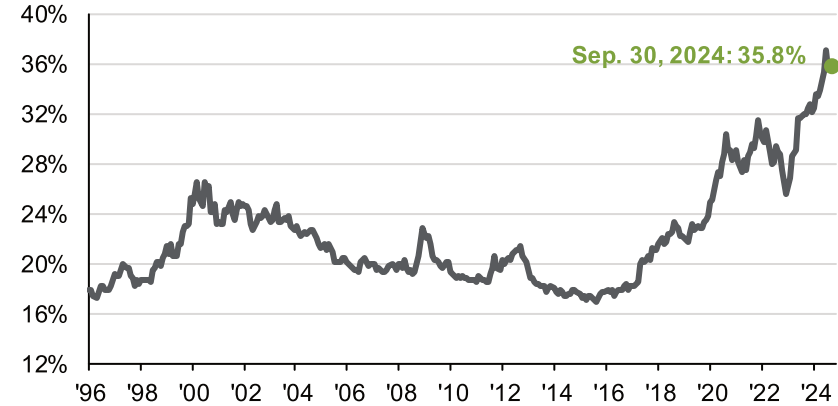
## P/E ratio of the top 10 and remaining stocks in the S&P 500

Next 12 months, 1996 - present



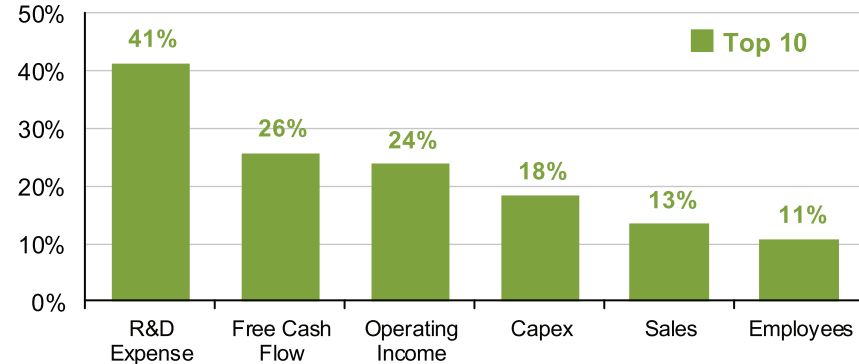
## Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500



## Economic concentration in the S&P 500

% of S&P 500 metric, 2Q24



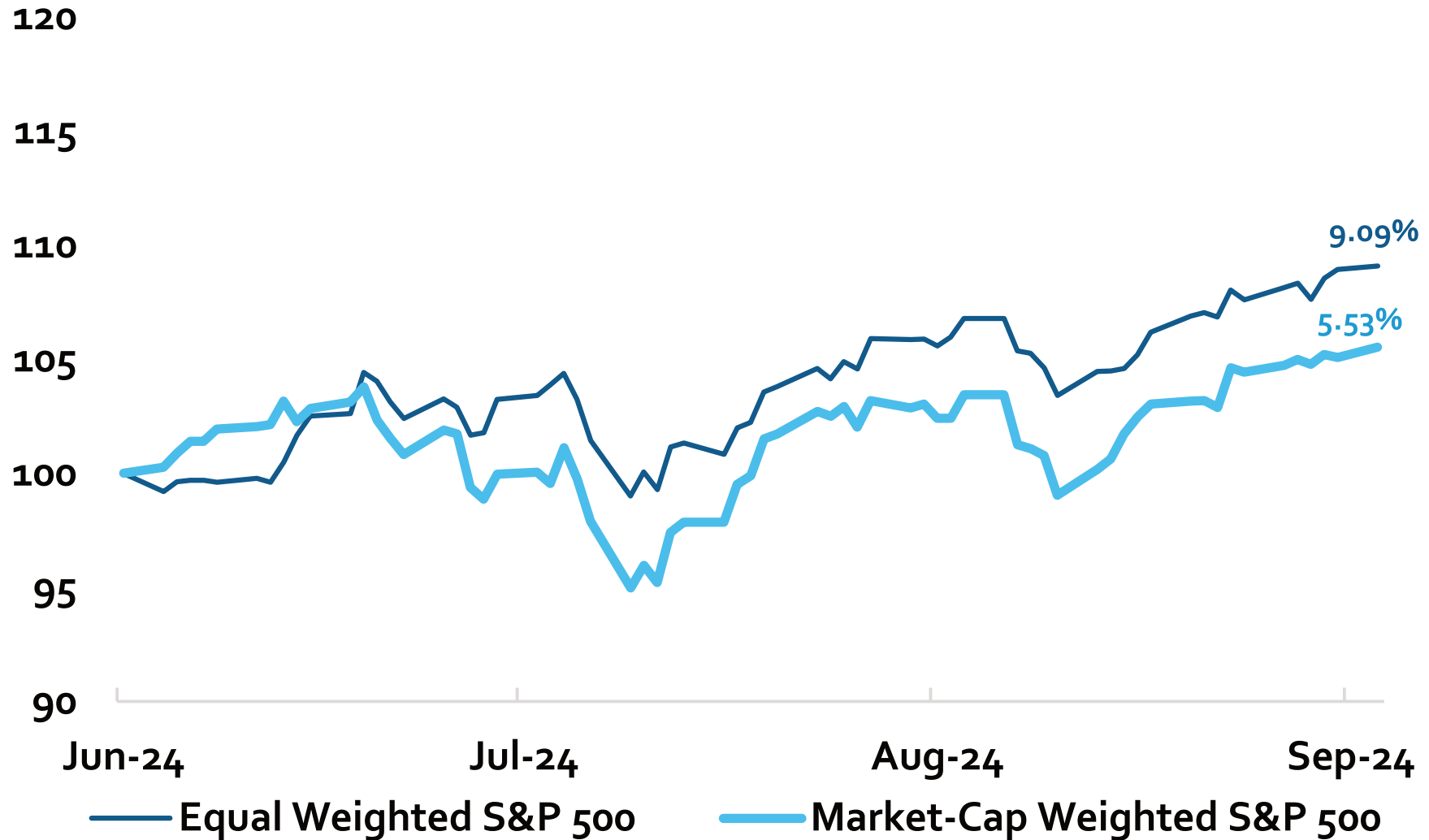
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. The top 10 S&P500 companies are based on the 10 largest index constituents at the beginning of each month. As of 9/30/2024, the top 10 companies in the index were AAPL (7.1%), MSFT (6.5%), NVDA (6.1%), AMZN (3.6%), GOOGL/GOOG (3.6%), META (2.5%), BRK.B (1.7%), AVGO (1.7%), TSLA (1.5%) and LLY (1.4%). The remaining stocks represent the rest of the 492 companies in the S&P500.  
 Guide to the Markets – U.S. Data are as of September 30, 2024.

**J.P.Morgan**  
 ASSET MANAGEMENT

# S&P 500: Equal-Weighted vs. Market-Weight 3Q24 Performance

As of September 30, 2024

Market Cap-Weighted vs. Equal-Weighted Price Performance (Indexed)



Source: Bloomberg and Morgan Stanley Wealth Management GIO.

Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

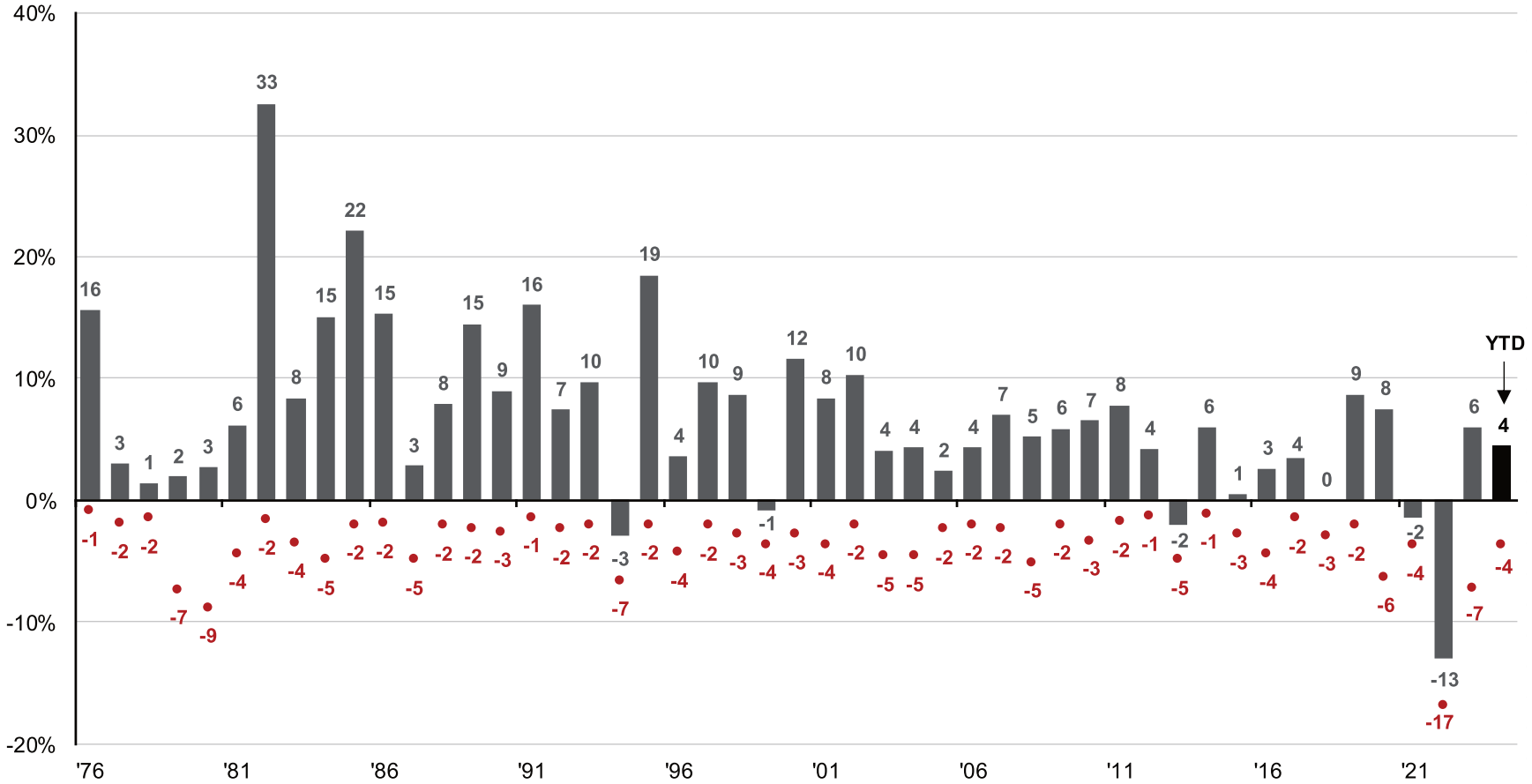


# Bloomberg U.S. Agg. annual returns and intra-year declines

Fixed Income

## Bloomberg U.S. Aggregate intra-year declines vs. calendar year returns

Despite average intra-year drops of 3.5%, annual returns were positive in 43 of 48 years



Source: Bloomberg, FactSet, J.P. Morgan Asset Management.  
 Returns are based on total return. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1976 to 2023, over which time period the average annual return was 6.6%. Returns from 1976 to 1989 are calculated on a monthly basis; daily data are used afterward.  
*Guide to the Markets – U.S.* Data are as of September 30, 2024.

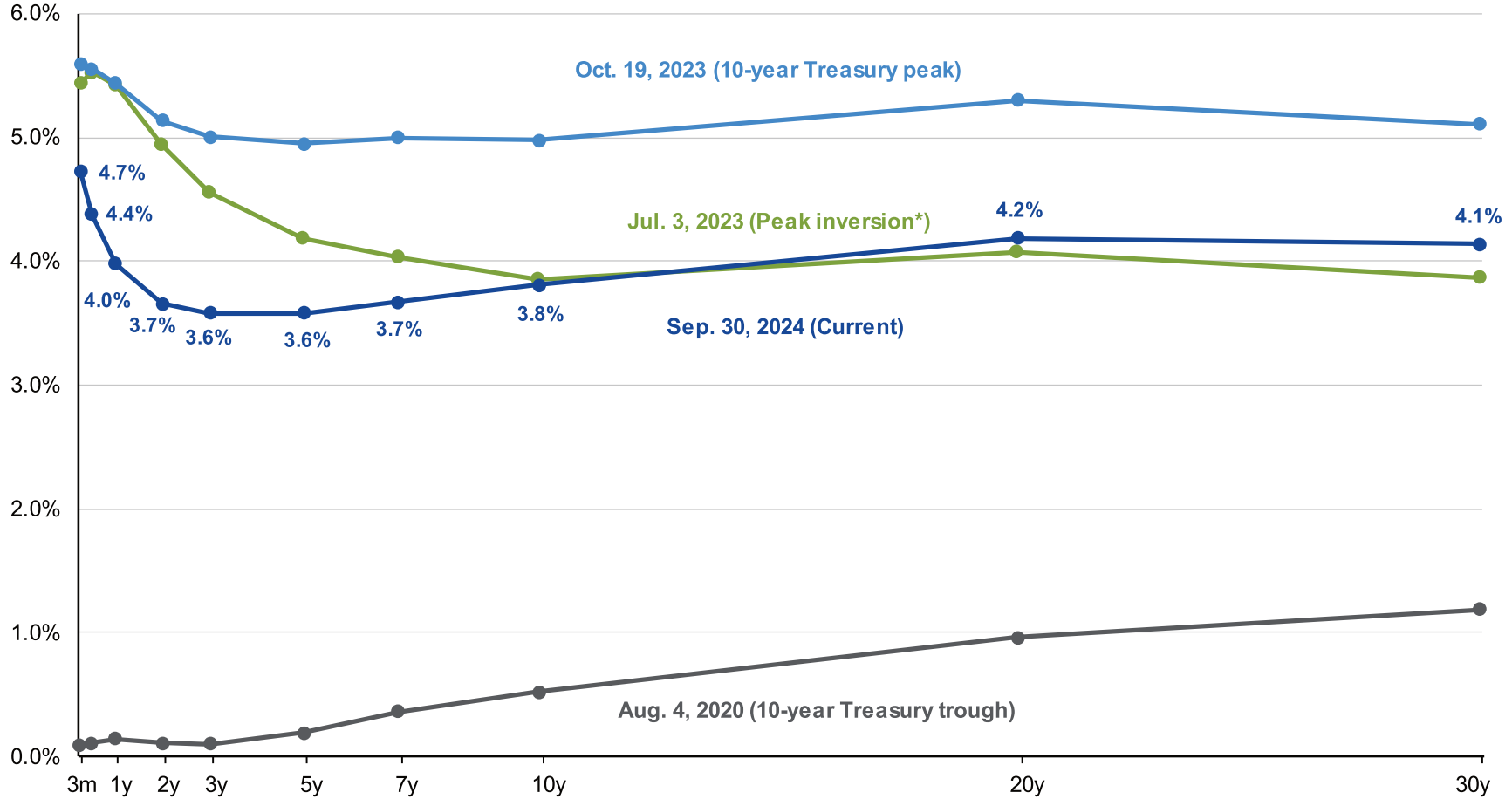
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# Yield curve

Fixed Income

## U.S. Treasury yield curve



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management. Analysis references data back to 2020. \*Peak inversion is measured by the spread between the yield on a 10-year Treasury and 2-year Treasury. Guide to the Markets – U.S. Data are as of September 30, 2024.

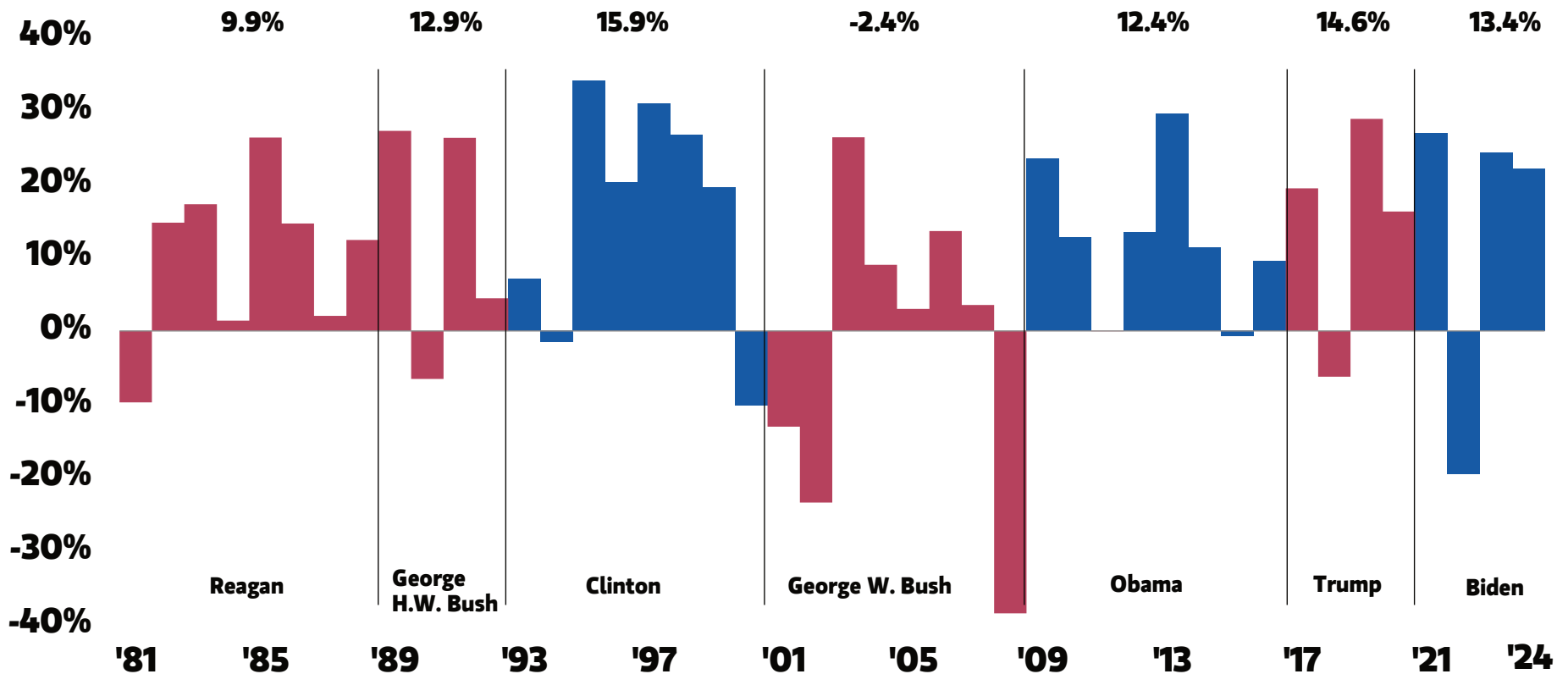
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# S&P 500 Annual Returns by Presidential Administration

As of September 30, 2024

## S&P 500 Annual Returns, Presidential Term Average

**Democrat** **Republican**



Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office

Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

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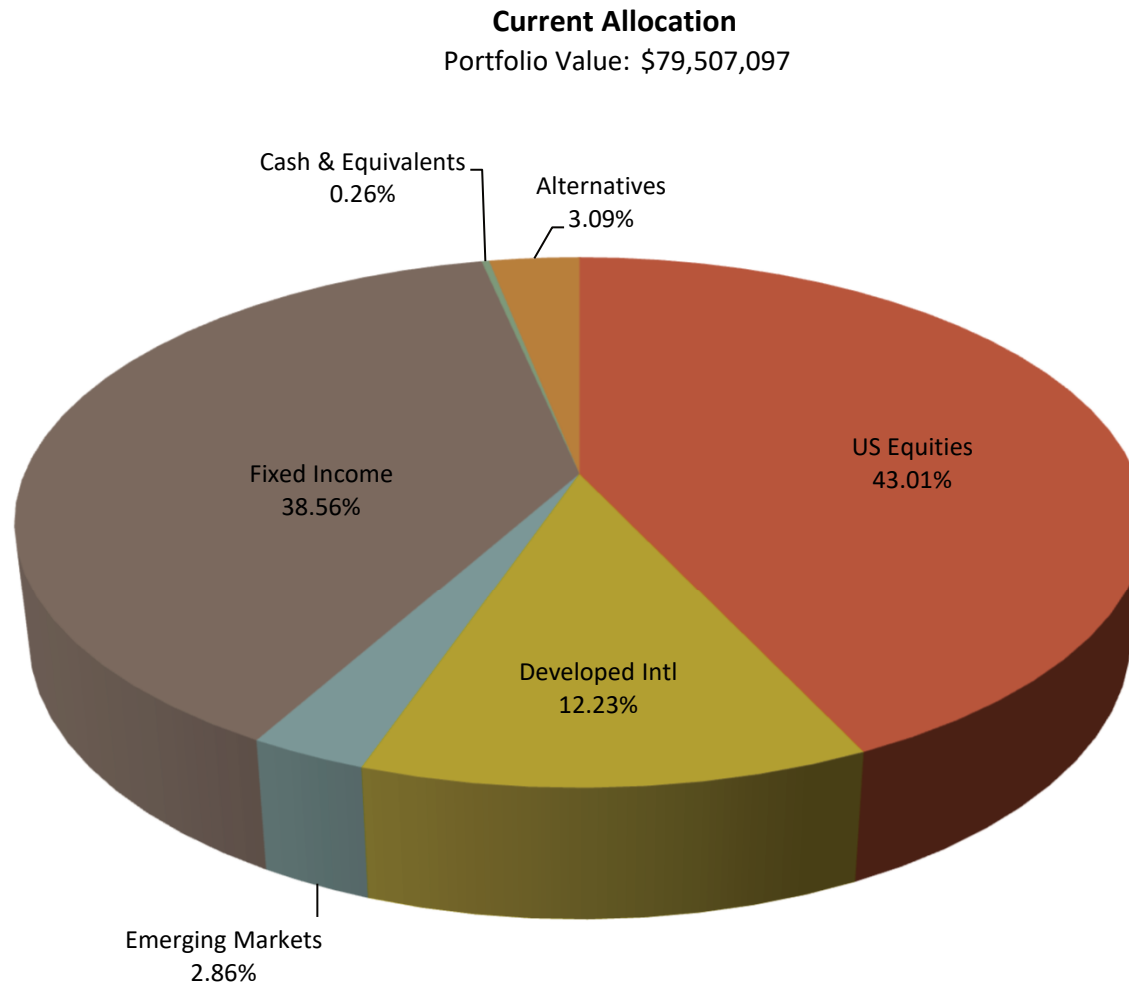
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## Asset Allocation & Investment Matrices



# SCCT Regional Water Authority - Salary & Union Plans



<b>Total Equity</b>	
	<b>58.10%</b>
<b>% of Total Equity</b>	
US Equity	= 74.03%
Intl Equity	= 25.97%
<b>% of Intl Equity</b>	
Developed Intl	= 81.05%
Emerging Markets	= 18.95%
<b>Russell 3000 Style Analysis*</b>	
Value	= 28.03%
Core	= 46.48%
Growth	= 25.49%
<b>US Equity Style Analysis*</b>	
Value	= 35.49%
Core	= 48.07%
Growth	= 16.44%

Assets as of 9/30/2024

Asset Allocation does not assure a profit or protect against loss in declining financial markets

The information and data contained in this report are from sources considered reliable,

but their accuracy and completeness is not guaranteed. This report has been prepared for illustrative purposes only

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to verify its accuracy. The Company strongly encourages you to consult with your own accountants or other

advisors with respect to any tax questions."

\*Equity Style Analysis provided by Morningstar "Asset Scan"

Data Source: Morgan Stanley & Morningstar

SCCT Regional Water Authority - Salary & Union Plans  
 Asset Allocation Matrix Summary  
 As of 9/30/2024

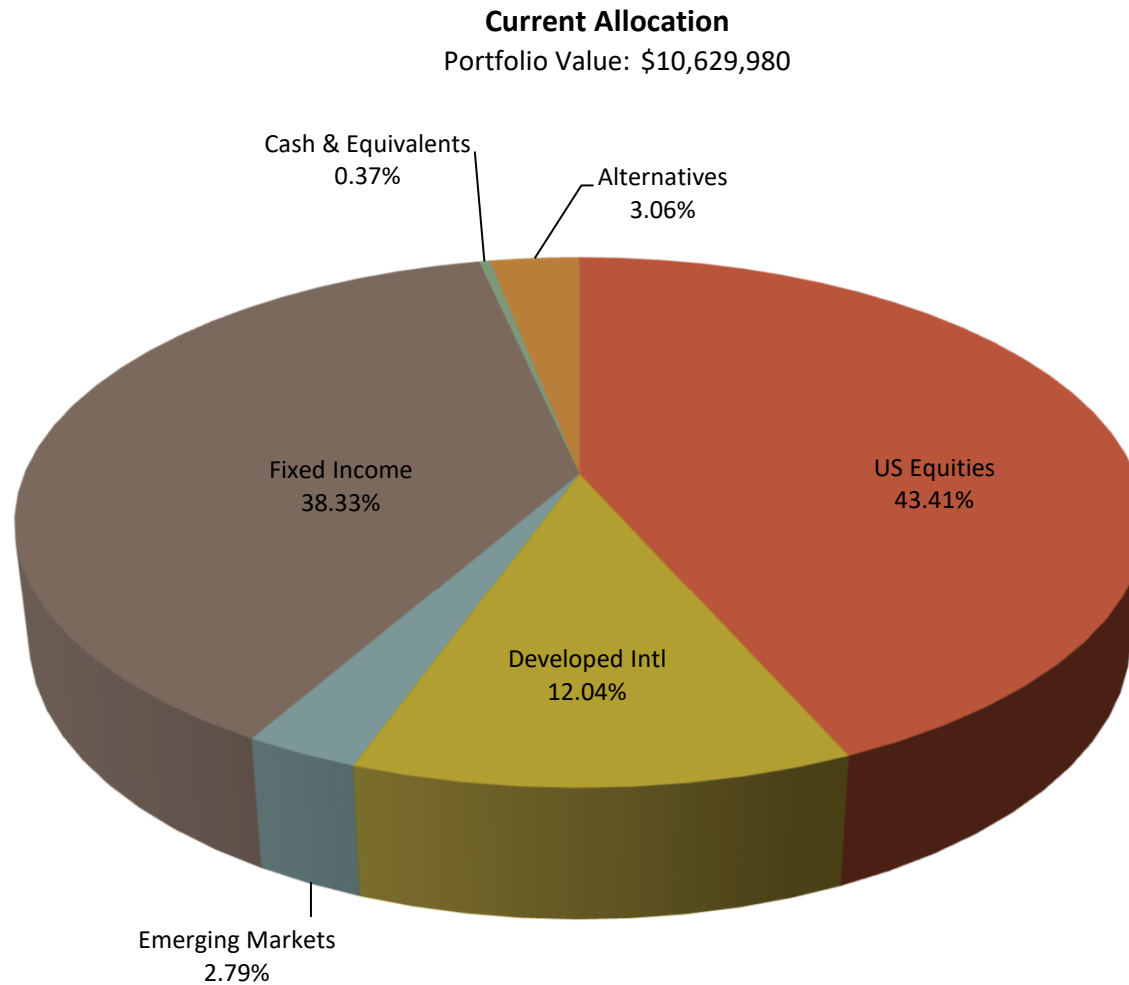
Benchmark vs Actual

	Benchmark	Actual	+/-
Russell 3000	42.00%	43.21%	1.21%
MSCI ACWI ex US	15.00%	14.70%	-0.30%
Bloomberg US Aggregate	31.00%	38.75%	7.75%
FTSE WGBI	3.00%	0.00%	-3.00%
HFRI FOF	5.00%	1.52%	-3.48%
Global Real Estate	2.00%	1.57%	-0.43%
Cash & Equivalents/T-Bills	2.00%	0.26%	-1.74%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>

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# SCCT Regional Water Authority - VEBA Plan



Total Equity	
	<b>58.24%</b>
<b>% of Total Equity</b>	
US Equity	= 74.54%
Intl Equity	= 25.46%
<b>% of Intl Equity</b>	
Developed Intl	= 81.17%
Emerging Markets	= 18.83%
<b>Russell 3000 Style Analysis*</b>	
Value	= 28.03%
Core	= 46.48%
Growth	= 25.49%
<b>US Equity Style Analysis*</b>	
Value	= 35.46%
Core	= 48.07%
Growth	= 16.47%

Assets as of 9/30/2024

Asset Allocation does not assure a profit or protect against loss in declining financial markets

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\*Equity Style Analysis provided by Morningstar "Asset Scan"

Data Source: Morgan Stanley & Morningstar

SCCT Regional Water Authority - VEBA Plan  
 Asset Allocation Matrix Summary  
 As of 9/30/2024

Benchmark vs Actual

	Benchmark	Actual	+/-
Russell 3000	42.00%	43.61%	1.61%
MSCI ACWI ex US	15.00%	14.44%	-0.56%
Bloomberg US Aggregate	31.00%	38.52%	7.52%
FTSE WGBI	3.00%	0.00%	-3.00%
HFRI FOF	5.00%	1.55%	-3.45%
Global Real Estate	2.00%	1.51%	-0.49%
Cash & Equivalents/T-Bills	2.00%	0.37%	-1.63%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>

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## Investment Results



SCCT Regional Water Authority  
Third Quarter Investment Results  
June 30, 2024 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 30-Jun-2024	Net Deposits/Withdrawals	Transfers	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$47,026,582	\$0	\$27,327	\$47,053,909	\$49,889,806	\$2,835,897	6.03%	6.12%
447-xxx451	Union	\$27,918,561	\$0	\$19,066	\$27,937,627	\$29,617,291	\$1,679,664	6.01%	6.11%
447-xxx456	VEBA	\$10,008,031	\$0	\$0	\$10,008,031	\$10,629,980	\$621,949	6.21%	6.31%
axx15a	Matrix Trust (Salaried)	\$721,397	(\$324,374)	\$0	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	\$338,188	(\$229,107)	\$0	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$339,952	(\$195,990)	(\$46,393)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$86,352,712	(\$749,472)	\$0	\$85,603,240	\$90,740,751	\$5,137,510	6.05%	6.14%

June 30, 2024 - September 30, 2024

Actuarial Assumed Rate of Return

**Actuarial Assumed Rate of Return (Current): 6.75% x (3/12)** 1.69%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bill: 5.61%  
 Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bill: 6.07%  
 Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bill: 6.04%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bill: 6.75%  
 Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bill: 7.48%  
 Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bill: 7.53%

Russell 3000	6.23%
S&P 500	5.89%
S&P 500 Equal Weight	9.60%
Russell 1000 Value	9.43%
Russell 1000	6.08%
Russell 1000 Growth	3.19%
Russell 2000	9.27%
MSCI All Country World ex. US	8.06%
MSCI EAFE	7.26%
MSCI EM	8.72%
Bloomberg Aggregate	5.20%
Bloomberg Govt/Credit Intermediate	4.17%
HFRI Fund of Funds Index	1.08%
DJ Global World Real Estate	17.07%
FTSE WGBI Index	6.95%
30 Day T-Bill	1.36%

Performance for accounts held outside of Morgan Stanley are calculated using simple math

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Data Source: Morgan Stanley & Morningstar

SCCT Regional Water Authority  
Fiscal Year Investment Results  
May 31, 2024 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 31-May-2024	Net Deposits/Withdrawals	Transfers*	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$46,574,710	\$0	\$35,687	\$46,610,397	\$49,889,806	\$3,279,409	7.04%	7.16%
447-xxx451	Union	\$27,639,383	\$0	\$33,882	\$27,673,265	\$29,617,291	\$1,944,026	7.03%	7.15%
447-xxx456	VEBA	\$9,914,332	\$0	\$0	\$9,914,332	\$10,629,980	\$715,649	7.22%	7.34%
axx15a	Matrix Trust (Salaried)	\$828,045	(\$431,021)	\$0	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	\$415,577	(\$306,496)	\$0	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$178,145	(\$34,183)	(\$46,393)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$85,550,192	(\$771,701)	\$23,177	\$84,801,668	\$90,740,751	\$5,939,083	7.06%	7.18%

May 31, 2024 - September 30, 2024

Actuarial Assumed Rate of Return

**Actuarial Assumed Rate of Return (Current): 6.75% x (4/12)** 2.25%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills 7.14%  
 Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills 7.77%  
 Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills 7.69%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills 6.99%  
 Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills 7.59%  
 Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills 7.51%

Russell 3000	9.52%
S&P 500	9.69%
S&P 500 Equal Weight	9.10%
Russell 1000 Value	8.40%
Russell 1000	9.59%
Russell 1000 Growth	10.15%
Russell 2000	8.26%
MSCI All Country World ex. US	7.96%
MSCI EAFE	5.53%
MSCI EM	13.01%
Bloomberg Aggregate	6.19%
Bloomberg Govt/Credit Intermediate	5.00%
HFRI Fund of Funds Index	1.39%
DJ Global World Real Estate	17.08%
FTSE WGBI Index	6.92%
30 Day T-Bill	1.81%

**\*Fiscal Year Transfers Balance of \$23,177: Matrix Trust transferred money to Morgan Stanley on 5/31/2024 (\$13,636.40 & \$9,540.10)**

**\*Morgan Stanley accounts did not receive those proceeds until 6/3/2024**

Performance for accounts held outside of Morgan Stanley are calculated using simple math

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SCCT Regional Water Authority  
Year to Date Investment Results  
December 31, 2023 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 31-Dec-2023	Net Deposits/Withdrawals	Transfers	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$45,170,155	\$0	(\$653,308)	\$44,516,847	\$49,889,806	\$5,372,958	12.06%	12.35%
447-xxx451	Union	\$26,796,305	\$0	(\$362,776)	\$26,433,529	\$29,617,291	\$3,183,762	12.04%	12.33%
447-xxx456	VEBA	\$9,470,662	\$0	\$0	\$9,470,662	\$10,629,980	\$1,159,318	12.24%	12.53%
axx15a	Matrix Trust (Salaried)	\$191,440	(\$544,417)	\$750,000	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	\$49,796	(\$370,715)	\$430,000	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$468,937	(\$207,452)	(\$163,916)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$82,147,295	(\$1,122,584)	\$0	\$81,024,712	\$90,740,751	\$9,716,039	12.07%	12.36%

December 31, 2023 - September 30, 2024

Actuarial Assumed Rate of Return

**Actuarial Assumed Rate of Return (Current): 6.75% x (9/12)** 5.06%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bill: 11.17%  
 Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bill: 12.89%  
 Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bill: 13.73%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bill: 9.31%  
 Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bill: 10.59%  
 Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bill: 11.32%

Russell 3000	20.63%
S&P 500	22.08%
S&P 500 Equal Weight	15.16%
Russell 1000 Value	16.68%
Russell 1000	21.18%
Russell 1000 Growth	24.55%
Russell 2000	11.17%
MSCI All Country World ex. US	14.21%
MSCI EAFE	12.99%
MSCI EM	16.86%
Bloomberg Aggregate	4.45%
Bloomberg Govt/Credit Intermediate	4.68%
HFRI Fund of Funds Index	5.98%
DJ Global World Real Estate	12.63%
FTSE WGBI Index	2.72%
30 Day T-Bill	4.13%

Performance for accounts held outside of Morgan Stanley are calculated using simple math

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Data Source: Morgan Stanley & Morningstar

SCCT Regional Water Authority  
Trailing Twelve Month Investment Results  
September 30, 2023 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 30-Sep-2023	Net Deposits/Withdrawals	Transfers	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$41,636,281	\$0	(\$598,467)	\$41,037,814	\$49,889,806	\$8,851,992	21.41%	21.84%
447-xxx451	Union	\$24,688,617	\$0	(\$324,814)	\$24,363,803	\$29,617,291	\$5,253,488	21.42%	21.84%
447-xxx456	VEBA	\$8,724,438	\$0	\$0	\$8,724,438	\$10,629,980	\$1,905,543	21.84%	22.27%
axx15a	Matrix Trust (Salaried)	\$344,210	(\$697,187)	\$750,000	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	\$125,805	(\$446,724)	\$430,000	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$734,880	(\$380,592)	(\$256,719)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$76,254,232	(\$1,524,503)	\$0	\$74,729,729	\$90,740,751	\$16,011,022	21.46%	21.89%

September 30, 2023 - September 30, 2024

Actuarial Assumed Rate of Return

**Actuarial Assumed Rate of Return (Current): 6.75%** 6.75%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bill: 20.96%  
 Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bill: 23.68%  
 Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bill: 24.63%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bill: 18.80%  
 Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bill: 21.01%  
 Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bill: 21.83%

Russell 3000	35.19%
S&P 500	36.35%
S&P 500 Equal Weight	28.83%
Russell 1000 Value	27.76%
Russell 1000	35.68%
Russell 1000 Growth	42.19%
Russell 2000	26.76%
MSCI All Country World ex. US	25.35%
MSCI EAFE	24.77%
MSCI EM	26.05%
Bloomberg Aggregate	11.57%
Bloomberg Govt/Credit Intermediate	9.45%
HFRI Fund of Funds Index	9.32%
DJ Global World Real Estate	30.14%
FTSE WGBI Index	11.02%
30 Day T-Bill	5.56%

Performance for accounts held outside of Morgan Stanley are calculated using simple math

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Data Source: Morgan Stanley & Morningstar

SCCT Regional Water Authority  
Trailing Three Year Investment Results  
September 30, 2021 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 30-Sep-2021	Net Deposits/Withdrawals	Transfers	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$43,368,454	\$0	\$178,061	\$43,546,514	\$49,889,806	\$6,343,292	4.59%	4.96%
447-xxx451	Union	\$26,406,255	\$0	(\$546,898)	\$25,859,357	\$29,617,291	\$3,757,934	4.69%	5.07%
447-xxx456	VEBA	\$9,343,476	\$0	\$0	\$9,343,476	\$10,629,980	\$1,286,504	4.39%	4.77%
447-xxx626*	Skybridge (Salaried)	\$703,953	\$0	(\$704,240)	(\$287)	\$0	\$287	0.02%	0.02%
447-xxx627*	Skybridge (Union)	\$472,660	\$0	(\$472,852)	(\$192)	\$0	\$192	0.02%	0.02%
axx15a	Matrix Trust (Salaried)	(\$79,473)	(\$546,783)	\$1,023,279	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	(\$99,177)	(\$1,160,695)	\$1,368,954	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$270,033	\$673,840	(\$846,304)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$80,386,181	(\$1,033,639)	\$0	\$79,352,543	\$90,740,751	\$11,388,208	4.58%	4.96%

September 30, 2021 - September 30, 2024

Actuarial Assumed Rate of Return

<b>Actuarial Assumed Rate of Return (Current): 6.75%</b>	6.75%
<b>Actuarial Assumed Rate of Return (Prior to 5/31/2021): 7.00%</b>	7.00%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	3.51%
Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	4.57%
Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	5.30%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	2.79%
Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	3.68%
Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	4.37%

Russell 3000	10.29%
S&P 500	11.91%
S&P 500 Equal Weight	8.18%
Russell 1000 Value	9.03%
Russell 1000	10.83%
Russell 1000 Growth	12.02%
Russell 2000	1.84%
MSCI All Country World ex. US	4.14%
MSCI EAFE	5.48%
MSCI EM	0.40%
Bloomberg Aggregate	-1.39%
Bloomberg Govt/Credit Intermediate	0.17%
HFRI Fund of Funds Index	2.25%
DJ Global World Real Estate	0.25%
FTSE WGBI Index	-4.41%
30 Day T-Bill	3.57%

Performance for accounts held outside of Morgan Stanley are calculated using simple math

\*447-xxx626 closed May 2022

\*447-xxx627 closed July 2022

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SCCT Regional Water Authority  
Trailing Five Year Investment Results  
September 30, 2019 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 30-Sep-2019	Net Deposits/Withdrawals	Transfers	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$35,443,944	\$0	(\$283,100)	\$35,160,845	\$49,889,806	\$14,728,961	7.21%	7.60%
447-xxx451	Union	\$22,137,724	\$0	(\$1,471,998)	\$20,665,726	\$29,617,291	\$8,951,564	7.27%	7.66%
447-xxx456	VEBA	\$7,377,600	\$0	\$237,532	\$7,615,132	\$10,629,980	\$3,014,848	7.09%	7.48%
447-xxx626*	Skybridge (Salaried)	\$658,768	\$0	(\$704,240)	(\$45,472)	\$0	\$45,472	1.34%	1.34%
447-xxx627*	Skybridge (Union)	\$442,336	\$0	(\$472,852)	(\$30,516)	\$0	\$30,516	1.33%	1.33%
axx15a	Matrix Trust (Salaried)	\$496,043	(\$1,886,996)	\$1,787,976	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	\$187,186	(\$2,618,666)	\$2,540,561	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$303,795	\$1,427,653	(\$1,633,880)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$67,047,398	(\$3,078,009)	\$0	\$63,969,389	\$90,740,751	\$26,771,361	7.16%	7.54%

September 30, 2019 - September 30, 2024

Actuarial Assumed Rate of Return

<b>Actuarial Assumed Rate of Return (Current): 6.75%</b>	6.75%
<b>Actuarial Assumed Rate of Return (Prior to 5/31/2021): 7.00%</b>	7.00%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	6.61%
Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	7.94%
Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	8.87%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	5.78%
Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	6.91%
Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	7.80%

Russell 3000	15.26%
S&P 500	15.98%
S&P 500 Equal Weight	12.82%
Russell 1000 Value	10.69%
Russell 1000	15.64%
Russell 1000 Growth	19.74%
Russell 2000	9.39%
MSCI All Country World ex. US	7.59%
MSCI EAFE	8.20%
MSCI EM	5.75%
Bloomberg Aggregate	0.33%
Bloomberg Govt/Credit Intermediate	1.26%
HFRI Fund of Funds Index	5.26%
DJ Global World Real Estate	1.92%
FTSE WGBI Index	-2.05%
30 Day T-Bill	2.31%

Performance for accounts held outside of Morgan Stanley are calculated using simple math

\*447-xxx626 closed May 2022

\*447-xxx627 closed July 2022

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SCCT Regional Water Authority  
Trailing Eight Year Investment Results  
September 30, 2016 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 30-Sep-2016	Net Deposits/Withdrawals	Transfers	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$24,328,661	\$0	\$4,358,603	\$28,687,264	\$49,889,806	\$21,202,541	7.35%	7.76%
447-xxx451	Union	\$17,476,209	\$0	(\$1,161,945)	\$16,314,265	\$29,617,291	\$13,303,026	7.37%	7.78%
447-xxx456	VEBA	\$4,191,667	\$0	\$2,167,279	\$6,358,946	\$10,629,980	\$4,271,034	7.24%	7.65%
447-xxx626*	Skybridge (Salaried)	\$461,205	\$0	(\$604,240)	(\$143,036)	\$0	\$143,036	4.26%	4.26%
447-xxx627*	Skybridge (Union)	\$333,092	\$0	(\$432,852)	(\$99,760)	\$0	\$99,760	4.27%	4.27%
axx15a	Matrix Trust (Salaried)	\$277,398	\$2,591,783	(\$2,472,159)	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	\$109,186	(\$2,574,992)	\$2,574,887	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$301,603	\$4,225,540	(\$4,429,574)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$47,479,021	\$4,242,332	\$0	\$51,721,353	\$90,740,751	\$39,019,397	7.30%	7.70%

September 30, 2016 - September 30, 2024

Actuarial Assumed Rate of Return

<b>Actuarial Assumed Rate of Return (Current): 6.75%</b>	6.75%
<b>Actuarial Assumed Rate of Return (Prior to 5/31/2021): 7.00%</b>	7.00%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	6.62%
Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	7.81%
Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	8.55%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	5.87%
Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	6.89%
Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	7.59%

Russell 3000	14.35%
S&P 500	15.00%
S&P 500 Equal Weight	12.15%
Russell 1000 Value	10.22%
Russell 1000	14.72%
Russell 1000 Growth	18.66%
Russell 2000	8.95%
MSCI All Country World ex. US	7.11%
MSCI EAFE	7.55%
MSCI EM	5.83%
Bloomberg Aggregate	1.30%
Bloomberg Govt/Credit Intermediate	1.68%
HFRI Fund of Funds Index	4.46%
DJ Global World Real Estate	4.04%
FTSE WGBI Index	-0.85%
30 Day T-Bill	2.00%

Performance for accounts held outside of Morgan Stanley are calculated using simple math

\*447-xxx626 closed May 2022

\*447-xxx627 closed July 2022

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SCCT Regional Water Authority  
 Since Inception (Fully Invested) Investment Results  
 December 31, 2015 - September 30, 2024

Account Number	Account Type	Beg. Asset Value 31-Dec-2015	Net Deposits/Withdrawals	Transfers	Net Invested	Ending Asset Value 30-Sep-2024	Net \$ Gain/Loss	Gain/Loss (net) %	Gain/Loss (gross) %
447-xxx450	Salaried	\$22,078,953	\$0	\$5,224,246	\$27,303,200	\$49,889,806	\$22,586,606	7.41%	7.82%
447-xxx451	Union	\$16,143,219	\$0	(\$829,206)	\$15,314,014	\$29,617,291	\$14,303,277	7.44%	7.84%
447-xxx456	VEBA	\$2,919,401	\$0	\$3,195,838	\$6,115,239	\$10,629,980	\$4,514,741	7.25%	7.66%
447-xxx626*	Skybridge (Salaried)	\$0	\$0	(\$153,806)	(\$153,806)	\$0	\$153,806	3.31%	3.31%
447-xxx627*	Skybridge (Union)	\$0	\$0	(\$107,539)	(\$107,539)	\$0	\$107,539	3.31%	3.31%
axx15a	Matrix Trust (Salaried)	\$202,978	\$3,970,435	(\$3,776,390)	\$397,023	\$397,023	\$0	-	-
axx15b	Matrix Trust (Union)	\$147,576	(\$1,974,086)	\$1,935,591	\$109,081	\$109,081	\$0	-	-
axx16	Matrix Trust(VEBA)	\$269,858	\$5,316,446	(\$5,488,735)	\$97,569	\$97,569	\$0	-	-
Consolidated		\$41,761,987	\$7,312,795	\$0	\$49,074,781	\$90,740,751	\$41,665,969	7.36%	7.76%

December 31, 2015 - September 30, 2024

Actuarial Assumed Rate of Return

<b>Actuarial Assumed Rate of Return (Current): 6.75%</b>	6.75%
<b>Actuarial Assumed Rate of Return (Prior to 5/31/2021): 7.00%</b>	7.00%

Guidelines/Benchmarks - Market Cap Weighted

Least Equity Risk: 34% R3000, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	6.75%
Strategic: 42% R3000, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	7.90%
Most Equity Risk: 44% R3000, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	8.52%

Guidelines/Benchmarks - Equal Weighted

Least Equity Risk: 34% S&P 500 Equal Weighted, 11% MSCI ACWxUS, 39% Bloomberg Agg, 4% FTSE WGBI, 9% HFRI FOF, 1% Global RE, 2% T-Bills	6.17%
Strategic: 42% S&P 500 Equal Weighted, 15% MSCI ACWxUS, 31% Bloomberg Agg, 3% FTSE WGBI, 5% HFRI FOF, 2% Global RE, 2% T-Bills	7.18%
Most Equity Risk: 44% S&P 500 Equal Weighted, 16% MSCI ACWxUS, 16% Bloomberg Agg, 2% FTSE WGBI, 15% HFRI FOF, 5% Global RE, 2% T-Bills	7.77%

Russell 3000	14.06%
S&P 500	14.62%
S&P 500 Equal Weight	12.34%
Russell 1000 Value	10.50%
Russell 1000	14.37%
Russell 1000 Growth	17.72%
Russell 2000	9.50%
MSCI All Country World ex. US	7.18%
MSCI EAFE	7.09%
MSCI EM	7.12%
Bloomberg Aggregate	1.84%
Bloomberg Govt/Credit Intermediate	2.02%
HFRI Fund of Funds Index	4.02%
DJ Global World Real Estate	4.90%
FTSE WGBI Index	0.42%
30 Day T-Bill	1.85%

Performance for accounts held outside of Morgan Stanley are calculated using simple math

\*447-xxx626 closed May 2022

\*447-xxx627 closed July 2022

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# Morgan Stanley

THE KELLIHER CORBETT GROUP  
AT MORGAN STANLEY

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## SCCTRWA Liability/Cash Flow Analysis: Summary



# Liability/Cash Flow Analysis - Summary

<u>Salary Plan</u>			<u>Equities 10+ Years</u>		<u>Equities 8+ Years</u>		<u>Avg.</u>
<u>Liability Conscious Allocation</u>	<u>IPS Target</u>	<u>Actual Portfolio Allocation</u>	<u>Hybrid LDI Derived</u>	<u>Present Value LDI Derived</u>	<u>Hybrid LDI Derived</u>	<u>Present Value LDI Derived</u>	<u>Average All Methods</u>
Cash/Fixed	30%	35%	47%	44%	34%	34%	39%
Equity	55%	52%	40%	47%	53%	56%	49%
Alternative/Balanced	15%	13%	14%	9%	13%	10%	12%

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

**Equities 10+ Years: Fixed Income used for years 0-7, Alternative/Balanced used for years 8-9**

**Equities 8+ Years: Fixed Income used for years 0-5, Alternative/Balanced used for years 6-7**

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# Liability/Cash Flow Analysis - Summary

<b>Salary Plan</b>			<b>Equities 10+ Years</b>		<b>Equities 8+ Years</b>		<b>Avg.</b>
<b>Liability Conscious Allocation</b>	<b>IPS Target</b>	<b>Actual Portfolio Allocation</b>	<b>Hybrid LDI Derived</b>	<b>Present Value LDI Derived</b>	<b>Hybrid LDI Derived</b>	<b>Present Value LDI Derived</b>	<b>Average All Methods</b>
Cash/Fixed	30%	35%	47%	44%	34%	34%	39%
Equity	55%	52%	40%	47%	53%	56%	49%
Alternative/Balanced	15%	13%	14%	9%	13%	10%	12%

<b>Union Plan</b>			<b>Equities 10+ Years</b>		<b>Equities 8+ Years</b>		<b>Avg.</b>
<b>Liability Conscious Allocation</b>	<b>IPS Target</b>	<b>Actual Portfolio Allocation</b>	<b>Hybrid LDI Derived</b>	<b>Present Value LDI Derived</b>	<b>Hybrid LDI Derived</b>	<b>Present Value LDI Derived</b>	<b>Average All Methods</b>
Cash/Fixed	30%	35%	43%	40%	30%	29%	35%
Equity	55%	52%	43%	51%	57%	60%	53%
Alternative/Balanced	15%	13%	14%	10%	13%	10%	12%

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

**Equities 10+ Years: Fixed Income used for years 0-7, Alternative/Balanced used for years 8-9**

**Equities 8+ Years: Fixed Income used for years 0-5, Alternative/Balanced used for years 6-7**

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# Liability/Cash Flow Analysis - Summary

<u>Salary Plan</u>			<u>Equities 10+ Years</u>		<u>Equities 8+ Years</u>		<u>Avg.</u>
Liability Conscious Allocation	IPS Target	Actual Portfolio Allocation	Hybrid LDI Derived	Present Value LDI Derived	Hybrid LDI Derived	Present Value LDI Derived	Average All Methods
Cash/Fixed	30%	35%	47%	44%	34%	34%	39%
Equity	55%	52%	40%	47%	53%	56%	49%
Alternative/Balanced	15%	13%	14%	9%	13%	10%	12%

<u>Union Plan</u>			<u>Equities 10+ Years</u>		<u>Equities 8+ Years</u>		<u>Avg.</u>
Liability Conscious Allocation	IPS Target	Actual Portfolio Allocation	Hybrid LDI Derived	Present Value LDI Derived	Hybrid LDI Derived	Present Value LDI Derived	Average All Methods
Cash/Fixed	30%	35%	43%	40%	30%	29%	35%
Equity	55%	52%	43%	51%	57%	60%	53%
Alternative/Balanced	15%	13%	14%	10%	13%	10%	12%

<u>VEBA Plan</u>			<u>Equities 10+ Years</u>		<u>Equities 8+ Years</u>		<u>Avg.</u>
Liability Conscious Allocation	IPS Target	Actual Portfolio Allocation	Hybrid LDI Derived	Present Value LDI Derived	Hybrid LDI Derived	Present Value LDI Derived	Average All Methods
Cash/Fixed	30%	35%	62%	59%	44%	45%	52%
Equity	55%	52%	24%	30%	38%	41%	33%
Alternative/Balanced	15%	13%	15%	10%	18%	14%	14%

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

**Equities 10+ Years: Fixed Income used for years 0-7, Alternative/Balanced used for years 8-9**

**Equities 8+ Years: Fixed Income used for years 0-5, Alternative/Balanced used for years 6-7**

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# Expected Asset Class Return Scenarios

## 55% Equity, 30% Fixed, 15% Alt/Balanced

### Morgan Stanley Assumptions as of 3/31/2024

Asset Class	IPS Target Allocation	Morgan Stanley Long-Term Expected Real Rate of Return	Weighted Average Expected Return
Fixed Income	30.00%	3.70%	1.11%
US Equities	37.00%	8.40%	3.11%
Global Equities	4.00%	8.00%	0.32%
International Equities	14.00%	7.30%	1.02%
Alternative/Hedge/Swing	15.00%	6.10%	0.92%
<b>Total</b>	<b>100.00%</b>	<b>-</b>	<b>6.48%</b>

### Historical as of 9/30/2024

Asset Class	IPS Target Allocation	Trailing 10 Year Historical Returns	Weighted Average Expected Return
Fixed Income	30.00%	1.84%	0.55%
US Equities	37.00%	12.83%	4.75%
Global Equities	4.00%	10.07%	0.40%
International Equities	14.00%	5.71%	0.80%
Alternative/Hedge/Swing	15.00%	3.66%	0.55%
<b>Total</b>	<b>100.00%</b>	<b>-</b>	<b>7.05%</b>

**Projected & Historical Average: 6.76%**

## 50% Equity, 35% Fixed, 15% Alt/Balanced

### Morgan Stanley Assumptions as of 3/31/2024

Asset Class	IPS Target Allocation	Morgan Stanley Long-Term Expected Real Rate of Return	Weighted Average Expected Return
Fixed Income	35.00%	3.70%	1.30%
US Equities	34.00%	8.40%	2.86%
Global Equities	3.00%	8.00%	0.24%
International Equities	13.00%	7.30%	0.95%
Alternative/Hedge/Swing	15.00%	6.10%	0.92%
<b>Total</b>	<b>100.00%</b>	<b>-</b>	<b>6.26%</b>

### Historical as of 9/30/2024

Asset Class	IPS Target Allocation	Trailing 10 Year Historical Returns	Weighted Average Expected Return
Fixed Income	35.00%	1.84%	0.64%
US Equities	34.00%	12.83%	4.36%
Global Equities	3.00%	10.07%	0.30%
International Equities	13.00%	5.71%	0.74%
Alternative/Hedge/Swing	15.00%	3.66%	0.55%
<b>Total</b>	<b>100.00%</b>	<b>-</b>	<b>6.60%</b>

**Projected & Historical Average: 6.43%**

Historical Return Proxies: Fixed Income = Bloomberg US Agg Bond TR USD, US Equities = Russell 3000 TR USD, Global Equities = MSCI World NR USD, International Equities = MSCI EAFE NR USD, Alternative/Hedge/Swing = HFRI Fund of Funds Composite

Source: Morgan Stanley Wealth Management Global Investment Committee, Morningstar

Estimates are for illustrative purposes only, are based on proprietary models and are not indicative of the future performance of any specific investment, index or asset class. Actual performance may be more or less than the estimates shown in this table. Estimates of future performance are based on assumptions that may not be realized. Investor Suitability: Morgan Stanley Wealth Management recommends that investors independently evaluate each asset class, investment style, issuer, security, instrument or strategy discussed. Legal, accounting and tax restrictions, transaction costs and changes to any assumptions may significantly affect the economics and results of any investment. Investors should consult their own tax, legal or other advisors to determine suitability for their specific circumstances. Investments in private funds (including hedge funds, managed futures funds and private equity funds) are speculative and include a high degree of risk.



# Morgan Stanley

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## Appendix



# Morgan Stanley

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## Liability/Cash Flow Analysis: Detailed



# Liability/Cash Flow Analysis - Salaried Plan

Valuation Year	Duration	Gross Benefit Payments (\$)	PV Benefit Payments (\$)	Pension Contribution (\$)	Net Benefit Payments (\$)	Present Value (Net \$)	Hybrid LDI (Net \$) <sup>1</sup>	Investment Product
2024	0	\$ 4,599,925	\$ 4,599,925	\$ (1,858,865)	\$ 2,741,060	\$ 2,741,060	\$ 2,741,060	Cash Flow Matched
2025	1	\$ 4,399,133	\$ 4,120,983	\$ (1,709,097)	\$ 2,690,036	\$ 2,519,949	\$ 2,690,036	
2026	2	\$ 4,388,128	\$ 3,850,763	\$ (1,695,401)	\$ 2,692,727	\$ 2,362,979	\$ 2,692,727	Core Fixed Income
2027	3	\$ 4,480,448	\$ 3,683,178	\$ (1,677,897)	\$ 2,802,551	\$ 2,303,853	\$ 2,802,551	
2028	4	\$ 4,610,079	\$ 3,550,123	\$ (1,625,879)	\$ 2,984,200	\$ 2,298,068	\$ 2,984,200	
<b>2024-2028</b>	<b>0-4</b>	<b>\$ 22,477,713</b>	<b>\$ 19,804,972</b>	<b>\$ (8,567,139)</b>	<b>\$ 13,910,574</b>	<b>\$ 12,225,910</b>	<b>\$ 13,910,574</b>	
2029	5	\$ 4,672,364	\$ 3,370,586	\$ (1,563,205)	\$ 3,109,159	\$ 2,242,909	\$ 3,109,159	Plus Fixed Income
2030	6	\$ 4,744,700	\$ 3,206,352	\$ (1,483,610)	\$ 3,261,090	\$ 2,203,765	\$ 3,261,090	
2031	7	\$ 4,718,745	\$ 2,987,189	\$ (1,378,510)	\$ 3,340,235	\$ 2,114,527	\$ 3,340,235	Alternative/Balanced
2032	8	\$ 4,628,529	\$ 2,744,814	\$ (1,295,959)	\$ 3,332,570	\$ 1,976,283	\$ 3,332,570	
2033	9	\$ 4,827,027	\$ 2,681,535	\$ (1,222,723)	\$ 3,604,304	\$ 2,002,282	\$ 3,604,304	
<b>2029-2033</b>	<b>5-9</b>	<b>\$ 23,591,365</b>	<b>\$ 14,990,476</b>	<b>\$ (6,944,007)</b>	<b>\$ 16,647,358</b>	<b>\$ 10,539,766</b>	<b>\$ 16,647,358</b>	
2034	10	\$ 4,655,942	\$ 2,422,953	\$ (1,106,981)	\$ 3,548,961	\$ 1,846,880	\$ 1,846,880	US/Global Equity
2035	11	\$ 4,565,794	\$ 2,225,807	\$ (996,714)	\$ 3,569,080	\$ 1,739,913	\$ 1,739,913	
2036	12	\$ 4,699,987	\$ 2,146,355	\$ (924,122)	\$ 3,775,865	\$ 1,724,334	\$ 1,724,334	
2037	13	\$ 4,430,856	\$ 1,895,511	\$ (808,245)	\$ 3,622,611	\$ 1,549,745	\$ 1,549,745	
2038	14	\$ 4,312,157	\$ 1,728,093	\$ (727,256)	\$ 3,584,901	\$ 1,436,646	\$ 1,436,646	
<b>2034-2038</b>	<b>10-14</b>	<b>\$ 22,664,736</b>	<b>\$ 10,418,719</b>	<b>\$ (4,563,318)</b>	<b>\$ 18,101,418</b>	<b>\$ 8,297,518</b>	<b>\$ 8,297,518</b>	
2039	15	\$ 4,067,680	\$ 1,527,049	\$ (642,733)	\$ 3,424,947	\$ 1,285,760	\$ 1,285,760	US/Global Equity
2040	16	\$ 4,044,698	\$ 1,422,414	\$ (590,685)	\$ 3,454,013	\$ 1,214,686	\$ 1,214,686	
2041	17	\$ 3,919,412	\$ 1,291,203	\$ (509,505)	\$ 3,409,907	\$ 1,123,353	\$ 1,123,353	
2042	18	\$ 3,701,763	\$ 1,142,394	\$ (453,139)	\$ 3,248,624	\$ 1,002,552	\$ 1,002,552	
2043	19	\$ 3,488,768	\$ 1,008,587	\$ (398,192)	\$ 3,090,576	\$ 893,471	\$ 893,471	
<b>2039-2043</b>	<b>15-19</b>	<b>\$ 19,222,321</b>	<b>\$ 6,391,647</b>	<b>\$ (2,594,254)</b>	<b>\$ 16,628,067</b>	<b>\$ 5,519,822</b>	<b>\$ 5,519,822</b>	
<b>2044-2048</b>	<b>20-24</b>	<b>\$ 15,222,513</b>	<b>\$ 3,660,424</b>	<b>\$ (1,355,165)</b>	<b>\$ 13,867,348</b>	<b>\$ 3,334,559</b>	<b>\$ 3,334,559</b>	US/Global Equity
<b>2049-2053</b>	<b>25-29</b>	<b>\$ 10,393,091</b>	<b>\$ 1,810,230</b>	<b>\$ (533,229)</b>	<b>\$ 9,859,862</b>	<b>\$ 1,717,354</b>	<b>\$ 1,717,354</b>	
<b>2054+</b>	<b>30+</b>	<b>\$ 12,884,466</b>	<b>\$ 1,312,453</b>	<b>\$ (138,828)</b>	<b>\$ 12,745,638</b>	<b>\$ 1,298,312</b>	<b>\$ 1,298,312</b>	
<b>Total</b>		<b>\$ 126,456,205</b>	<b>\$ 58,388,921</b>	<b>\$ (24,695,940)</b>	<b>\$ 101,760,265</b>	<b>\$ 42,933,240</b>	<b>\$ 50,725,497</b>	

	Hybrid LDI Derived	Present Value LDI Derived	IPS Target	Actual Portfolio Allocation
Liability Conscious Allocation				
Cash/Fixed	47%	44%	30%	36%
Equity	40%	47%	55%	52%
Alternative/Balanced	14%	9%	15%	12%

**\*Salaried Plan 9/30/2024 Value: \$49,889,806**

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years

Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

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# Liability/Cash Flow Analysis - Salaried Plan

Valuation		Gross Benefit	PV Benefit	Pension	Net Benefit	Present	Hybrid	Investment
Year	Duration	Payments (\$)	Payments (\$)	Contribution (\$)	Payments (\$)	Value (Net \$)	LDI (Net \$) <sup>1</sup>	Product
2024	0	\$ 4,599,925	\$ 4,599,925	\$ (1,858,865)	\$ 2,741,060	\$ 2,741,060	\$ 2,741,060	Cash Flow Matched
2025	1	\$ 4,399,133	\$ 4,120,983	\$ (1,709,097)	\$ 2,690,036	\$ 2,519,949	\$ 2,690,036	
2026	2	\$ 4,388,128	\$ 3,850,763	\$ (1,695,401)	\$ 2,692,727	\$ 2,362,979	\$ 2,692,727	Core Fixed Income
2027	3	\$ 4,480,448	\$ 3,683,178	\$ (1,677,897)	\$ 2,802,551	\$ 2,303,853	\$ 2,802,551	
2028	4	\$ 4,610,079	\$ 3,550,123	\$ (1,625,879)	\$ 2,984,200	\$ 2,298,068	\$ 2,984,200	Plus Fixed Income
<b>2024-2028</b>	<b>0-4</b>	<b>\$ 22,477,713</b>	<b>\$ 19,804,972</b>	<b>\$ (8,567,139)</b>	<b>\$ 13,910,574</b>	<b>\$ 12,225,910</b>	<b>\$ 13,910,574</b>	
2029	5	\$ 4,672,364	\$ 3,370,586	\$ (1,563,205)	\$ 3,109,159	\$ 2,242,909	\$ 3,109,159	Plus Fixed Income
2030	6	\$ 4,744,700	\$ 3,206,352	\$ (1,483,610)	\$ 3,261,090	\$ 2,203,765	\$ 3,261,090	
2031	7	\$ 4,718,745	\$ 2,987,189	\$ (1,378,510)	\$ 3,340,235	\$ 2,114,527	\$ 3,340,235	Alternative/Balanced
2032	8	\$ 4,628,529	\$ 2,744,814	\$ (1,295,959)	\$ 3,332,570	\$ 1,976,283	\$ 3,332,570	
2033	9	\$ 4,827,027	\$ 2,681,535	\$ (1,222,723)	\$ 3,604,304	\$ 2,002,282	\$ 3,604,304	US/Global Equity
<b>2029-2033</b>	<b>5-9</b>	<b>\$ 23,591,365</b>	<b>\$ 14,990,476</b>	<b>\$ (6,944,007)</b>	<b>\$ 16,647,358</b>	<b>\$ 10,539,766</b>	<b>\$ 16,647,358</b>	
2034	10	\$ 4,655,942	\$ 2,422,953	\$ (1,106,981)	\$ 3,548,961	\$ 1,846,880	\$ 1,846,880	US/Global Equity
2035	11	\$ 4,565,794	\$ 2,225,807	\$ (996,714)	\$ 3,569,080	\$ 1,739,913	\$ 1,739,913	
2036	12	\$ 4,699,987	\$ 2,146,355	\$ (924,122)	\$ 3,775,865	\$ 1,724,334	\$ 1,724,334	
2037	13	\$ 4,430,856	\$ 1,895,511	\$ (808,245)	\$ 3,622,611	\$ 1,549,745	\$ 1,549,745	
2038	14	\$ 4,312,157	\$ 1,728,093	\$ (727,256)	\$ 3,584,901	\$ 1,436,646	\$ 1,436,646	
<b>2034-2038</b>	<b>10-14</b>	<b>\$ 22,664,736</b>	<b>\$ 10,418,719</b>	<b>\$ (4,563,318)</b>	<b>\$ 18,101,418</b>	<b>\$ 8,297,518</b>	<b>\$ 8,297,518</b>	
2039	15	\$ 4,067,680	\$ 1,527,049	\$ (642,733)	\$ 3,424,947	\$ 1,285,760	\$ 1,285,760	US/Global Equity
2040	16	\$ 4,044,698	\$ 1,422,414	\$ (590,685)	\$ 3,454,013	\$ 1,214,686	\$ 1,214,686	
2041	17	\$ 3,919,412	\$ 1,291,203	\$ (509,505)	\$ 3,409,907	\$ 1,123,353	\$ 1,123,353	
2042	18	\$ 3,701,763	\$ 1,142,394	\$ (453,139)	\$ 3,248,624	\$ 1,002,552	\$ 1,002,552	
2043	19	\$ 3,488,768	\$ 1,008,587	\$ (398,192)	\$ 3,090,576	\$ 893,471	\$ 893,471	
<b>2039-2043</b>	<b>15-19</b>	<b>\$ 19,222,321</b>	<b>\$ 6,391,647</b>	<b>\$ (2,594,254)</b>	<b>\$ 16,628,067</b>	<b>\$ 5,519,822</b>	<b>\$ 5,519,822</b>	
<b>2044-2048</b>	<b>20-24</b>	<b>\$ 15,222,513</b>	<b>\$ 3,660,424</b>	<b>\$ (1,355,165)</b>	<b>\$ 13,867,348</b>	<b>\$ 3,334,559</b>	<b>\$ 3,334,559</b>	US/Global Equity
<b>2049-2053</b>	<b>25-29</b>	<b>\$ 10,393,091</b>	<b>\$ 1,810,230</b>	<b>\$ (533,229)</b>	<b>\$ 9,859,862</b>	<b>\$ 1,717,354</b>	<b>\$ 1,717,354</b>	
<b>2054+</b>	<b>30+</b>	<b>\$ 12,884,466</b>	<b>\$ 1,312,453</b>	<b>\$ (138,828)</b>	<b>\$ 12,745,638</b>	<b>\$ 1,298,312</b>	<b>\$ 1,298,312</b>	
<b>Total</b>		<b>\$ 126,456,205</b>	<b>\$ 58,388,921</b>	<b>\$ (24,695,940)</b>	<b>\$ 101,760,265</b>	<b>\$ 42,933,240</b>	<b>\$ 50,725,497</b>	

	Hybrid LDI	Present Value LDI		Actual Portfolio
Liability Conscious Allocation	Derived	Derived	IPS Target	Allocation
Cash/Fixed	34%	34%	30%	36%
Equity	53%	56%	55%	52%
Alternative/Balanced	13%	10%	15%	12%

**\*Salaried Plan 9/30/2024 Value: \$49,889,806**

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years

Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

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# Liability/Cash Flow Analysis - Union Plan

Valuation		Gross Benefit	PV Benefit	Pension	Net Benefit	Present	Hybrid	Investment
Year	Duration	Payments (\$)	Payments (\$)	Contribution (\$)	Payments (\$)	Value (Net \$)	LDI (Net \$) <sup>1</sup>	Product
2024	0	\$ 2,081,986	\$ 2,081,986	\$ (1,062,438)	\$ 1,019,548	\$ 1,019,548	\$ 1,019,548	Cash Flow Matched
2025	1	\$ 2,217,340	\$ 2,077,133	\$ (771,946)	\$ 1,445,394	\$ 1,353,999	\$ 1,445,394	
2026	2	\$ 2,289,185	\$ 2,008,839	\$ (847,283)	\$ 1,441,902	\$ 1,265,319	\$ 1,441,902	Core Fixed Income
2027	3	\$ 2,351,637	\$ 1,933,155	\$ (802,325)	\$ 1,549,312	\$ 1,273,607	\$ 1,549,312	
2028	4	\$ 2,463,017	\$ 1,896,688	\$ (772,799)	\$ 1,690,218	\$ 1,301,581	\$ 1,690,218	
<b>2024-2028</b>	<b>0-4</b>	<b>\$ 11,403,165</b>	<b>\$ 9,997,801</b>	<b>\$ (4,256,791)</b>	<b>\$ 7,146,374</b>	<b>\$ 6,214,053</b>	<b>\$ 7,146,374</b>	
2029	5	\$ 2,518,739	\$ 1,816,953	\$ (728,828)	\$ 1,789,911	\$ 1,291,195	\$ 1,789,911	Plus Fixed Income
2030	6	\$ 2,582,889	\$ 1,745,414	\$ (658,313)	\$ 1,924,576	\$ 1,300,552	\$ 1,924,576	
2031	7	\$ 2,640,923	\$ 1,671,785	\$ (601,405)	\$ 2,039,518	\$ 1,291,077	\$ 2,039,518	Alternative/Balanced
2032	8	\$ 2,660,451	\$ 1,577,656	\$ (533,885)	\$ 2,126,566	\$ 1,261,060	\$ 2,126,566	
2033	9	\$ 2,699,781	\$ 1,499,746	\$ (474,436)	\$ 2,225,345	\$ 1,236,194	\$ 2,225,345	
<b>2029-2033</b>	<b>5-9</b>	<b>\$ 13,102,783</b>	<b>\$ 8,311,554</b>	<b>\$ (2,996,867)</b>	<b>\$ 10,105,916</b>	<b>\$ 6,380,079</b>	<b>\$ 10,105,916</b>	
2034	10	\$ 2,726,632	\$ 1,418,887	\$ (419,894)	\$ 2,306,738	\$ 1,200,382	\$ 1,200,382	US/Global Equity
2035	11	\$ 2,690,273	\$ 1,311,444	\$ (370,134)	\$ 2,320,139	\$ 1,131,012	\$ 1,131,012	
2036	12	\$ 2,640,247	\$ 1,205,674	\$ (301,876)	\$ 2,338,371	\$ 1,067,822	\$ 1,067,822	
2037	13	\$ 2,607,189	\$ 1,115,296	\$ (264,454)	\$ 2,342,735	\$ 1,002,169	\$ 1,002,169	
2038	14	\$ 2,561,144	\$ 1,026,322	\$ (238,784)	\$ 2,322,360	\$ 930,635	\$ 930,635	
<b>2034-2038</b>	<b>10-14</b>	<b>\$ 13,225,485</b>	<b>\$ 6,077,623</b>	<b>\$ (1,595,142)</b>	<b>\$ 11,630,343</b>	<b>\$ 5,332,020</b>	<b>\$ 5,332,020</b>	
2039	15	\$ 2,485,300	\$ 932,955	\$ (211,347)	\$ 2,273,953	\$ 853,618	\$ 853,618	US/Global Equity
2040	16	\$ 2,411,267	\$ 847,928	\$ (182,897)	\$ 2,228,370	\$ 783,612	\$ 783,612	
2041	17	\$ 2,323,215	\$ 765,306	\$ (164,359)	\$ 2,158,856	\$ 711,163	\$ 711,163	
2042	18	\$ 2,239,322	\$ 691,026	\$ (147,578)	\$ 2,091,744	\$ 645,485	\$ 645,485	
2043	19	\$ 2,141,774	\$ 619,133	\$ (127,132)	\$ 2,014,642	\$ 582,382	\$ 582,382	
<b>2039-2043</b>	<b>15-19</b>	<b>\$ 11,600,878</b>	<b>\$ 3,856,348</b>	<b>\$ (833,313)</b>	<b>\$ 10,767,565</b>	<b>\$ 3,576,260</b>	<b>\$ 3,576,260</b>	
<b>2044-2048</b>	<b>20-24</b>	<b>\$ 9,133,722</b>	<b>\$ 2,196,568</b>	<b>\$ (389,784)</b>	<b>\$ 8,743,938</b>	<b>\$ 2,102,829</b>	<b>\$ 2,102,829</b>	US/Global Equity
<b>2049-2053</b>	<b>25-29</b>	<b>\$ 6,442,393</b>	<b>\$ 1,120,958</b>	<b>\$ (166,563)</b>	<b>\$ 6,275,830</b>	<b>\$ 1,091,977</b>	<b>\$ 1,091,977</b>	
<b>2054+</b>	<b>30+</b>	<b>\$ 8,066,817</b>	<b>\$ 807,578</b>	<b>\$ (11,127)</b>	<b>\$ 8,055,690</b>	<b>\$ 806,464</b>	<b>\$ 806,464</b>	
<b>Total</b>		<b>\$ 72,975,243</b>	<b>\$ 32,368,430</b>	<b>\$ (10,249,587)</b>	<b>\$ 62,725,656</b>	<b>\$ 25,503,682</b>	<b>\$ 30,161,840</b>	

	Hybrid LDI	Present Value LDI		Actual Portfolio
Liability Conscious Allocation	Derived	Derived	IPS Target	Allocation
Cash/Fixed	43%	40%	30%	36%
Equity	43%	51%	55%	52%
Alternative/Balanced	14%	10%	15%	12%

**\*Union Plan 9/30/2024 Value: \$29,617,291**

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years

Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

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# Liability/Cash Flow Analysis - Union Plan

Valuation		Gross Benefit	PV Benefit	Pension	Net Benefit	Present	Hybrid	Investment
Year	Duration	Payments (\$)	Payments (\$)	Contribution (\$)	Payments (\$)	Value (Net \$)	LDI (Net \$) <sup>1</sup>	Product
2024	0	\$ 2,081,986	\$ 2,081,986	\$ (1,062,438)	\$ 1,019,548	\$ 1,019,548	\$ 1,019,548	Cash Flow Matched
2025	1	\$ 2,217,340	\$ 2,077,133	\$ (771,946)	\$ 1,445,394	\$ 1,353,999	\$ 1,445,394	
2026	2	\$ 2,289,185	\$ 2,008,839	\$ (847,283)	\$ 1,441,902	\$ 1,265,319	\$ 1,441,902	Core Fixed Income
2027	3	\$ 2,351,637	\$ 1,933,155	\$ (802,325)	\$ 1,549,312	\$ 1,273,607	\$ 1,549,312	
2028	4	\$ 2,463,017	\$ 1,896,688	\$ (772,799)	\$ 1,690,218	\$ 1,301,581	\$ 1,690,218	Plus Fixed Income
<b>2024-2028</b>	<b>0-4</b>	<b>\$ 11,403,165</b>	<b>\$ 9,997,801</b>	<b>\$ (4,256,791)</b>	<b>\$ 7,146,374</b>	<b>\$ 6,214,053</b>	<b>\$ 7,146,374</b>	
2029	5	\$ 2,518,739	\$ 1,816,953	\$ (728,828)	\$ 1,789,911	\$ 1,291,195	\$ 1,789,911	Plus Fixed Income
2030	6	\$ 2,582,889	\$ 1,745,414	\$ (658,313)	\$ 1,924,576	\$ 1,300,552	\$ 1,924,576	
2031	7	\$ 2,640,923	\$ 1,671,785	\$ (601,405)	\$ 2,039,518	\$ 1,291,077	\$ 2,039,518	Alternative/Balanced
2032	8	\$ 2,660,451	\$ 1,577,656	\$ (533,885)	\$ 2,126,566	\$ 1,261,060	\$ 2,126,566	
2033	9	\$ 2,699,781	\$ 1,499,746	\$ (474,436)	\$ 2,225,345	\$ 1,236,194	\$ 2,225,345	US/Global Equity
<b>2029-2033</b>	<b>5-9</b>	<b>\$ 13,102,783</b>	<b>\$ 8,311,554</b>	<b>\$ (2,996,867)</b>	<b>\$ 10,105,916</b>	<b>\$ 6,380,079</b>	<b>\$ 10,105,916</b>	
2034	10	\$ 2,726,632	\$ 1,418,887	\$ (419,894)	\$ 2,306,738	\$ 1,200,382	\$ 1,200,382	US/Global Equity
2035	11	\$ 2,690,273	\$ 1,311,444	\$ (370,134)	\$ 2,320,139	\$ 1,131,012	\$ 1,131,012	
2036	12	\$ 2,640,247	\$ 1,205,674	\$ (301,876)	\$ 2,338,371	\$ 1,067,822	\$ 1,067,822	
2037	13	\$ 2,607,189	\$ 1,115,296	\$ (264,454)	\$ 2,342,735	\$ 1,002,169	\$ 1,002,169	
2038	14	\$ 2,561,144	\$ 1,026,322	\$ (238,784)	\$ 2,322,360	\$ 930,635	\$ 930,635	
<b>2034-2038</b>	<b>10-14</b>	<b>\$ 13,225,485</b>	<b>\$ 6,077,623</b>	<b>\$ (1,595,142)</b>	<b>\$ 11,630,343</b>	<b>\$ 5,332,020</b>	<b>\$ 5,332,020</b>	
2039	15	\$ 2,485,300	\$ 932,955	\$ (211,347)	\$ 2,273,953	\$ 853,618	\$ 853,618	US/Global Equity
2040	16	\$ 2,411,267	\$ 847,928	\$ (182,897)	\$ 2,228,370	\$ 783,612	\$ 783,612	
2041	17	\$ 2,323,215	\$ 765,306	\$ (164,359)	\$ 2,158,856	\$ 711,163	\$ 711,163	
2042	18	\$ 2,239,322	\$ 691,026	\$ (147,578)	\$ 2,091,744	\$ 645,485	\$ 645,485	
2043	19	\$ 2,141,774	\$ 619,133	\$ (127,132)	\$ 2,014,642	\$ 582,382	\$ 582,382	
<b>2039-2043</b>	<b>15-19</b>	<b>\$ 11,600,878</b>	<b>\$ 3,856,348</b>	<b>\$ (833,313)</b>	<b>\$ 10,767,565</b>	<b>\$ 3,576,260</b>	<b>\$ 3,576,260</b>	
<b>2044-2048</b>	<b>20-24</b>	<b>\$ 9,133,722</b>	<b>\$ 2,196,568</b>	<b>\$ (389,784)</b>	<b>\$ 8,743,938</b>	<b>\$ 2,102,829</b>	<b>\$ 2,102,829</b>	US/Global Equity
<b>2049-2053</b>	<b>25-29</b>	<b>\$ 6,442,393</b>	<b>\$ 1,120,958</b>	<b>\$ (166,563)</b>	<b>\$ 6,275,830</b>	<b>\$ 1,091,977</b>	<b>\$ 1,091,977</b>	
<b>2054+</b>	<b>30+</b>	<b>\$ 8,066,817</b>	<b>\$ 807,578</b>	<b>\$ (11,127)</b>	<b>\$ 8,055,690</b>	<b>\$ 806,464</b>	<b>\$ 806,464</b>	
<b>Total</b>		<b>\$ 72,975,243</b>	<b>\$ 32,368,430</b>	<b>\$ (10,249,587)</b>	<b>\$ 62,725,656</b>	<b>\$ 25,503,682</b>	<b>\$ 30,161,840</b>	

	Hybrid LDI	Present Value LDI		Actual Portfolio
Liability Conscious Allocation	Derived	Derived	IPS Target	Allocation
Cash/Fixed	30%	29%	30%	36%
Equity	57%	60%	55%	52%
Alternative/Balanced	13%	10%	15%	12%

**\*Union Plan 9/30/2024 Value: \$29,617,291**

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years

Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

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# Liability/Cash Flow Analysis - VEBA

Valuation		Gross Benefit	PV Benefit	Pension	Net Benefit	Present	Hybrid	Investment
Year	Duration	Payments (\$)	Payments (\$)	Contribution (\$)	Payments (\$)	Value (Net \$)	LDI (Net \$) <sup>1</sup>	Product
2024	0	\$ 2,170,797	\$ 2,106,771	\$ (1,395,000)	\$ 775,797	\$ 752,915	\$ 775,797	Cash Flow Matched
2025	1	\$ 2,188,999	\$ 1,990,104	\$ (1,395,000)	\$ 793,999	\$ 721,855	\$ 793,999	
2026	2	\$ 2,289,142	\$ 1,949,553	\$ (1,395,000)	\$ 894,142	\$ 761,498	\$ 894,142	Core Fixed Income
2027	3	\$ 2,410,839	\$ 1,923,369	\$ (1,395,000)	\$ 1,015,839	\$ 810,437	\$ 1,015,839	
2028	4	\$ 2,535,925	\$ 1,895,234	\$ (1,395,000)	\$ 1,140,925	\$ 852,675	\$ 1,140,925	
<b>2024-2028</b>	<b>0-4</b>	<b>\$ 11,595,702</b>	<b>\$ 9,865,031</b>	<b>\$ (6,975,000)</b>	<b>\$ 4,620,702</b>	<b>\$ 3,899,381</b>	<b>\$ 4,620,702</b>	
2029	5	\$ 2,578,472	\$ 1,805,182	\$ (1,395,000)	\$ 1,183,472	\$ 828,546	\$ 1,183,472	Plus Fixed Income
2030	6	\$ 2,622,438	\$ 1,719,871	\$ (1,395,000)	\$ 1,227,438	\$ 804,989	\$ 1,227,438	
2031	7	\$ 2,557,065	\$ 1,570,958	\$ (1,395,000)	\$ 1,162,065	\$ 713,926	\$ 1,162,065	Alternative/Balanced
2032	8	\$ 2,368,674	\$ 1,363,202	\$ (1,395,000)	\$ 973,674	\$ 560,362	\$ 973,674	
2033	9	\$ 2,388,426	\$ 1,287,653	\$ (1,395,000)	\$ 993,426	\$ 535,578	\$ 993,426	
<b>2029-2033</b>	<b>5-9</b>	<b>\$ 12,515,075</b>	<b>\$ 7,746,866</b>	<b>\$ (6,975,000)</b>	<b>\$ 5,540,075</b>	<b>\$ 3,443,401</b>	<b>\$ 5,540,075</b>	
2034	10	\$ 2,358,149	\$ 1,190,942	\$ (1,395,000)	\$ 963,149	\$ 486,422	\$ 486,422	US/Global Equity
2035	11	\$ 2,251,929	\$ 1,065,384	\$ (1,395,000)	\$ 856,929	\$ 405,412	\$ 405,412	
2036	12	\$ 1,999,776	\$ 886,267	\$ (1,395,000)	\$ 604,776	\$ 268,027	\$ 268,027	
2037	13	\$ 1,965,986	\$ 816,199	\$ (1,395,000)	\$ 570,986	\$ 237,051	\$ 237,051	
2038	14	\$ 1,839,832	\$ 715,527	\$ (1,395,000)	\$ 444,832	\$ 172,999	\$ 172,999	
<b>2034-2038</b>	<b>10-14</b>	<b>\$ 10,415,672</b>	<b>\$ 4,674,319</b>	<b>\$ (6,975,000)</b>	<b>\$ 3,440,672</b>	<b>\$ 1,569,910</b>	<b>\$ 1,569,910</b>	
2039	15	\$ 1,792,209	\$ 652,933	\$ (1,395,000)	\$ 397,209	\$ 144,710	\$ 144,710	US/Global Equity
2040	16	\$ 1,637,581	\$ 558,875	\$ (1,395,000)	\$ 242,581	\$ 82,788	\$ 82,788	
2041	17	\$ 1,529,072	\$ 488,846	\$ (1,395,000)	\$ 134,072	\$ 42,863	\$ 42,863	
2042	18	\$ 1,375,213	\$ 411,857	\$ (1,395,000)	\$ (19,787)	\$ (5,926)	\$ (5,926)	
2043	19	\$ 1,256,454	\$ 352,497	\$ (1,395,000)	\$ (138,546)	\$ (38,869)	\$ (38,869)	
<b>2039-2043</b>	<b>15-19</b>	<b>\$ 7,590,529</b>	<b>\$ 2,465,008</b>	<b>\$ (6,975,000)</b>	<b>\$ 615,529</b>	<b>\$ 225,566</b>	<b>\$ 225,566</b>	
<b>2044-2048</b>	<b>20-24</b>	<b>\$ 4,845,578</b>	<b>\$ 1,132,687</b>	<b>\$ (4,133,666)</b>	<b>\$ 711,912</b>	<b>\$ 166,414</b>	<b>\$ 166,414</b>	US/Global Equity
<b>2049-2053</b>	<b>25-29</b>	<b>\$ 3,532,513</b>	<b>\$ 594,157</b>	<b>\$ -</b>	<b>\$ 3,532,513</b>	<b>\$ 594,157</b>	<b>\$ 594,157</b>	
<b>2054+</b>	<b>30+</b>	<b>\$ 6,539,496</b>	<b>\$ 603,159</b>	<b>\$ -</b>	<b>\$ 6,539,496</b>	<b>\$ 603,159</b>	<b>\$ 603,159</b>	
<b>Total</b>		<b>\$ 57,034,565</b>	<b>\$ 27,081,227</b>	<b>\$ (32,033,666)</b>	<b>\$ 25,000,899</b>	<b>\$ 10,501,988</b>	<b>\$ 13,319,983</b>	

	Hybrid LDI	Present Value LDI		Actual Portfolio
Liability Conscious Allocation	Derived	Derived	IPS Target	Allocation
Cash/Fixed	62%	59%	30%	36%
Equity	24%	30%	55%	51%
Alternative/Balanced	15%	10%	15%	13%

**\*VEBA Plan 9/30/2024 Value: \$10,629,980**

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years

Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

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# Liability/Cash Flow Analysis - VEBA

Valuation Year	Duration	Gross Benefit Payments (\$)	PV Benefit Payments (\$)	Pension Contribution (\$)	Net Benefit Payments (\$)	Present Value (Net \$)	Hybrid LDI (Net \$) <sup>1</sup>	Investment Product
2024	0	\$ 2,170,797	\$ 2,106,771	\$ (1,395,000)	\$ 775,797	\$ 752,915	\$ 775,797	Cash Flow Matched
2025	1	\$ 2,188,999	\$ 1,990,104	\$ (1,395,000)	\$ 793,999	\$ 721,855	\$ 793,999	
2026	2	\$ 2,289,142	\$ 1,949,553	\$ (1,395,000)	\$ 894,142	\$ 761,498	\$ 894,142	Core Fixed Income
2027	3	\$ 2,410,839	\$ 1,923,369	\$ (1,395,000)	\$ 1,015,839	\$ 810,437	\$ 1,015,839	
2028	4	\$ 2,535,925	\$ 1,895,234	\$ (1,395,000)	\$ 1,140,925	\$ 852,675	\$ 1,140,925	Plus Fixed Income
<b>2024-2028</b>	<b>0-4</b>	<b>\$ 11,595,702</b>	<b>\$ 9,865,031</b>	<b>\$ (6,975,000)</b>	<b>\$ 4,620,702</b>	<b>\$ 3,899,381</b>	<b>\$ 4,620,702</b>	
2029	5	\$ 2,578,472	\$ 1,805,182	\$ (1,395,000)	\$ 1,183,472	\$ 828,546	\$ 1,183,472	Plus Fixed Income
2030	6	\$ 2,622,438	\$ 1,719,871	\$ (1,395,000)	\$ 1,227,438	\$ 804,989	\$ 1,227,438	
2031	7	\$ 2,557,065	\$ 1,570,958	\$ (1,395,000)	\$ 1,162,065	\$ 713,926	\$ 1,162,065	Alternative/Balanced
2032	8	\$ 2,368,674	\$ 1,363,202	\$ (1,395,000)	\$ 973,674	\$ 560,362	\$ 973,674	
2033	9	\$ 2,388,426	\$ 1,287,653	\$ (1,395,000)	\$ 993,426	\$ 535,578	\$ 993,426	US/Global Equity
<b>2029-2033</b>	<b>5-9</b>	<b>\$ 12,515,075</b>	<b>\$ 7,746,866</b>	<b>\$ (6,975,000)</b>	<b>\$ 5,540,075</b>	<b>\$ 3,443,401</b>	<b>\$ 5,540,075</b>	
2034	10	\$ 2,358,149	\$ 1,190,942	\$ (1,395,000)	\$ 963,149	\$ 486,422	\$ 486,422	US/Global Equity
2035	11	\$ 2,251,929	\$ 1,065,384	\$ (1,395,000)	\$ 856,929	\$ 405,412	\$ 405,412	
2036	12	\$ 1,999,776	\$ 886,267	\$ (1,395,000)	\$ 604,776	\$ 268,027	\$ 268,027	
2037	13	\$ 1,965,986	\$ 816,199	\$ (1,395,000)	\$ 570,986	\$ 237,051	\$ 237,051	
2038	14	\$ 1,839,832	\$ 715,527	\$ (1,395,000)	\$ 444,832	\$ 172,999	\$ 172,999	
<b>2034-2038</b>	<b>10-14</b>	<b>\$ 10,415,672</b>	<b>\$ 4,674,319</b>	<b>\$ (6,975,000)</b>	<b>\$ 3,440,672</b>	<b>\$ 1,569,910</b>	<b>\$ 1,569,910</b>	
2039	15	\$ 1,792,209	\$ 652,933	\$ (1,395,000)	\$ 397,209	\$ 144,710	\$ 144,710	US/Global Equity
2040	16	\$ 1,637,581	\$ 558,875	\$ (1,395,000)	\$ 242,581	\$ 82,788	\$ 82,788	
2041	17	\$ 1,529,072	\$ 488,846	\$ (1,395,000)	\$ 134,072	\$ 42,863	\$ 42,863	
2042	18	\$ 1,375,213	\$ 411,857	\$ (1,395,000)	\$ (19,787)	\$ (5,926)	\$ (5,926)	
2043	19	\$ 1,256,454	\$ 352,497	\$ (1,395,000)	\$ (138,546)	\$ (38,869)	\$ (38,869)	
<b>2039-2043</b>	<b>15-19</b>	<b>\$ 7,590,529</b>	<b>\$ 2,465,008</b>	<b>\$ (6,975,000)</b>	<b>\$ 615,529</b>	<b>\$ 225,566</b>	<b>\$ 225,566</b>	
<b>2044-2048</b>	<b>20-24</b>	<b>\$ 4,845,578</b>	<b>\$ 1,132,687</b>	<b>\$ (4,133,666)</b>	<b>\$ 711,912</b>	<b>\$ 166,414</b>	<b>\$ 166,414</b>	US/Global Equity
<b>2049-2053</b>	<b>25-29</b>	<b>\$ 3,532,513</b>	<b>\$ 594,157</b>	<b>\$ -</b>	<b>\$ 3,532,513</b>	<b>\$ 594,157</b>	<b>\$ 594,157</b>	
<b>2054+</b>	<b>30+</b>	<b>\$ 6,539,496</b>	<b>\$ 603,159</b>	<b>\$ -</b>	<b>\$ 6,539,496</b>	<b>\$ 603,159</b>	<b>\$ 603,159</b>	
<b>Total</b>		<b>\$ 57,034,565</b>	<b>\$ 27,081,227</b>	<b>\$ (32,033,666)</b>	<b>\$ 25,000,899</b>	<b>\$ 10,501,988</b>	<b>\$ 13,319,983</b>	

	Hybrid LDI Derived	Present Value LDI Derived	IPS Target	Actual Portfolio Allocation
Liability Conscious Allocation				
Cash/Fixed	44%	45%	30%	36%
Equity	38%	41%	55%	51%
Alternative/Balanced	18%	14%	15%	13%

**\*VEBA Plan 9/30/2024 Value: \$10,629,980**

<sup>1</sup>Hybrid LDI uses Net Benefit Payment for years 0-10 and Present Value of Net Benefit Payment for subsequent years

Contributions based on ARC. ARC, discount rate and present value of benefit payments provided by Angell Pension Group.

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# Morgan Stanley

THE KELLIHER CORBETT GROUP  
AT MORGAN STANLEY

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## Historical Cost Savings Discussion



## Included in Morgan Stanley Advisory Fee

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- Investment Policy Review
- Asset Allocation
- Fiduciary
- Custody
- Discretion
- Pension Asset/Liability Analysis
- Morgan Stanley Resources
- Manager Due Diligence
- Zero Commission Trading
- Agent Only Trades/No Principal Trades
- No Load/No 12b-1 Mutual Fund Trades (rebate when necessary)
- Institutional Share Class When Mutual Funds
- No Proprietary Managers
- Quarterly Trustee Meetings/Daily Guidance

# Advisory Cost Comparison Over Time

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December 2018 & Prior – 0.400% (\$56,800,971 – 12/31/2018)

December 2019 – 0.380% (\$69,017,372 – 12/31/2019)

December 2020 – 0.370% (\$75,372,140 – 12/31/2020)

December 2021 – 0.349% (\$83,881,408 – 12/31/2021)

March 2022 – 0.358% (\$79,080,282 – 3/31/2022)

June 2023 – 0.360% (\$77,908,841 – 6/30/2023)

September 2024 – 0.333% (\$90,137,077 – 9/30/2024)

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## Tiered Fee Schedule for Consolidated Assets of Salary, Union, and VEBA plans

Asset Level	Fee
\$0 - \$54,999,999.99	0.40%
\$55,000,000 - \$69,999,999.99	0.30%
\$70,000,000 - \$84,999,999.99	0.20%
\$85,000,000 - \$99,999,999.99	0.10%
\$100,000,000 or greater	0.025%

# Investments Cost Analysis Comparison Over Time

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12/31/2016 – 0.58%

12/31/2017 – 0.56%

12/31/2018 – 0.54%

12/31/2019 – 0.40%

12/31/2020 – 0.41%

12/31/2021 – 0.36%

03/31/2022 – 0.37%

06/30/2023 – 0.33%

09/30/2024 – 0.30%

28 basis points savings since 12/2016

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*Resulted in investment cost savings of approximately 48% since 12/2016*

# Investments Cost Analysis – 9/30/2024

## SC CT Regional Water Authority Total Plan Cost Analysis

	Exp. Ratio	Assets	Total Annual Mgt Cost (\$)	%
<b>Cash Equivalents</b>				
Cash & Equivalents	0.00	\$ 243,209	\$ -	
		\$ 243,209	\$ -	<b>0.00%</b>
<b>Bond</b>				
Individual Bonds	0.00	\$ 17,678,122	\$ -	
Vanguard Short-Term Treasury ETF	0.04	\$ 165,256	\$ 66.10	
Guggenheim Limited Duration Instl	0.47	\$ 335,229	\$ 1,575.57	
Vanguard Short-Term Bond ETF	0.04	\$ 283,284	\$ 113.31	
Vanguard Interm-Term Bond ETF	0.04	\$ 2,578,373	\$ 1,031.35	
Fidelity Total Bond ETF	0.36	\$ 2,400,099	\$ 8,640.36	
Loomis Sayles Core Plus Bond Y	0.49	\$ 2,688,731	\$ 13,174.78	
PIMCO Income I2	0.60	\$ 5,891,430	\$ 35,348.58	
		\$ 32,020,524	\$ 59,950.06	<b>0.19%</b>
<b>U.S. Equity</b>				
Columbia Dividend Income Inst	0.65	\$ 4,090,610	\$ 26,588.96	
Vanguard Value ETF	0.04	\$ 6,402,355	\$ 2,560.94	
Invesco S&P 500® Equal Weight ETF	0.20	\$ 4,214,739	\$ 8,429.48	
Vanguard Total Stock Market ETF	0.03	\$ 9,995,548	\$ 2,998.66	
MFS Massachusetts Inv Gr Stk I	0.46	\$ 3,111,007	\$ 14,310.63	
Vanguard Russell 1000 Growth ETF	0.08	\$ 2,708,834	\$ 2,167.07	
iShares Core S&P Small-Cap ETF	0.06	\$ 1,228,080	\$ 736.85	
		\$ 31,751,173	\$ 57,792.60	<b>0.18%</b>
<b>Global/International</b>				
MFS Intl Diversification I	0.83	\$ 3,709,486	\$ 30,788.73	
Vanguard Total International Stock ETF	0.08	\$ 4,004,169	\$ 3,203.34	
Capital Group International Focus Eq ETF	0.54	\$ 3,628,814	\$ 19,595.59	
First Eagle Global I	0.86	\$ 3,752,865	\$ 32,274.64	
		\$ 15,095,333	\$ 85,862.30	<b>0.57%</b>
<b>Balanced</b>				
Capital Group Core Balanced ETF	0.33	\$ 4,111,020	\$ 13,566.37	
Janus Henderson Balanced I	0.66	\$ 4,136,526	\$ 27,301.07	
		\$ 8,247,546	\$ 40,867.44	<b>0.50%</b>
<b>Alternative</b>				
BlackRock Event Driven Equity Instl	1.29	\$ 1,249,744	\$ 16,121.70	
JPMorgan Hedged Equity I	0.58	\$ 124,033	\$ 719.39	
Cohen & Steers Global Realty I	0.90	\$ 1,405,515	\$ 12,649.63	
		\$ 2,779,292	\$ 29,490.72	<b>1.06%</b>
		\$ <b>90,137,077</b>	\$ <b>273,963.12</b>	<b>0.30%</b>

Assets as of 9/30/2024

\*Expense Ratios = Prospectus Adjusted Expense Ratios

Source: Morningstar Advisor Workstation, Morgan Stanley

purposes only and is not intended to be used as a substitute for monthly transaction statements you receive on a regular basis from Morgan Stanley & Co. Incorporated Please compare the data on this document carefully with your monthly statements to verify its accuracy. The Company strongly encourages you to consult with your own accountants or other advisors with respect to any tax questions.

# Morgan Stanley

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## Investment Holdings Analysis



# Mutual Funds/ETFs

## Results

Data as of 9/30/2024		Morningstar Category	Market Returns (%)						\$ Assets	% of Total
			3 Month	YTD	1-Yr	3-Yr	5-Yr	10-Yr		
<b>Cash &amp; Equivalents</b>										
Cash & Equivalents			-	-	-	-	-	-	\$ 243,209	0.27%
<b>Fixed Income</b>										
Vanguard Short-Term Treasury ETF	Short Government	2.90	4.11	● 6.76	● 1.24	● 1.45	● 1.36	\$ 165,256	0.18%	
Cat: Short Government	Short Government	2.72	4.15	● 7.11	● 0.86	● 1.12	● 1.20			
Guggenheim Limited Duration Instl	Short-Term Bond	2.99	5.68	● 9.19	● 2.63	● 3.06	● 2.88	\$ 335,229	0.37%	
Vanguard Short-Term Bond ETF	Short-Term Bond	3.50	4.50	● 8.06	● 0.92	● 1.51	● 1.72	\$ 283,284	0.31%	
Cat: Short-Term Bond	Short-Term Bond	3.17	5.18	● 8.71	● 1.69	● 2.07	● 1.98			
Vanguard Interim-Term Bond ETF	Intermediate Core Bond	5.56	5.05	● 12.27	● -1.25	● 0.72	● 2.31	\$ 2,578,373	2.86%	
Cat: Intermediate Core Bond	Intermediate Core Bond	5.05	4.78	● 11.56	● -1.39	● 0.43	● 1.75			
Fidelity Total Bond ETF	Intermediate Core-Plus Bond	5.19	5.27	● 12.48	● -0.58	● 1.52	-	\$ 2,400,099	2.66%	
Loomis Sayles Core Plus Bond Y	Intermediate Core-Plus Bond	5.12	4.43	● 12.04	● -1.21	● 1.13	● 2.21	\$ 2,688,731	2.98%	
Cat: Intermediate Core-Plus Bond	Intermediate Core-Plus Bond	5.13	5.27	● 12.41	● -1.16	● 0.83	● 2.03			
PIMCO Income I2	Multisector Bond	4.53	6.37	● 12.62	● 2.33	● 3.51	● 4.26	\$ 5,891,430	6.54%	
Cat: Multisector Bond	Multisector Bond	4.38	6.74	● 12.86	● 1.41	● 2.66	● 3.13			
Idx: Bloomberg US Agg Bond TR USD	-	5.20	4.45	● 11.57	● -1.39	● 0.33	● 1.84			
Idx: Bloomberg US Govt/Credit Interm TR USD	-	4.17	4.68	● 9.45	● 0.17	● 1.26	● 1.96			
Idx: FTSE WGBI USD	-	6.95	2.72	● 11.02	● -4.41	● -2.05	● -0.15			
<b>Sub-Total Fixed Income</b>								<b>\$ 14,342,402</b>	<b>15.91%</b>	

- Green = exceeds peer group
- Yellow = trails peer group
- Red = fails to meet criteria (on watch/remove and/or replacement)

Orange = Fund position only held in VEBA

Assets as of 9/30/2024  
See last page for important disclosure/disclaimer

Data Source: Morgan Stanley & Morningstar

# Mutual Funds/ETFs

## Results

Data as of 9/30/2024	Morningstar Category	Market Returns (%)							\$ Assets	% of Total
		3 Month	YTD	1-Yr	3-Yr	5-Yr	10-Yr			
<b>US Equity</b>										
Columbia Dividend Income Inst	Large Value	8.12	16.58	● 26.66	● 10.68	● 12.18	● 11.40	\$ 4,090,610	4.54%	
Vanguard Value ETF	Large Value	9.42	18.99	● 29.78	● 11.66	● 12.25	● 10.79	\$ 6,402,355	7.10%	
<b>Cat: Large Value</b>	<b>Large Value</b>	<b>8.04</b>	<b>15.90</b>	<b>27.14</b>	<b>9.58</b>	<b>11.24</b>	<b>9.30</b>			
Invesco S&P 500® Equal Weight ETF	Large Blend	9.53	14.97	● 28.55	● 7.96	● 12.62	● 10.86	\$ 4,214,739	4.68%	
Vanguard Total Stock Market ETF	Large Blend	6.17	20.59	● 35.25	● 10.12	● 15.18	● 12.78	\$ 9,995,548	11.09%	
<b>Cat: Large Blend</b>	<b>Large Blend</b>	<b>5.94</b>	<b>19.35</b>	<b>32.84</b>	<b>10.14</b>	<b>14.30</b>	<b>11.83</b>			
MFS Massachusetts Inv Gr Stk I	Large Growth	5.70	17.37	● 31.55	● 9.52	● 14.94	● 14.42	\$ 3,111,007	3.45%	
Vanguard Russell 1000 Growth ETF	Large Growth	3.17	24.47	● 42.13	● 11.96	● 19.65	● 16.42	\$ 2,708,834	3.01%	
<b>Cat: Large Growth</b>	<b>Large Growth</b>	<b>3.70</b>	<b>21.92</b>	<b>38.83</b>	<b>7.39</b>	<b>16.08</b>	<b>13.73</b>			
iShares Core S&P Small-Cap ETF	Small Blend	10.09	9.26	● 25.76	● 3.91	● 10.14	● 10.00	\$ 1,228,080	1.36%	
<b>Cat: Small Blend</b>	<b>Small Blend</b>	<b>8.45</b>	<b>10.91</b>	<b>25.03</b>	<b>4.42</b>	<b>10.20</b>	<b>8.63</b>			
Idx: Russell 3000 TR USD	-	6.23	20.63	35.19	10.29	15.26	12.83			
Idx: S&P 500 TR USD	-	5.89	22.08	36.35	11.91	15.98	13.38			
Idx: Russell 1000 Value TR USD	-	9.43	16.68	27.76	9.03	10.69	9.23			
Idx: Russell 1000 TR USD	-	6.08	21.18	35.68	10.83	15.64	13.10			
Idx: Russell 1000 Growth TR USD	-	3.19	24.55	42.19	12.02	19.74	16.52			
Idx: Morningstar DYF TR USD	-	9.33	18.55	23.60	11.91	8.74	8.60			
Idx: Russell 2000 TR USD	-	9.27	11.17	26.76	1.84	9.39	8.78			
<b>Sub-Total US Equity</b>								<b>\$ 31,751,173</b>	<b>35.23%</b>	

- Green = exceeds peer group
- Yellow = trails peer group
- Red = fails to meet criteria (on watch/remove and/or replacement)

Data Source: Morgan Stanley & Morningstar

Assets as of 9/30/2024  
See last page for important disclosure/disclaimer



# Mutual Funds/ETFs

## Results

Data as of 9/30/2024	Morningstar	Market Returns (%)						\$	% of
	Category	3 Month	YTD	1-Yr	3-Yr	5-Yr	10-Yr	Assets	Total
<b>Global/International Equity</b>									
MFS Intl Diversification I	Foreign Large Blend	9.23	15.13	25.31	4.04	8.18	7.08	\$ 3,709,486	4.12%
Vanguard Total International Stock ETF	Foreign Large Blend	8.03	13.59	24.92	4.04	7.79	5.45	\$ 4,004,169	4.44%
Cat: Foreign Large Blend	Foreign Large Blend	7.29	13.08	24.17	4.29	7.73	5.42		
Capital Group International Focus Eq ETF	Foreign Large Growth	4.99	13.59	24.89	-	-	-	\$ 3,628,814	4.03%
Cat: Foreign Large Growth	Foreign Large Growth	6.18	12.94	26.69	0.19	7.70	6.57		
First Eagle Global I	Global Allocation	9.96	18.49	27.29	9.27	9.94	7.85	\$ 3,752,865	4.16%
Cat: Global Allocation	Global Allocation	5.79	11.06	19.88	3.79	6.18	4.82		
Idx: MSCI ACWI Ex USA NR USD	-	8.06	14.21	25.35	4.14	7.59	5.22		
Idx: MSCI ACWI NR USD	-	6.61	18.66	31.76	8.09	12.19	9.39		
Idx: MSCI EAFE NR USD	-	7.26	12.99	24.77	5.48	8.20	5.71		
Idx: MSCI EM NR USD	-	8.72	16.86	26.05	0.40	5.75	4.02		
<b>Sub-Total Global/International Equity</b>								\$ 15,095,333	16.75%
<b>Balanced</b>									
Capital Group Core Balanced ETF	Moderate Allocation	4.98	15.17	26.73	-	-	-	\$ 4,111,020	4.56%
Janus Henderson Balanced I	Moderate Allocation	4.46	15.31	26.23	6.12	9.44	9.02	\$ 4,136,526	4.59%
Cat: Moderate Allocation	Moderate Allocation	5.34	12.27	21.99	4.89	8.01	6.89		
Idx: Bloomberg US Agg Bond TR USD	-	5.20	4.45	11.57	-1.39	0.33	1.84		
Idx: S&P 500 TR USD	-	5.89	22.08	36.35	11.91	15.98	13.38		
<b>Sub-Total Balanced</b>								\$ 8,247,546	9.15%
<b>Alternative</b>									
BlackRock Event Driven Equity Instl	Event Driven	2.60	2.80	6.56	2.95	3.55	4.53	\$ 1,249,744	1.39%
Cat: Event Driven	Event Driven	2.86	3.39	5.96	2.28	4.31	3.23		
JPMorgan Hedged Equity I	Options Trading	5.17	16.56	23.09	9.13	10.92	8.66	\$ 124,033	0.14%
Cat: Options Trading	Options Trading	3.34	10.77	18.80	7.19	7.37	4.89		
Cohen & Steers Global Realty I	Global Real Estate	15.07	12.78	29.19	1.11	3.38	5.99	\$ 1,405,515	1.56%
Cat: Global Real Estate	Global Real Estate	15.57	11.55	28.32	0.08	2.13	4.32		
Idx: S&P 500 TR USD	-	5.89	22.08	36.35	11.91	15.98	13.38		
Idx: Bloomberg US Agg Bond TR USD	-	5.20	4.45	11.57	-1.39	0.33	1.84		
Idx: Russell 3000 TR USD	-	6.23	20.63	35.19	10.29	15.26	12.83		
Idx: MSCI ACWI NR USD	-	6.61	18.66	31.76	8.09	12.19	9.39		
Idx: DJ Global World Real Estate TR USD	-	17.07	12.63	30.14	0.25	1.92	4.85		
<b>Sub-Total Alternative</b>								\$ 2,779,292	3.08%
<b>Total</b>								\$ 72,458,955	80.39%

- Green = exceeds peer group
- Yellow = trails peer group
- Red = fails to meet criteria (on watch/remove and/or replacement)

Data Source: Morgan Stanley & Morningstar

Assets as of 9/30/2024  
See last page for important disclosure/disclaimer

# Mutual Funds/ETFs

## Statistics

Data as of 9/30/2024	Prospectus Net Expense Ratio	Prospectus Adj Expense Ratio	Beta 3 Yr vs. S&P or BBg Agg	Alpha 3 Yr vs. S&P or BBg Agg	Std Dev 3 Yr	R2 3 Yr vs. S&P or BBg Agg	P/E Ratio	P/B Ratio	Geo Avg Mkt Cap \$MM	Mstar Risk 5 Yr
<b>Fixed Income</b>										
Vanguard Short-Term Treasury ETF	0.04	0.04	0.25	-1.30	2.44	73	-	-	-	Below Avg
<b>Cat: Short Government</b>	<b>0.59</b>	<b>0.59</b>	<b>0.33</b>	<b>-1.31</b>	<b>2.93</b>	<b>78</b>	<b>22.8</b>	<b>3.2</b>	<b>96452</b>	-
Guggenheim Limited Duration Instl	0.50	0.47	0.35	0.56	3.11	84	-	-	-	Average
Vanguard Short-Term Bond ETF	0.04	0.04	0.41	-0.82	3.48	88	-	-	-	Average
<b>Cat: Short-Term Bond</b>	<b>0.65</b>	<b>0.65</b>	<b>0.36</b>	<b>-0.31</b>	<b>3.24</b>	<b>81</b>	<b>23.1</b>	<b>3.4</b>	<b>18167</b>	-
Vanguard Inter-Term Bond ETF	0.04	0.04	1.06	0.45	8.10	99	-	-	-	Above Avg
<b>Cat: Intermediate Core Bond</b>	<b>0.56</b>	<b>0.56</b>	<b>0.97</b>	<b>-0.15</b>	<b>7.52</b>	<b>98</b>	<b>22.1</b>	<b>4.2</b>	<b>305419</b>	-
Fidelity Total Bond ETF	0.36	0.36	0.99	0.73	7.60	98	-	-	-	Below Avg
Loomis Sayles Core Plus Bond Y	0.49	0.49	1.10	0.73	8.45	98	-	-	-	Above Avg
<b>Cat: Intermediate Core-Plus Bond</b>	<b>0.75</b>	<b>0.75</b>	<b>0.99</b>	<b>0.18</b>	<b>7.70</b>	<b>96</b>	-	-	-	-
PIMCO Income I2	0.93	0.60	0.78	2.56	6.61	83	-	-	-	Average
<b>Cat: Multisector Bond</b>	<b>1.00</b>	<b>1.00</b>	<b>0.70</b>	<b>1.26</b>	<b>6.39</b>	<b>70</b>	-	-	-	<b>Average</b>

See last page for important disclosure/disclaimer

Orange = Fund position only held in VEBA

The Prospectus Adjusted Operating Expense Ratio is the percentage of fund assets paid for operating expenses and management fees. The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution (12b-1), legal, organizational, professional, registration, shareholder reporting, sub-advisor, and transfer agency. The ratio does reflect fee waivers in effect during the time period, and does not include interest and dividends on borrowed securities. The expense ratio does not reflect the fund's brokerage costs or any investor sales charges.

**Data Source: Morgan Stanley & Morningstar**

# Mutual Funds/ETFs

## Statistics

Data as of 9/30/2024	Prospectus Net Expense Ratio	Prospectus Adj Expense Ratio	Beta 3 Yr vs. S&P or BBg Agg	Alpha 3 Yr vs. S&P or BBg Agg	Std Dev 3 Yr	R2 3 Yr vs. S&P or BBg Agg	P/E Ratio	P/B Ratio	Geo Avg Mkt Cap \$MM	Mstar Risk 5 Yr
<b>US Equity</b>										
Columbia Dividend Income Inst	0.65	0.65	0.78	0.43	14.72	85	21.8	3.7	179841	Low
Vanguard Value ETF	0.04	0.04	0.80	1.30	15.68	78	20.8	2.9	132060	Below Avg
<b>Cat: Large Value</b>	<b>0.90</b>	<b>0.90</b>	<b>0.83</b>	<b>-0.77</b>	<b>16.60</b>	<b>77</b>	<b>19.3</b>	<b>2.6</b>	<b>136414</b>	<b>-</b>
Invesco S&P 500® Equal Weight ETF	0.20	0.20	0.98	-3.32	18.32	87	21.7	3.0	44048	High
Vanguard Total Stock Market ETF	0.03	0.03	1.01	-1.70	17.83	99	25.9	4.2	195489	Above Avg
<b>Cat: Large Blend</b>	<b>0.77</b>	<b>0.77</b>	<b>0.95</b>	<b>-1.25</b>	<b>17.26</b>	<b>94</b>	<b>26.8</b>	<b>5.2</b>	<b>362945</b>	<b>-</b>
MFS Massachusetts Inv Gr Stk I	0.46	0.46	0.99	-2.07	17.75	96	30.9	6.7	250236	Low
Vanguard Russell 1000 Growth ETF	0.08	0.08	1.14	-0.57	20.84	92	35.8	11.9	656743	Average
<b>Cat: Large Growth</b>	<b>0.94</b>	<b>0.94</b>	<b>1.12</b>	<b>-4.56</b>	<b>21.28</b>	<b>87</b>	<b>35.4</b>	<b>9.3</b>	<b>541501</b>	<b>-</b>
iShares Core S&P Small-Cap ETF	0.06	0.06	1.04	-6.98	22.03	68	17.4	1.9	3003	Above Avg
<b>Cat: Small Blend</b>	<b>0.98</b>	<b>0.98</b>	<b>1.01</b>	<b>-6.47</b>	<b>21.09</b>	<b>70</b>	<b>18.5</b>	<b>2.4</b>	<b>5746</b>	<b>-</b>

See last page for important disclosure/disclaimer

The Prospectus Adjusted Operating Expense Ratio is the percentage of fund assets paid for operating expenses and management fees. The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution (12b-1), legal, organizational, professional, registration, shareholder reporting, sub-advisor, and transfer agency. The ratio does reflect fee waivers in effect during the time period, and does not include interest and dividends on borrowed securities. The expense ratio does not reflect the fund's brokerage costs or any investor sales charges.

**Data Source: Morgan Stanley & Morningstar**

# Mutual Funds/ETFs

## Statistics

Data as of 9/30/2024	Prospectus Net Expense Ratio	Prospectus Adj Expense Ratio	Beta 3 Yr vs. S&P or BBg Agg	Alpha 3 Yr vs. S&P or BBg Agg	Std Dev 3 Yr	R2 3 Yr vs. S&P or BBg Agg	P/E Ratio	P/B Ratio	Geo Avg Mkt Cap \$MM	Mstar Risk 5 Yr
<b>Global/International Equity</b>										
MFS Intl Diversification I	0.83	0.83	1.00	-0.05	16.68	96	16.6	1.9	41551	Below Avg
Vanguard Total International Stock ETF	0.08	0.08	1.03	-0.05	16.96	99	15.8	1.7	32995	Average
Cat: Foreign Large Blend	0.90	0.90	1.01	0.25	17.24	92	15.6	1.9	63573	-
Capital Group International Focus Eq ETF	0.54	0.54	-	-	-	-	23.8	3.1	76473	-
Cat: Foreign Large Growth	1.01	1.01	1.14	-3.47	20.12	85	23.4	3.6	78122	-
First Eagle Global I	0.86	0.86	1.02	5.46	13.54	89	19.0	2.0	63931	Above Avg
Cat: Global Allocation	1.14	1.14	0.93	0.19	12.54	87	19.6	2.5	102993	-
<b>Balanced</b>										
Capital Group Core Balanced ETF	0.33	0.33	-	-	-	-	24.7	4.6	213494	-
Janus Henderson Balanced I	0.66	0.66	0.96	2.43	12.64	91	29.8	7.4	452978	Average
Cat: Moderate Allocation	1.04	1.04	0.94	1.23	12.36	91	23.4	3.5	183618	-
<b>Alternative</b>										
BlackRock Event Driven Equity Instl	1.29	1.29	0.14	-1.59	3.74	40	21.8	2.7	18347	Average
Cat: Event Driven	1.75	1.75	0.15	-2.22	4.56	26	21.8	2.2	6807	-
JPMorgan Hedged Equity I	0.58	0.58	0.51	2.71	9.66	77	27.1	4.8	335673	Average
Cat: Options Trading	0.92	0.92	0.57	0.64	10.54	81	27.8	4.9	427178	-
Cohen & Steers Global Realty I	0.90	0.90	1.09	-6.57	20.02	81	26.1	1.6	19655	Average
Cat: Global Real Estate	1.13	1.13	1.07	-7.50	19.97	78	25.7	1.5	17617	-

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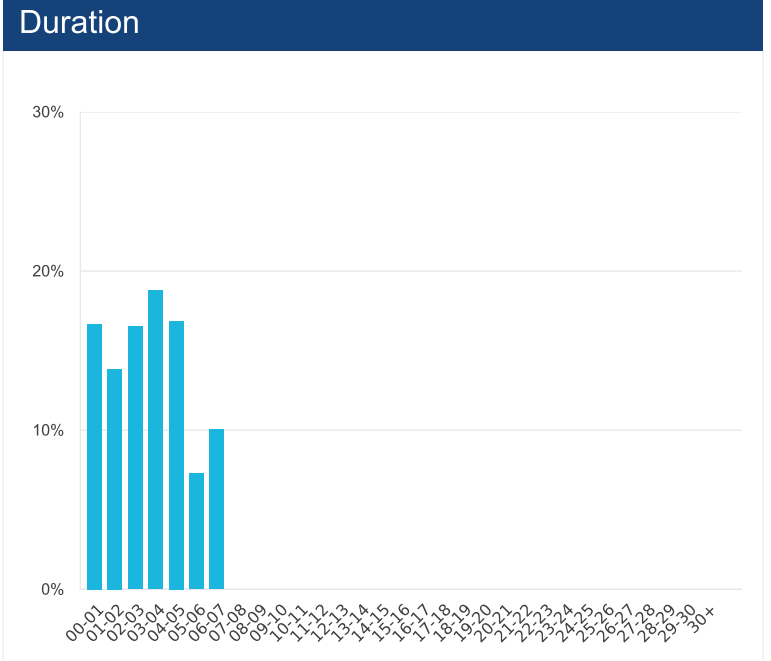
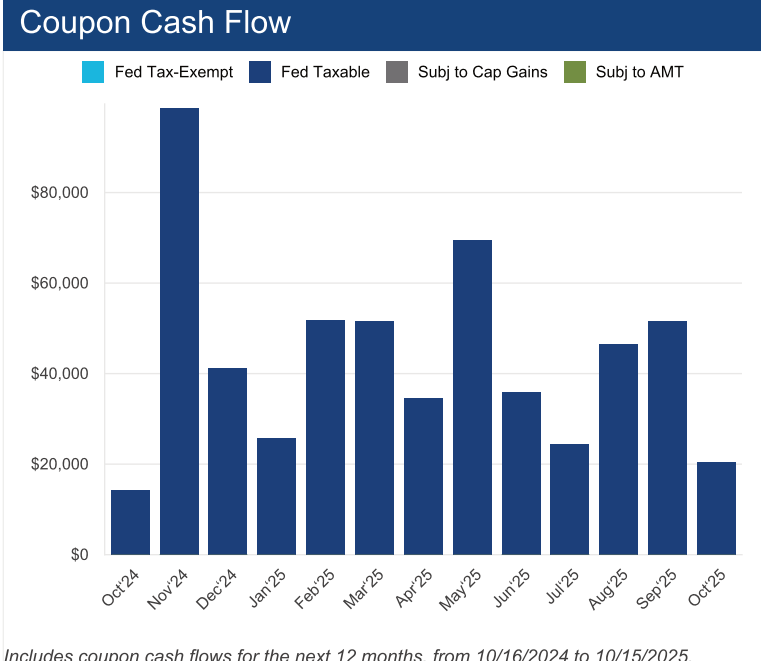
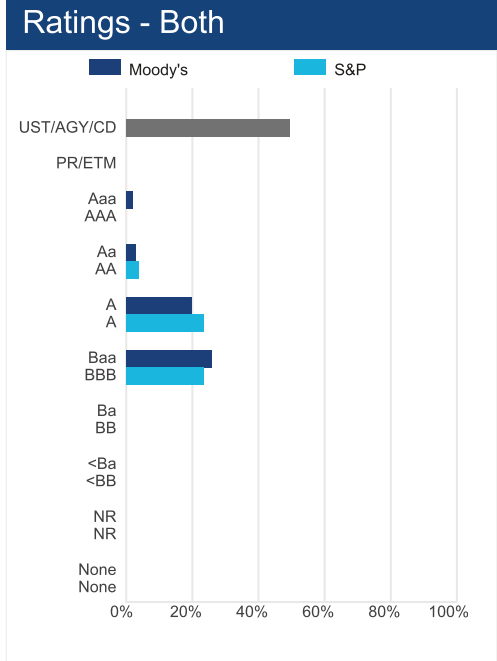
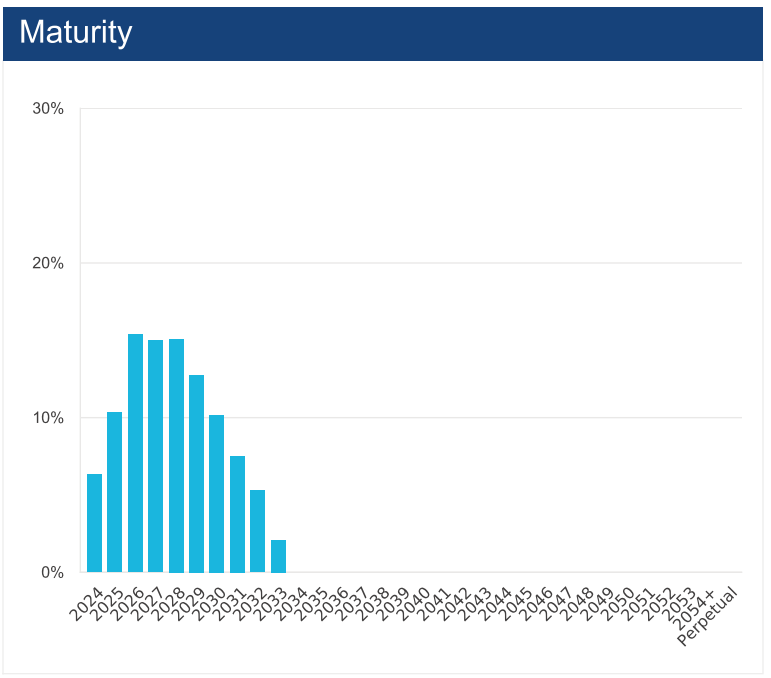
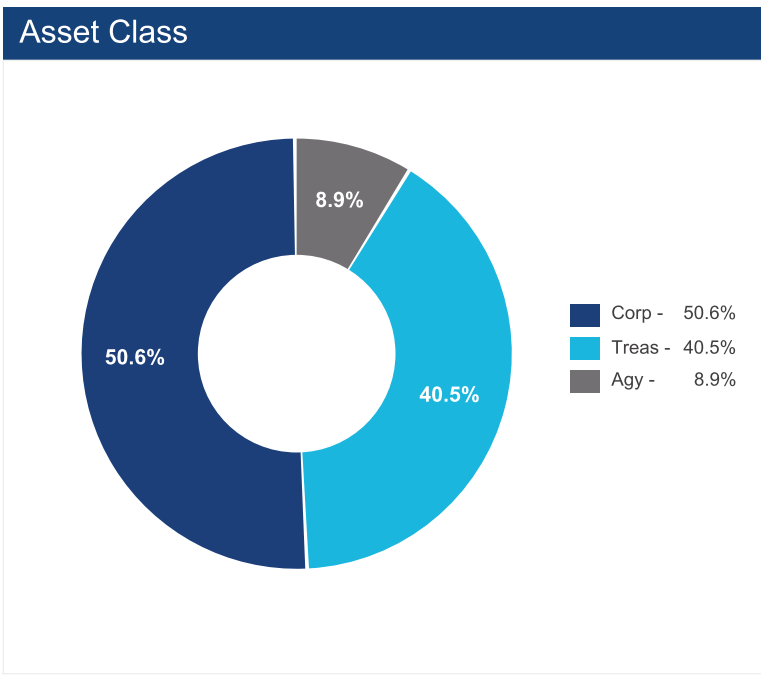
The Prospectus Adjusted Operating Expense Ratio is the percentage of fund assets paid for operating expenses and management fees. The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution (12b-1), legal, organizational, professional, registration, shareholder reporting, sub-advisor, and transfer agency. The ratio does reflect fee waivers in effect during the time period, and does not include interest and dividends on borrowed securities. The expense ratio does not reflect the fund's brokerage costs or any investor sales charges.

Data Source: Morgan Stanley & Morningstar

### Totals & Averages @ Market

Summary Totals	
Original Face	\$17,987,000
Current Face (Par)	\$17,987,000
Market Principal	\$17,393,133
Accrued Interest	\$163,428
Cash & Cash Alternatives	\$0
Fixed Income Funds	\$0
Equity Balance	\$0
Total Portfolio Value	\$17,556,562
Next 12mo Cpn Cash Flow	\$566,127
Generic Annual Cpn Cash Flow	\$606,986
Weighted Averages	
Coupon*	3.375%
Maturity**	3.56 yrs
Duration	3.21
Yield to Worst	4.292%
Yield to Maturity	4.293%
Market Price*	96.698
Tax Lots Holdings Included	130 of 130

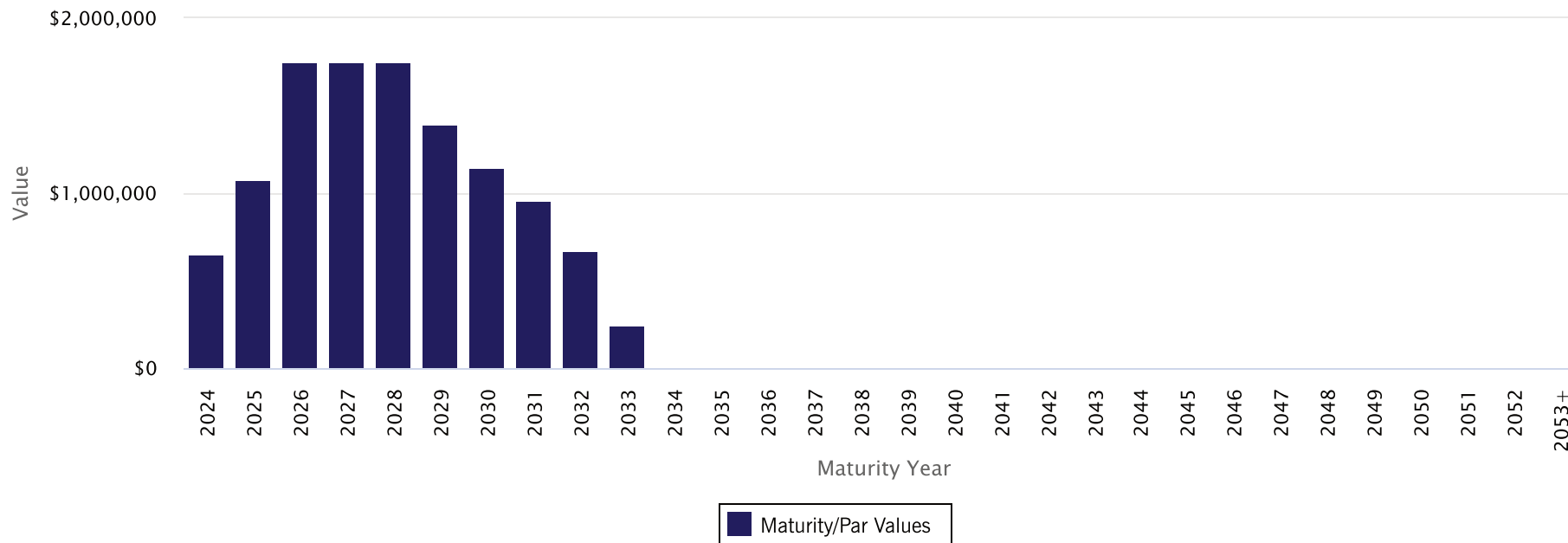
\*Par-Wtd, all else Mkt-Wtd.  
\*\*Avg life used for principal paydowns, and perpetual securities are assigned a 40 year maturity.



Includes all tax lot holdings with recognized CUSIP, quantity, market price and full analytical calculations on reporting date. Includes coupon cash flows for the next 12 months, from 10/16/2024 to 10/15/2025. Projected Principal Paydowns for CMOs are produced by applying current pool speeds which are updated weekly. Assuming similar market conditions going forward, Projected Principal Paydowns for Pass-Thru securities are produced by calculating and applying concurrent historical speeds to future paydown schedules.

# Bond Maturity Distribution Graph

## BOND MATURITY DISTRIBUTION GRAPH

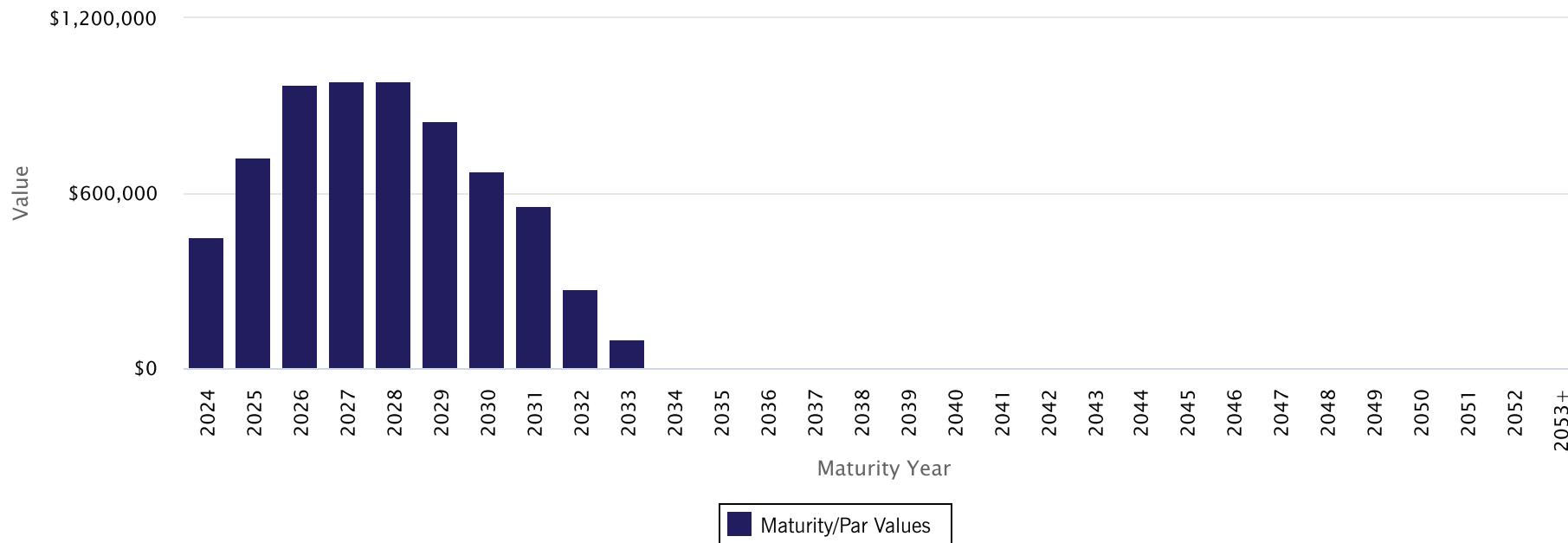


Year	Maturity/Par Values (\$)	% of Maturity/Par Value	# of Issues	Year	Maturity/Par Values (\$)	% of Maturity/Par Value	# of Issues	Year	Maturity/Par Values (\$)	% of Maturity/Par Value	# of Issues
2024	650,000.00	5.70	2	2034	-	-	0	2044	-	-	0
2025	1,075,000.00	9.42	6	2035	-	-	0	2045	-	-	0
2026	1,750,000.00	15.34	8	2036	-	-	0	2046	-	-	0
2027	1,750,000.00	15.34	8	2037	-	-	0	2047	-	-	0
2028	1,750,000.00	15.34	9	2038	-	-	0	2048	-	-	0
2029	1,400,000.00	12.27	7	2039	-	-	0	2049	-	-	0
2030	1,150,000.00	10.08	5	2040	-	-	0	2050	-	-	0
2031	960,000.00	8.41	4	2041	-	-	0	2051	-	-	0
2032	675,000.00	5.92	3	2042	-	-	0	2052	-	-	0
2033	250,000.00	2.19	1	2043	-	-	0	2053+	-	-	0

The Bond Maturity Distribution Graph does not include bonds held in mutual funds or ETFs, or bonds for which this information is not available.



# Bond Maturity Distribution Graph

## BOND MATURITY DISTRIBUTION GRAPH



Year	Maturity/Par Values (\$)	% of Maturity/Par Value	# of Issues	Year	Maturity/Par Values (\$)	% of Maturity/Par Value	# of Issues	Year	Maturity/Par Values (\$)	% of Maturity/Par Value	# of Issues
2024	450,000.00	6.84	2	2034	-	-	0	2044	-	-	0
2025	725,000.00	11.02	6	2035	-	-	0	2045	-	-	0
2026	972,000.00	14.78	8	2036	-	-	0	2046	-	-	0
2027	985,000.00	14.98	8	2037	-	-	0	2047	-	-	0
2028	985,000.00	14.98	9	2038	-	-	0	2048	-	-	0
2029	850,000.00	12.92	7	2039	-	-	0	2049	-	-	0
2030	675,000.00	10.26	5	2040	-	-	0	2050	-	-	0
2031	560,000.00	8.52	4	2041	-	-	0	2051	-	-	0
2032	275,000.00	4.18	3	2042	-	-	0	2052	-	-	0
2033	100,000.00	1.52	1	2043	-	-	0	2053+	-	-	0

The Bond Maturity Distribution Graph does not include bonds held in mutual funds or ETFs, or bonds for which this information is not available.




The performance shown in the preceding pages represents past performance. Past performance is no guarantee of future results and current performance may be higher or lower than the performance shown above. Investment returns, yields and principal value will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Returns of less than a year are cumulative and are not annualized and are calculated from January 1 of the reporting year. Average annual total returns are annualized and assume the reinvestment of all distributions at net asset value and the deductions of fund expenses. Data is from sources deemed reliable, however no guarantee may be made to their accuracy.

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Assets as of 9/30/2024

Data Source: Morningstar; as of 9/30/2024





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# Glossary of Terms

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**Accrued Income:** The dividends and interest earned but not yet received at both the beginning and end of each reporting period.

**Advisory Account:** An investment advisory relationship is designed for clients who prefer that their Financial Advisor act as an investment consultant, with their assets invested in a mutual fund asset allocation program or in a Advisory account that is directed by a professional money manager either at Morgan Stanley or at an external money management firm. There are important differences in your relationship with your Financial Advisor and Morgan Stanley in brokerage accounts and in advisory accounts. Additional information about these differences is available at <http://www.morganstanley.com/ourcommitment>

**Annualized Standard Deviation:** A measure of volatility, it quantifies how much a series of numbers, such as portfolio returns, deviates around its average. Since it measures the portfolio's investment volatility, the account's gross rate of return is used.

**Brokerage Account:** In a brokerage relationship, your Financial Advisor will work with you to facilitate the execution of securities transactions on your behalf. Your Financial Advisor also provides investor education and professional, personalized information about financial products and services in connection with these brokerage services. You can choose how you want to pay for these services and you will receive the same services regardless of which pricing option you choose. There are important differences in your relationship with your Financial Advisor and Morgan Stanley in brokerage accounts and in advisory accounts. Additional information about these differences is available at <http://www.morganstanley.com/ourcommitment>

**Comparative Indices:** A complete description of the comparative indices included in this Performance Report is available upon request.

**Dollar-Weighted Return:** Rate of return calculation methodology that reflects both the timing and magnitude of external contributions and withdrawals and measures the portfolio's performance. The return for each month is calculated as the average return on all dollars invested.

**Gross Return:** The return of the portfolio before the deduction of fees/commissions and other expenses.

**Net Contributions/Withdrawals:** The total value of capital contributed to or withdrawn from the account during the reporting period. The dollar amount represented by contribution or withdrawal transactions is excluded from the calculation of Portfolio Appreciation.

**Net Invested Capital:** The sum of the Total Beginning Value and the net of additional capital Contributions and Withdrawals for each reporting period.

**Net Portfolio Appreciation:** The total dollar gain/loss of the portfolio for each reporting period. The Net Portfolio Appreciation includes the impact of income received and is calculated as the difference between Net Invested Capital and Total Ending Value.

**Net Return:** The return of the portfolio for the period reduced by the amount of fees/commissions paid. The net of fees return is calculated gross of certain custody fees.

**Time-Weighted Return:** Rate of return calculation methodology that eliminates the impact of external contributions and withdrawals to the portfolio value and measures the manager's performance. Portfolio returns are calculated at least monthly and individual monthly returns are geometrically linked to calculate total cumulative return.

**Total Beginning Value:** The total market value of the portfolio, valued on a trade date basis, at the beginning of each reporting period. The Total Beginning Value includes Accrued Income.

**Total Ending Value:** The total market value of the portfolio, valued on a trade date basis, at the end of each reporting period. The Total Ending Value includes Accrued Income.

**Weighted Average:** The average in which each yield to be averaged is assigned a weight. These weightings determine the relative importance or frequency of each yield on the average.

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All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

#### Equities:

The **Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The **MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The **MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The **MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The **MSCI Pacific Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

The **Russell 1000 Index**® measures the performance of the 1,000 largest companies in the Russell 3000.

The **Russell 1000 Growth Index**® measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 1000 Value Index**® measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 2000 Index**® measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The **Russell 2000 Growth Index**® measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 2000 Value Index**® measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 3000 Index**® measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The **Russell Midcap Index**® measures the performance of the 800 smallest companies in the Russell 1000 Index.

The **Russell Midcap Growth Index**® measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.

The **Russell Midcap Value Index**® measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The **S&P 500 Index** focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

#### Fixed income:

The **Bloomberg 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.

The **Bloomberg Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The **Bloomberg Municipal Index**: consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

The **Bloomberg US Dollar Floating Rate Note (FRN) Index** provides a measure of the U.S. dollar denominated floating rate note market.

The **Bloomberg US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least \$250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The **Bloomberg US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The **Bloomberg US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

The **Bloomberg US TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.

The **J.P. Morgan Emerging Market Bond Global Index (EMBI)** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The **J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The **J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**. The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.

The **J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The **J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

The **U.S. Treasury Index** is a component of the U.S. Government index.



# J.P. Morgan Asset Management – Definitions

GTM

U.S.

70

## *Other asset classes:*

The **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The **Bloomberg Commodity Index** and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc

The **Cambridge Associates U.S. Global Buyout and Growth Index®** is based on data compiled from 1,768 global (U.S. & ex-U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The **CS/Tremont Hedge Fund Index** is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US\$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The **HFRI Monthly Indices (HFRI)** are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

The **NAREIT EQUITY REIT Index** is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The **NFI-ODCE**, short for NCREIF Fund Index -Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

## *Definitions:*

Investing in **alternative assets** involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

**Bonds** are subject to interest rate risks. Bond prices generally fall when interest rates rise.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

**Derivatives** may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

**Distressed Restructuring Strategies** employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Investments in **emerging markets** can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The price of **equity** securities may rise, or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general may decline over short or extended periods of time.

**Equity market neutral strategies** employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

**Global macro strategies** trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

**International** investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of **long and short positions** will succeed in limiting an investor's exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

**Merger arbitrage strategies** which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

**Mid-capitalization** investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies' stock has experienced a greater degree of market volatility than the average stock.

**Price to forward earnings** is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. **Price to book value** compares a stock's market value to its book value. **Price to cash flow** is a measure of the market's expectations of a firm's future financial health. **Price to dividends** is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company's potential as an investment.

**Real estate** investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

**Relative Value Strategies** maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

**Small-capitalization** investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.

**J.P.Morgan**  
ASSET MANAGEMENT



# J.P. Morgan Asset Management – Risks & disclosures

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**The Market Insights program provides comprehensive data and commentary on global markets without reference to products. Designed as a tool to help clients understand the markets and support investment decision-making, the program explores the implications of current economic data and changing market conditions.**

For the purposes of MiFID II, the JPM Market Insights and Portfolio Insights programs are marketing communications and are not in scope for any MiFID II / MiFIR requirements specifically related to investment research. Furthermore, the J.P. Morgan Asset Management Market Insights and Portfolio Insights programs, as non-independent research, have not been prepared in accordance with legal requirements designed to promote the independence of investment research, nor are they subject to any prohibition on dealing ahead of the dissemination of investment research.

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Prepared by: David P. Kelly, Jordan K. Jackson, John C. Manley, Meera Pandit, Gabriela D. Santos, Stephanie Aliaga, Sahil Gauba, Mary Park Durham, Brandon Hall and Katie Korngiebel.

Unless otherwise stated, all Data are as of September 30, 2024 or most recently available.

**Guide to the Markets – U.S.**

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**J.P.Morgan**  
ASSET MANAGEMENT

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Morgan Stanley's investment advisory programs may require a minimum asset level and, depending on your specific investment objectives and financial position, may not be appropriate for you. Please see the Morgan Stanley Smith Barney LLC program disclosure brochure (the "Morgan Stanley ADV") for more information in the investment advisory programs available. The Morgan Stanley ADV is available at [www.morganstanley.com/ADV](http://www.morganstanley.com/ADV).

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**Global Investment Manager Analysis (GIMA) Focus List, Approved List and Tactical Opportunities List; Watch Policy.** GIMA uses two methods to evaluate investment products in applicable advisory programs: **Focus** (and investment products meeting this standard are described as being on the Focus List) and **Approved** (and investment products meeting this standard are described as being on the Approved List). In general, Focus entails a more thorough evaluation of an investment product than Approved. Sometimes an investment product may be evaluated using the Focus List process but then placed on the Approved List instead of the Focus List. Investment products may move from the Focus List to the Approved List, or vice versa. GIMA may also determine that an investment product no longer meets the criteria under either process and will no longer be recommended in investment advisory programs (in which case the investment product is given a "Not Approved" status). GIMA has a **Watch** policy and may describe a Focus List or Approved List investment product as being on "Watch" if GIMA identifies specific areas that (a) merit further evaluation by GIMA and (b) may, but are not certain to, result in the investment product becoming "Not Approved." The Watch period depends on the length of time needed for GIMA to conduct its evaluation and for the investment manager or fund to address any concerns. Certain investment products on either the Focus List or Approved List may also be recommended for the **Tactical Opportunities List** based in part on tactical opportunities existing at a given time. The investment products on the Tactical Opportunities List change over time. For more information on the Focus List, Approved List, Tactical Opportunities List and Watch processes, please see the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management. Your Financial Advisor or Private Wealth Advisor can also provide upon request a copy of a publication entitled "Manager Selection Process."

The **Global Investment Committee** is a group of seasoned investment professionals who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks and recommend model portfolio weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions and other reports and broadcasts.

The GIC Asset Allocation Models are not available to be directly implemented as part of an investment advisory service and should not be regarded as a recommendation of any Morgan Stanley investment advisory service. The GIC Asset Allocation Models do not represent actual trading or any type of account or any type of investment strategies and none of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, advisory fees, fund expenses) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models which, when compounded over a period of years, would decrease returns.

**Adverse Active AlphaSM 2.0** is a patented screening and scoring process designed to help identify high-quality equity and fixed income managers with characteristics that may lead to future outperformance relative to index and peers. While highly ranked managers performed well as a group in our Adverse Active Alpha model back tests, not all of the managers will outperform. Please note that this data may be derived from back-testing, which has the benefit of hindsight. In addition, highly ranked managers can have differing risk profiles that might not be appropriate for all investors.

Our view is that Adverse Active Alpha is a good starting point and should be used in conjunction with other information. Morgan Stanley Wealth Management's qualitative and quantitative investment

manager due diligence process are equally important factors for investors when considering managers for use through an investment advisory program. Factors including, but not limited to, manager turnover and changes to investment process can partially or fully negate a positive Adverse Active Alpha ranking. Additionally, highly ranked managers can have differing risk profiles that might not be appropriate for all investors.

The proprietary **Value Score** methodology considers an active investment strategies' value proposition relative to its costs. From a historical quantitative study of several quantitative markers, Value Score measures perceived forward-looking benefit and computes (1) "fair value" expense ratios for most traditional investment managers across 40 categories and (2) managers' perceived "excess value" by comparing the fair value expense ratios to actual expense ratios. Managers are then ranked within each category by their excess value to assign a Value Score. Our analysis suggests that greater levels of excess value have historically corresponded to attractive subsequent performance.

For more information on the ranking models, please see Adverse Active AlphaSM 2.0: Scoring Active Managers According to Potential Alpha and Value Score: Scoring Fee Efficiency by Comparing Managers' "Fair Value" and Actual Expense Ratios. The whitepapers are available from your Financial Advisor or Private Wealth Advisor. ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

Additionally, highly ranked managers can have differing risk profiles that might not be appropriate for all investors. For more information on AAA, please see the Adverse Active Alpha Ranking Model and Selecting Managers with Adverse Active Alpha whitepapers. The whitepaper are available from your Financial Advisor or Private Wealth Advisor. ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

**The Global Investment Manager Analysis (GIMA) Services Only Apply to Certain Investment Advisory Programs** GIMA evaluates certain investment products for the purposes of some – but not all – of Morgan Stanley Smith Barney LLC's investment advisory programs (as described in more detail in the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management). If you do not invest through one of these investment advisory programs, Morgan Stanley Wealth Management is not obligated to provide you notice of any GIMA Status changes even though it may give notice to clients in other programs.

**Strategy May Be Available as a Separately Managed Account or Mutual Fund** Strategies are sometimes available in Morgan Stanley Wealth Management investment advisory programs both in the form of a separately managed account ("SMA") and a mutual fund. These may have different expenses and investment minimums. Your Financial Advisor or Private Wealth Advisor can provide more information on whether any particular strategy is available in more than one form in a particular investment advisory program. Generally, investment advisory accounts are subject to an annual asset-based fee (the "Fee") which is payable monthly in advance (some account types may be billed differently). In general, the Fee covers Morgan Stanley investment advisory services, custody of securities with Morgan Stanley, trade execution with or through Morgan Stanley or its affiliates, as well as compensation to any Morgan Stanley Financial Advisor.

In addition, each account that is invested in a program that is eligible to purchase certain investment products, such as mutual funds, will also pay a Platform Fee (which is subject to a Platform Fee offset) as described in the applicable ADV brochure. Accounts invested in the Select UMA program may also pay a separate Sub-Manager fee, if applicable.

If your account is invested in mutual funds or exchange traded funds (collectively "funds"), you will pay the fees and expenses of any funds in which your account is invested. Fees and expenses are charged directly to the pool of assets the fund invests in and are reflected in each fund's share price. These fees and expenses are an additional cost to you and would not be included in the Fee amount in your account statements. The advisory program you choose is described in the applicable Morgan Stanley Smith Barney LLC ADV Brochure, available at [www.morganstanley.com/ADV](http://www.morganstanley.com/ADV).

Morgan Stanley or Executing Sub-Managers, as applicable, in some of Morgan Stanley's Separately Managed Account ("SMA") programs may effect transactions through broker-dealers other than Morgan Stanley or our affiliates. In such instances, you may be assessed additional costs by the other firm in addition to the Morgan Stanley and Sub-Manager fees. Those costs will be included in the net price of the security, not separately reported on trade confirmations or account statements. Certain Sub-Managers have historically directed most, if not all, of their trades to outside firms. Information provided by Sub-Managers concerning trade execution away from Morgan Stanley is summarized at: [www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf](http://www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf). For more information on trading and costs, please refer to the ADV Brochure for your program(s), available at [www.morganstanley.com/ADV](http://www.morganstanley.com/ADV), or contact your Financial Advisor / Private Wealth Advisor.

**Conflicts of Interest:** GIMA's goal is to provide professional, objective evaluations in support of the Morgan Stanley Wealth Management investment advisory programs. We have policies and procedures to help us meet this goal. However, our business is subject to various conflicts of interest. For example, ideas and suggestions for which investment products should be evaluated by GIMA come from a variety of sources, including our Morgan Stanley Wealth Management Financial Advisors and their direct or indirect managers, and other business persons within Morgan Stanley Wealth Management or its affiliates. Such persons may have an ongoing business relationship with certain investment managers or mutual fund companies whereby they, Morgan Stanley Wealth



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Morgan Stanley charges each fund family we offer a mutual fund support fee, also called a "revenue-sharing payment," on client account holdings in fund families according to a tiered rate that increases along with the management fee of the fund so that lower management fee funds pay lower rates than those with higher management fees.

**Consider Your Own Investment Needs:** The model portfolios and strategies discussed in the material are formulated based on general client characteristics including risk tolerance. This material is not intended to be an analysis of whether particular investments or strategies are appropriate for you or a recommendation, or an offer to participate in any investment. Therefore, clients should not use this material as the sole basis for investment decisions. They should consider all relevant information, including their existing portfolio, investment objectives, risk tolerance, liquidity needs and investment time horizon. Such a determination may lead to asset allocation results that are materially different from the asset allocation shown in this profile. Talk to your Financial Advisor about what would be an appropriate asset allocation for you, whether Morgan Stanley Pathway Funds is an appropriate program for you.

**No obligation to notify** – Morgan Stanley Wealth Management has no obligation to notify you when the model portfolios, strategies, or any other information, in this material changes.

**For index, indicator and survey definitions referenced in this report please visit the following:** <https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions>

**The Morgan Stanley Pathway Funds, Firm Discretionary UMA Model Portfolios,** and other asset allocation or any other model portfolios discussed in this material are available only to investors participating in Morgan Stanley Consulting Group advisory programs. For additional information on the Morgan Stanley Consulting Group advisory programs, see the applicable ADV brochure, available at [www.morganstanley.com/ADV](http://www.morganstanley.com/ADV) or from your Morgan Stanley Financial Advisor or Private Wealth Advisor. To learn more about the Morgan Stanley Pathway Funds, visit the Funds' website at <https://www.morganstanley.com/wealth-investmentsolutions/cgcm>. Consulting Group is a business of Morgan Stanley.

**Morgan Stanley Pathway Program Asset Allocation Models** There are model portfolios corresponding to five risk-tolerance levels available in the Pathway program. Model 1 is the least aggressive portfolio and consists mostly of bonds. As the model numbers increase, the models have higher allocations to equities and become more aggressive. Pathway is a mutual fund asset allocation program. In constructing the Pathway Program Model Portfolios, Morgan Stanley Wealth Management uses, among other things, model asset allocations produced by Morgan Wealth Management's Global Investment Committee (the "GIC"). The Pathway Program Model Portfolios are specific to the Pathway program (based on program features and parameters, and any other requirements of Morgan Stanley Wealth Management's Consulting Group). The Pathway Program Model Portfolios may therefore differ in some respects from model portfolios available in other Morgan Stanley Wealth Management programs or from asset allocation models published by the Global Investment Committee.

The type of mutual funds and ETFs discussed in this presentation utilizes nontraditional or complex investment strategies and/or derivatives. Examples of these types of funds include those that utilize one or more of the below noted investment strategies or categories or which seek exposure to the following markets: (1) commodities (e.g., agricultural, energy and metals), currency, precious metals; (2) managed futures; (3) leveraged, inverse or inverse leveraged; (4) bear market, hedging, long-short equity, market neutral; (5) real estate; (6) volatility (seeking exposure to the CBOE VIX Index). Investors should keep in mind that while mutual funds and ETFs may, at times, utilize nontraditional investment options and strategies, they should not be equated with unregistered privately offered alternative investments. Because of regulatory limitations, mutual funds and ETFs that seek alternative-like investment exposure must utilize a more limited investment universe. As a result, investment returns and portfolio characteristics of alternative mutual funds and ETFs may vary from traditional hedge funds pursuing similar investment objectives. Moreover, traditional hedge funds have limited liquidity with long "lock-up" periods allowing them to pursue investment strategies without having to factor in the need to meet client redemptions and ETFs trade on an exchange. On the other hand, mutual funds typically must meet daily client redemptions. This differing liquidity profile can have a material impact on the investment returns generated by a mutual fund or ETF pursuing an alternative investing strategy compared with a traditional hedge fund pursuing the same strategy.

Nontraditional investment options and strategies are often employed by a portfolio manager to further a fund's investment objective and to help offset market risks. However, these features may be complex, making it more difficult to understand the fund's essential characteristics and risks, and how it will perform in different market environments and over various periods of time. They may also expose the fund to increased volatility and unanticipated risks particularly when used in complex combinations and/or accompanied by the use of borrowing or "leverage."

**Please consider the investment objectives, risks, fees, and charges and expenses of mutual funds, ETFs, closed end funds, unit investment trusts, and variable insurance products carefully before investing. The prospectus contains this and other information about each fund. To obtain a prospectus, contact your Financial Advisor or Private Wealth Advisor or visit the Morgan Stanley website at [www.morganstanley.com](http://www.morganstanley.com). Please read it carefully before investing.**

**Money Market Funds:** You could lose money in money market funds. Although money market funds classified as government funds (i.e., money market funds that invest 99.5% of total assets in cash and/or securities backed by the U.S government) and retail funds (i.e., money market funds open to natural person investors only) seek to preserve value at \$1.00 per share, they cannot guarantee they will do so. The price of other money market funds will fluctuate and when you sell shares they may be worth more or less than originally paid. Money market funds may impose a fee upon sale or temporarily suspend sales if liquidity falls below required minimums. During suspensions, shares would not be available for purchases, withdrawals, check writing or ATM debits. A money market fund investment is not insured or guaranteed by the Federal Deposit Insurance Corporation or other government agency. The Fund's sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time.

**Investors should carefully consider the investment objectives, risks, charges and expenses of a money market fund before investing. The prospectus contains this and other information about the money market fund. To obtain a prospectus, contact your Financial Advisor or visit the money market fund company's website. Please read the prospectus carefully before investing.**

**Exchange Funds** are private placement vehicles that enable holders of concentrated single-stock positions to exchange those stocks for a diversified portfolio. Investors may benefit from greater diversification by exchanging a concentrated stock position for fund shares without triggering a taxable event. These funds are available only to qualified investors and may only be offered by Financial Advisors who are qualified to sell alternative investments. Before investing, investors should consider the following:

- Dividends are pooled
- Investors may forfeit their stock voting rights
- Investment may be illiquid for several years
- Investments may be leveraged or contain derivatives
- Significant early redemption fees may apply
- Changes to the U.S. tax code, which could be retroactive (potentially disallowing the favorable tax treatment of exchange funds)
- Investment risk and potential loss of principal

## KEY ASSET CLASS CONSIDERATIONS AND OTHER RISKS

Investing in the markets entails the risk of market volatility. The value of all types of investments, including stocks, mutual funds, exchange-traded funds ("ETFs"), closed-end funds, and unit investment trusts, may increase or decrease over varying time periods. To the extent the investments depicted herein represent **international securities**, you should be aware that there may be additional risks associated with international investing, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes, and differences in financial and accounting standards. These risks may be magnified in **emerging markets and frontier markets**. Some funds also invest in foreign securities, which may involve currency risk. There is no assurance that the fund will achieve its investment objective. **Small- and mid-capitalization companies** may lack the financial resources, product diversification and competitive strengths of larger companies. In addition, the securities of small- and mid-capitalization companies may not trade as readily as, and be subject to higher volatility than, those of larger, more established companies. The value of **fixed income securities** will fluctuate and, upon a sale, may be worth more or less than their original cost or maturity value. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer. **High yield bonds** are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. In the case of **municipal bonds**, income is generally exempt from federal income taxes. Some income may be subject to state and local taxes and to the federal alternative minimum tax. Capital gains, if any, are subject to tax. **Treasury Inflation Protection Securities' (TIPS)** coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation. There is no guarantee that investors will receive par if TIPS are sold prior to maturity. **Environmental, Social and Governance ("ESG") investments** in a portfolio may experience performance that is lower or higher than a portfolio not employing such practices. Portfolios with ESG restrictions and strategies as well as ESG investments may not be able to take

advantage of the same opportunities or market trends as portfolios where ESG criteria is not applied. There are inconsistent ESG definitions and criteria within the industry, as well as multiple ESG ratings providers that provide ESG ratings of the same subject companies and/or securities that vary among the providers. Certain issuers of investments may have differing and inconsistent views concerning ESG criteria where the ESG claims made in offering documents or other literature may overstate ESG impact. ESG designations are as of the date of this material, and no assurance is provided that the underlying assets have maintained or will maintain and such designation or any stated ESG compliance. As a result, it is difficult to compare ESG investment products or to evaluate an ESG investment product in comparison to one that does not focus on ESG. Investors should also independently consider whether the ESG investment product meets their own ESG objectives or criteria. There is no assurance that an ESG investing strategy or techniques employed will be successful. Past performance is not a guarantee or a dependable measure of future results. The companies identified and investment examples are for illustrative purposes only and should not be deemed a recommendation to purchase, hold or sell any securities or investment products. They are intended to demonstrate the approaches taken by managers who focus on ESG criteria in their investment strategy. There can be no guarantee that a client's account will be managed as described herein. **Options** and margin trading involve substantial risk and are not appropriate for all investors. Besides the general investment risk of holding securities that may decline in value and the possible loss of principal invested, **closed-end funds** may have additional risks related to declining market prices relative to net asset values (NAVs), active manager underperformance and potential leverage. Closed-end funds, unlike open-end funds, are not continuously offered. There is a one-time public offering and once issued, shares of closed-end funds are sold in the open market through a stock exchange. Shares of closed-end funds frequently trade at a discount from their NAV which may increase investors' risk of loss. The risk of loss due to this discount may be greater for investors expecting to sell their shares in a relatively short period after completion of the public offering. This characteristic is a risk separate and distinct from the risk that a closed-end fund's net asset value may decrease as a result of investment activities. NAV is total assets less total liabilities divided by the number of shares outstanding. At the time an investor purchases or sells shares of a closed-end fund, shares may have a market price that is above or below NAV. Portfolios that invest a large percentage of assets in only one industry **sector** (or in only a few sectors) are more vulnerable to price fluctuation than those that diversify among a broad range of sectors.

**Structured Investments** are complex and not appropriate for all investors. An investment in Structures Investments involve risks. These risks can include but are not limited to: (1) Fluctuations in the price, level or yield of underlying instruments, interest rates, currency values and credit quality, (2) Substantial or total loss of principal, (3) Limits on participation in appreciation of underlying instrument, (4) Limited liquidity, (5) Issuer credit risk and (6) Conflicts of Interest. There is no assurance that a strategy of using structured product for wealth preservation, yield enhancement, and/or interest rate risk hedging will meet its objectives.

**Alternative Investments** often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; Risks associated with the operations, personnel, and processes of the manager; and Risks associated with cybersecurity. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund. Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice. All expressions of opinion are subject to change without notice and are not intended to be a forecast of future events or results. Further, opinions expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management. This is not a "research report" as defined by FINRA Rule 2241 or a "debt research report" as defined by FINRA Rule 2242 and was not prepared by the Research Departments of Morgan Stanley Smith Barney LLC or Morgan Stanley & Co. LLC or its affiliates. Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. While the HFRI indices are frequently used, they have limitations (some of which are typical of other widely used indices). These limitations include survivorship bias (the returns of the indices may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to indices, and the index may omit funds, the inclusion of which might significantly affect the performance shown). The HFRI indices are based on information self-reported by hedge fund managers that decide on their own, at any time, whether or not they want to provide, or continue to provide, information to HFR Asset Management, L.L.C. Results for funds that go out of business are included in the index until the date that they cease operations. Therefore, these indices may not be complete or accurate representations of the hedge fund universe and may be biased in several ways. Composite index results are shown for

illustrative purposes and do not represent the performance of a specific investment. Individual funds have specific tax risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice. Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Wealth Management and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley Wealth Management or any of its affiliates, (3) are not guaranteed by Morgan Stanley Wealth Management and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Wealth Management is a registered broker-dealer, not a bank. This material is not to be reproduced or distributed to any other persons (other than professional advisors of the investors or prospective investors, as applicable, receiving this material) and is intended solely for the use of the persons to whom it has been delivered. This material is not for distribution to the general public. Past performance is no guarantee of future results. Actual results may vary. SIPC insurance does not apply to precious metals, other commodities, or traditional alternative investments. In Consulting Group's advisory programs, alternative investments are limited to US-registered mutual funds, separate account strategies and exchange-traded funds (ETFs) that seek to pursue alternative investment strategies or returns utilizing publicly traded securities. Investment products in this category may employ various investment strategies and techniques for both hedging and more speculative purposes such as short-selling, leverage, derivatives and options, which can increase volatility and the risk of investment loss. Alternative investments are not appropriate for all investors.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

A majority of Alternative Investment managers reviewed and selected by GIMA pay or cause to be paid an ongoing fee for distribution from their management fees to Morgan Stanley Wealth Management in connection with Morgan Stanley Wealth Management clients that purchase an interest in an Alternative Investment and in some instances pay these fees on the investments held by advisory clients. Morgan Stanley Wealth Management rebates such fees that are received and attributable to an Investment held by an advisory client and retains the fees paid in connection with investments held by brokerage clients. Morgan Stanley Wealth Management has a conflict of interest in offering alternative investments because Morgan Stanley Wealth Management or our affiliates, in most instances, earn more money in your account from your investments in alternative investments than from other investment options.

It should be noted that the majority of hedge fund indexes are comprised of hedge fund manager returns. This is in contrast to traditional indexes, which are comprised of individual securities in the various market segments they represent and offer complete transparency as to membership and construction methodology. As such, some believe that hedge fund index returns have certain biases that are not present in traditional indexes. Some of these biases inflate index performance, while others may skew performance negatively. However, many studies indicate that overall hedge fund index performance has been biased to the upside. Some studies suggest performance has been inflated by up to 260 basis points or more annually depending on the types of biases included and the time period studied. Although there are numerous potential biases that could affect hedge fund returns, we identify some of the more common ones throughout this paper.

Self-selection bias results when certain manager returns are not included in the index returns and may result in performance being skewed up or down. Because hedge funds are private placements, hedge fund managers are able to decide which fund returns they want to report and are able to opt out of reporting to the various databases. Certain hedge fund managers may choose only to report returns for funds with strong returns and opt out of reporting returns for weak performers. Other hedge funds that close may decide to stop reporting in order to retain secrecy, which may cause a downward bias in returns.

Survivorship bias results when certain constituents are removed from an index. This often results from the closure of funds due to poor performance, "blow ups," or other such events. As such, this bias typically results in performance being skewed higher. As noted, hedge fund index performance biases can result in positive or negative skew. However, it would appear that the skew is more often positive. While it is difficult to quantify the effects precisely, investors should be aware that idiosyncratic factors may be giving hedge fund index returns an artificial "lift" or upwards bias.

**Hedge Funds of Funds** and many funds of funds are private investment vehicles restricted to certain qualified private and institutional investors. They are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They may be highly illiquid, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums and initial lockups. They involve complex tax structures, tax-inefficient investing and delays in distributing important tax information. Categorically, hedge funds and funds of funds have higher fees and expenses than traditional investments, and such fees and expenses can lower the returns achieved by investors. Funds of funds have an additional layer of fees over and above hedge fund fees that will offset returns. An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. An investment in a **target date portfolio** is subject to the risks attendant to the underlying funds in which it invests, in these portfolios the funds are the Consulting Group Capital Market funds. A target date portfolio is geared to investors who will retire and/or require income at an approximate year. The portfolio is managed to meet the investor's goals by the

pre-established year or "target date." A target date portfolio will transition its invested assets from a more aggressive portfolio to a more conservative portfolio as the target date draws closer. An investment in the target date portfolio is not guaranteed at any time, including, before or after the target date is reached. **Managed futures** investments are speculative, involve a high degree of risk, use significant leverage, are generally illiquid, have substantial charges, subject investors to conflicts of interest, and are appropriate only for the risk capital portion of an investor's portfolio. Managed futures investments do not replace equities or bonds but rather may act as a complement in a well diversified portfolio. Managed Futures are complex and not appropriate for all investors.

As a diversified global financial services firm, Morgan Stanley engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley therefore engages in activities where Morgan Stanley interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund. All expressions of opinion are subject to change without notice and are not intended to be a forecast of future events or results. **Private Markets:** As part of the Morgan Stanley Private Markets – Access program, Morgan Stanley will be limited solely to a role as an introducer and will not be serving as a placement agent or adviser. Eligible investors must enroll in the program in order to see any investment opportunities. Investments require independent evaluation, due diligence, review & analysis. Neither Morgan Stanley nor any of its affiliates is making any recommendation to purchase or take any action of any sort and is not providing any advice on investments. Investors are asked to work directly with the issuer/sponsor and with your own independent (non-Morgan Stanley) financial, legal, accounting, tax, and other professional advisors to evaluate the investment opportunity.

Investors are responsible for complying with the terms of any applicable exemption from securities law requirements and any potential Private Company issuer restrictions for any sale of Private Company shares, and you must obtain your own legal counsel to advise you in connection with such requirements and Private Company issuer restrictions. You should consult with your third-party advisors regarding the risks of transacting in Private Company shares, including the risk of transacting in a market with little or no price transparency or liquidity. Morgan Stanley provides no opinion or view on the valuation of any Private Company shares, or the sufficiency, fairness or competitiveness of any price obtained. Private Securities do not trade on any national securities exchange and, as such, any potential liquidity (i.e., the potential for any buying interest that might satisfy your sell interest) in such Private Company shares is very limited.

#### **Virtual Currency Products (Cryptocurrencies)**

**Buying, selling, and transacting in Bitcoin, Ethereum or other digital assets ("Digital Assets"), and related funds and products, is highly speculative and may result in a loss of the entire investment.** Risks and considerations include but are not limited to:

- Digital Assets have only been in existence for a short period of time and historical trading prices for Digital Assets have been highly volatile. The price of Digital Assets could decline rapidly, and **investors could lose their entire investment.**
- Certain Digital Asset funds and products, allow investors to invest on a more frequent basis than investors may withdraw from the fund or product, and interests in such funds or products are generally not freely transferrable. This means that, particularly given the volatility of Digital Assets, an investor will have to bear any losses with respect to its investment for an extended period of time and will not be able to react to changes in the price of the Digital Asset once invested (for example, by seeking to withdraw) as quickly as when making the decision to invest. Such Digital Asset funds and products, are intended only for persons who are able to bear the economic risk of investment and who do not need liquidity with respect to their investments.
- Given the volatility in the price of Digital Assets, the net asset value of a fund or product that invests in such assets at the time an investor's subscription for interests in the fund or product is accepted may be significantly below or above the net asset value of the product or fund at the time the investor submitted subscription materials.
- Certain Digital Assets are not intended to function as currencies but are intended to have other use cases. These other Digital Assets may be subject to some or all of the risks and considerations set forth herein, as well as additional risks applicable to such Digital Assets. Buyers, sellers and users of such Digital Assets should thoroughly familiarize themselves with such risks and considerations before transacting in such Digital Assets.
- The value of Digital Assets may be negatively impacted by future legal and regulatory developments, including but not limited to increased regulation of such Digital Assets. Any such developments may make such Digital Assets less valuable, impose additional burdens and expenses on a fund or product investing in such assets or impact the ability of such a fund or product to continue to operate, which may materially decrease the value of an investment therein.

- Due to the new and evolving nature of digital currencies and the absence of comprehensive guidance, many significant aspects of the tax treatment of Digital Assets are uncertain. Prospective investors should consult their own tax advisors concerning the tax consequences to them of the purchase, ownership and disposition of Digital Assets, directly or indirectly through a fund or product, under U.S. federal income tax law, as well as the tax law of any relevant state, local or other jurisdiction.
- Over the past several years, certain Digital Asset exchanges have experienced failures or interruptions in service due to fraud, security breaches, operational problems or business failure. Such events in the future could impact any fund's or product's ability to transact in Digital Assets if the fund or product relies on an impacted exchange and may also materially decrease the price of Digital Assets, thereby impacting the value of your investment, regardless of whether the fund or product relies on such an impacted exchange.
- Although any Digital Asset product and its service providers have in place significant safeguards against loss, theft, destruction and inaccessibility, there is nonetheless a risk that some or all of a product's Digital Asset could be permanently lost, stolen, destroyed or inaccessible by virtue of, among other things, the loss or theft of the "private keys" necessary to access a product's Digital Asset.
- Investors in funds or products investing or transacting in Digital Assets may not benefit to the same extent (or at all) from "airdrops" with respect to, or "forks" in, a Digital Asset's blockchain, compared to investors who hold Digital Assets directly instead of through a fund or product. Additionally, a "fork" in the Digital Asset blockchain could materially decrease the price of such Digital Asset.
- Digital Assets are not legal tender, and are not backed by any government, corporation or other identified body, other than with respect to certain digital currencies that certain governments are or may be developing now or in the future. No law requires companies or individuals to accept digital currency as a form of payment (except, potentially, with respect to digital currencies developed by certain governments where such acceptance may be mandated). Instead, other than as described in the preceding sentences, Digital Asset products' use is limited to businesses and individuals that are willing to accept them. If no one were to accept digital currencies, virtual currency products would very likely become worthless.
- Platforms that buy and sell Digital Assets can be hacked, and some have failed. In addition, like the platforms themselves, digital wallets can be hacked, and are subject to theft and fraud. As a result, like other investors have, you can lose some or all of your holdings of Digital Assets.
- Unlike US banks and credit unions that provide certain guarantees of safety to depositors, there are no such safeguards provided to Digital Assets held in digital wallets by their providers or by regulators.
- Due to the anonymity Digital Assets offer, they have known use in illegal activity, including drug dealing, money laundering, human tracking, sanction evasion and other forms of illegal commerce. Abuses could impact legitimate consumers and speculators; for instance, law enforcement agencies could shut down or restrict the use of platforms and exchanges, limiting or shutting off entirely the ability to use or trade Digital Asset products.
- Digital Assets may not have an established track record of credibility and trust. Further, any performance data relating to Digital Asset products may not be verifiable as pricing models are not uniform.

Investors should be aware of the potentially increased risks of transacting in Digital Assets relating to the risks and considerations, including fraud, theft, and lack of legitimacy, and other aspects and qualities of Digital Assets, before transacting in such assets.

**Asset allocation and diversification** do not assure a profit or protect against loss in declining financial markets. Past performance is no guarantee of future results. Actual results may vary.

**Rebalancing** does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Indices are unmanaged and investors cannot directly invest in them. They are not subject to expenses or fees and are often comprised of securities and other investment instruments the liquidity of which is not restricted. A particular investment product may consist of securities significantly different than those in any index referred to herein. Composite index results are shown for illustrative purposes only, generally do not represent the performance of a specific investment, may not, for a variety of reasons, be an appropriate comparison or benchmark for a particular investment and may not necessarily reflect the actual investment strategy or objective of a particular investment. Consequently, comparing an investment to a particular index may be of limited use.

**Artificial intelligence (AI)** is subject to limitations, and you should be aware that any output from an AI-supported tool or service made available by the Firm for your use is subject to such limitations, including but not limited to inaccuracy, incompleteness, or embedded bias. You should always verify the results of any AI-generated output.

To obtain **Tax-Management Services**, a client must complete the Tax-Management Form, and deliver the signed form to Morgan Stanley. For more information on Tax-Management Services, including its features and limitations, please ask your Financial Advisor for the Tax Management Form. Review the form carefully with your tax advisor. Tax-Management Services: (a) apply only to equity investments in separate account sleeves of client accounts; (b) are not available for all accounts or clients; and (c) may adversely impact account performance. Tax-management services do not constitute tax advice or a complete tax-sensitive investment management program. There is no guarantee that tax-management services will produce the desired tax results.

**When Morgan Stanley Smith Barney LLC, its affiliates and Morgan Stanley Financial Advisors and Private Wealth Advisors (collectively, "Morgan Stanley") provide "investment advice" regarding a retirement or welfare benefit plan account, an individual retirement account or a Coverdell education savings account ("Retirement Account"), Morgan Stanley is a "fiduciary" as those terms are defined under the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), and/or the Internal Revenue Code of 1986 (the "Code"), as applicable. When Morgan Stanley provides investment education, takes orders on an unsolicited basis or otherwise does not provide "investment advice", Morgan Stanley will not be considered a "fiduciary" under ERISA and/or the Code. For more information regarding Morgan Stanley's role with respect to a Retirement Account, please visit [www.morganstanley.com/disclosures/dol](http://www.morganstanley.com/disclosures/dol). Tax laws are complex and subject to change. Morgan Stanley does not provide tax or legal advice. Individuals are encouraged to consult their tax and legal advisors (a) before establishing a Retirement Account, and (b) regarding any potential tax, ERISA and related consequences of any investments or other transactions made with respect to a Retirement Account. Individuals should consult their tax advisor for matters involving taxation and tax planning and their attorney for matters involving trust and estate planning, charitable giving, philanthropic planning and other legal matters.**

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This material is not a financial plan and does not create an investment advisory relationship between you and your Morgan Stanley Financial Advisor. We are not your fiduciary either under the Employee Retirement Income Security Act of 1974 (ERISA) or the Internal Revenue Code of 1986, and any information in this report is not intended to be considered investment advice or a recommendation for either ERISA or Internal Revenue Code purposes and that (unless otherwise provided in a written agreement and/or as described at [www.morganstanley.com/disclosures/dol](http://www.morganstanley.com/disclosures/dol)) you remain solely responsible for your assets and all investment decisions with respect to your assets. Nevertheless, if Morgan Stanley or your Financial Advisor provides "investment advice," as that term is defined under Section 3(21) of ERISA, to you with respect to certain retirement, welfare benefit, or education savings account assets for a fee or other compensation, Morgan Stanley and/or your Financial Advisor will be providing such advice in its capacity as a fiduciary under ERISA and/or the Code. Morgan Stanley will only prepare a financial plan at your specific request using Morgan Stanley approved financial planning software.

The Morgan Stanley Goals-Planning System (GPS) includes a brokerage investment analysis tool. While securities held in a client's investment advisory account may be included in the analysis, the reports generated from the GPS Platform are not financial plans nor constitute a financial planning service. A financial plan generally seeks to address a wide spectrum of a client's long-term financial needs, and can include recommendations about insurance, savings, tax and estate planning, and investments, taking into consideration the client's goals and situation, including anticipated retirement or other employee benefits. Morgan Stanley Smith Barney LLC ("Morgan Stanley") will only prepare a financial plan at a client's specific request using Morgan Stanley approved financial planning software. Investing in financial instruments carries with it the possibility of losses and that a focus on above-market returns exposes the portfolio to above-average risk. Performance aspirations are not guaranteed and are subject to market conditions. High volatility investments may be subject to sudden and large falls in value, and there could be a large loss on realization which could be equal to the amount invested. **IMPORTANT:** The projections or other information provided by the Morgan Stanley Goals Planning System regarding the likelihood of various investment outcomes (including any assumed rates of return and income) are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Morgan Stanley does not represent or guarantee that the projected returns or income will or can be attained.

**A LifeView Financial Goal Analysis** ("Financial Goal Analysis") or LifeView Financial Plan ("Financial Plan") is based on the methodology, estimates, and assumptions, as described in your report, as well as personal data provided by you. It should be considered a working document that can assist you with your objectives. Morgan Stanley makes no guarantees as to future results or that an individual's investment objectives will be achieved. The responsibility for implementing, monitoring and adjusting your Financial Goal Analysis or Financial Plan rests with you. After your Financial Advisor delivers your report to you, if you so desire, your Financial Advisor can help you implement any part that you choose; however, you are not obligated to work with your Financial Advisor or Morgan Stanley.

**Important information about your relationship with your Financial Advisor and Morgan Stanley Smith Barney LLC when using LifeView Goal Analysis or LifeView Advisor.** When your Financial Advisor prepares and delivers a Financial Goal Analysis (i.e., when using LifeView Goal Analysis), they will be acting in a brokerage capacity. When your Financial Advisor prepares a Financial Plan (i.e., when using LifeView Advisor), they will be acting in an investment advisory capacity with respect to the delivery of your Financial Plan. This Investment Advisory relationship will begin with the delivery of the Financial Plan and ends thirty days later, during which time your Financial Advisor can review the Financial Plan with you. To understand the differences between brokerage and advisory relationships, you should consult your Financial Advisor, or review our “Understanding Your Brokerage and Investment Advisory Relationships,” brochure available at <https://www.morganstanley.com/wealth-relationshipwithms/pdfs/understandingyourrelationship.pdf>

We may act in the capacity of a broker or that of an advisor. As your broker, we are not your fiduciary and our interests may not always be identical to yours. Please consult with your Financial Advisor or Private Wealth Advisor to discuss our obligations to disclose to you any conflicts we may from time to time have and our duty to act in your best interest. We may be paid both by you and by others who compensate us based on what you buy. Our compensation, including that of your Financial Advisor or Private Wealth Advisor, may vary by product and over time.

Investment and services offered through Morgan Stanley Smith Barney LLC, Member SIPC.

**GLOBAL INVESTMENT COMMITTEE (GIC) ASSET ALLOCATION MODELS:** The Asset Allocation Models are created by Morgan Stanley Wealth Management’s GIC.

**HYPOTHETICAL MODEL PERFORMANCE (GROSS):** Hypothetical model performance results do not reflect the investment or performance of an actual portfolio following a GIC Strategy, but simply reflect actual historical performance of selected indices on a real-time basis over the specified period of time representing the GIC’s strategic and tactical allocations as of the date of this report. The past performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation or trading strategy. Hypothetical performance results do not represent actual trading and are generally designed with the benefit of hindsight. Actual performance results of accounts vary due to, for example, market factors (such as liquidity) and client-specific factors (such as investment vehicle selection, timing of contributions and withdrawals, restrictions and rebalancing schedules). Clients would not necessarily have obtained the performance results shown here if they had invested in accordance with any GIC Asset Allocation Model for the periods indicated. Despite the limitations of hypothetical performance, these hypothetical performance results allow clients and Financial Advisors to obtain a sense of the risk/return trade-off of different asset allocation constructs. The hypothetical performance results in this report are calculated using the returns of benchmark indices for the asset classes, and not the returns of securities, fund or other investment products. Models may contain allocations to Hedge Funds, Private Equity and Private Real Estate. The benchmark indices for these asset classes are not issued on a daily basis. When calculating model performance on a day for which no benchmark index data is issued, we have assumed straight line growth between the index levels issued before and after that date.

**FEES REDUCE THE PERFORMANCE OF ACTUAL ACCOUNTS:** None of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, fees) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models. The GIC Asset Allocation Models and any model performance included in this presentation are intended as educational materials. Were a client to use these models in connection with investing, any investment decisions made would be subject to transaction and other costs which, when compounded over a period of years, would decrease returns. Information regarding Morgan Stanley’s standard advisory fees is available in the Form ADV Part 2, which is available at [www.morganstanley.com/adv](http://www.morganstanley.com/adv). The following hypothetical illustrates the compound effect fees have on investment returns: For example, if a portfolio’s annual rate of return is 15% for 5 years and the account pays 50 basis points in fees per annum, the gross cumulative five-year return would be 101.1% and the five-year return net of fees would be 96.8%. Fees and/or expenses would apply to clients who invest in investments in an account based on these asset allocations, and would reduce clients’ returns. The impact of fees and/or expenses can be material.

**Variable annuities** are long-term investments designed for retirement purposes and may be subject to market fluctuations, investment risk, and possible loss of principal. All guarantees, including optional benefits, are based on the financial strength and claims-paying ability of the issuing insurance company and do not apply to the underlying investment options. Optional riders may not be able to be purchased in combination and are available at an additional cost. Some optional riders must be elected at time of purchase. Optional riders may be subject to specific limitations, restrictions, holding periods, costs, and expenses as specified by the insurance company in the annuity contract. If you are investing in a **variable annuity** through a tax-advantaged retirement plan such as an IRA, you will get no additional tax advantage from the variable annuity. Under these circumstances, you should only consider buying a variable annuity because of its other features, such as lifetime income payments and death benefits protection. Taxable distributions (and certain deemed distributions) are subject to ordinary income tax and, if taken prior to age 59½, may be subject to a 10% federal income tax penalty. Early withdrawals will reduce the death benefit and cash surrender value.

**Equity securities** may fluctuate in response to news on companies, industries, market conditions and general economic environment.



**Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

**Master Limited Partnerships (MLPs)** are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value. MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV, and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely tracked.

**Investing in commodities** entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention. **Physical precious metals** are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be appropriate for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor.

**REITs** investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions. Risks of **private real estate** include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage. Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. **Asset-backed securities** generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

**Yields** are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

**Credit ratings** are subject to change.

**Duration**, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. The majority of \$25 and \$1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per \$25 or \$1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price. The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk. The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield. Some \$25 or \$1000 par **preferred securities** are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date.

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Companies paying **dividends** can reduce or cut payouts at any time.

**Nondiversification:** For a portfolio that holds a concentrated or limited number of securities, a decline in the value of these investments would cause the portfolio's overall value to decline to a greater degree than a less concentrated portfolio. The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time. Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

**Growth investing** does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

**Value investing** does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

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**South Central Connecticut Regional Water Authority**

September 26, 2024

Minutes

The regular meeting of the South Central Connecticut Regional Water Authority (“RWA” or “Authority”) took place on Thursday, September 26, 2024, at 90 Sargent Drive, New Haven, Connecticut and via remote access. Chair Borowy presided.

**Present:**       **Authority** – Messrs. Borowy(R), Curseaden and Ricozzi, and Mss. LaMarr and Sack  
                  **Management** – Mss. Kowalski, Calo(R), DiFrancesco, and Messrs. Bingaman, DelVecchio, Hill(R), Lakshminarayanan, Singh(R), and Watsey  
                  **RPB** – Ms. Campbell  
                  **Staff** – Mrs. Slubowski

The Chair called the meeting to order at 12:30 p.m.

**A. SAFETY MOMENT**

Chair Borowy reviewed the Safety Moment distributed to members.

**B. PUBLIC COMMENT**

Chair Borowy offered the opportunity for members of the public to comment. There were no members of the public present.

Mr. Watsey, the RWA’s Director of Public Affairs, presented a commemoration from Governor Lamont to the RWA, in recognition of the RWA’s 175<sup>th</sup> Anniversary.

**C. MEET AS AUDIT-RISK COMMITTEE**

At 12:33 p.m., Ms. DiFrancesco and Mr. Watsey withdrew from the meeting an on motion made by Mr. Ricozzi and seconded by Ms. LaMarr, the Authority voted to recess the meeting to meet as the Audit-Risk Committee.

Borowy	Aye
Curseaden	Absent
LaMarr	Aye
Ricozzi	Aye
Sack	Aye

At 12:35 p.m., Mr. Curseaden entered the meeting.

At 12:58 p.m., Mr. DelVecchio withdrew from the meeting and the Authority reconvened.

**D. CONSENT AGENDA**

On motion made by Ms. Sack and seconded by Ms. LaMarr, the Authority voted to approve, adopt, or receive, as appropriate the following items in the Consent Agenda:

**D.1** Minutes of the August 22, 2024 regular meeting and the September 12, 2024 special meeting.

**D.2** Capital budget authorization for October 2024

**RESOLVED**, that the Vice President & Chief Financial Officer is authorized to submit to the Trustee one or more requisitions in an aggregate amount not to exceed \$4,500,000 for the month of October for transfer from the Construction Fund for capital expenditures. Each such requisition shall contain or be accompanied by a certificate identifying such requisition and stating that the amount to be withdrawn, pursuant to such requisition, is a proper charge to the Construction Fund. Such requisitions are approved notwithstanding the fact that amounts to be withdrawn for a particular project may exceed the amount indicated for such month and year in the current Capital Improvement Budget but will not cause the aggregate amount budgeted for fiscal year 2025 for all Capital Improvement Projects to be exceeded. In the absence of the Vice President & Chief Financial Officer, the Controller is authorized to sign in her place.

**D.3** Capital budget transfer notifications detailed in Ms. Kowalski’s memorandum dated September 20, 2024.

**D.4** Accounts receivable update for August 2024.

**D.5** Key Performance Indicators for Q1 FY 2025.

**D.6** RPB Dashboard Report.

Borowy	Aye
Curseaden	Aye
LaMarr	Aye
Ricozzi	Aye
Sack	Aye

At 1:00 p.m., Chair Borowy withdrew from the meeting. In Mr. Borowy’s absence, Mr. Curseaden chaired the meeting.

## **E. FINANCE**

### **E.1. QUARTERLY FINANCIAL REPORT**

Ms. Kowalski, the RWA’s Vice President & Chief Financial Officer, reviewed the first quarter 2024 financial report, including the:

- Balance sheet
- Statement of revenues, expenses, and changes in net position
- Maintenance test year-end projections and sensitivities
- Operating and maintenance expenses
- Capital report!
- Investment earnings report

### **E.2 TYPE B3 AMENDMENTS**

Ms. Kowalski stated that management is seeking Authority authorization for capital amendments to the FY 2025 budget for the underdrain and filter media replacement projects.

After discussion, Mr. Ricozzi moved for approval of the following resolutions:

**RESOLVED** that the Authority approved the transfer of \$1,810,000 from the Lead Service Line Replacements capital budget account to the Lake Gaillard Water Treatment Plant Filter Underdrain Replacements capital budget account; and

**FURTHER RESOLVED** that the Authority approves the transfer of \$1,379,000 from three projects to the Filter Media Replacement budget account. The projects and amounts are \$690,000 from the Lake Gaillard Water Treatment Plant Roof Replacement capital budget account, \$350,000 from the Treatment Plant Buried Valve Improvements project capital budget account, and \$339,000 from the Raw Water/Transmission Main Replacement/Redundancy capital budget account.

Ms. LaMarr seconded the motion. The chair called for the vote:

Borowy	Absent
Curseaden	Aye
LaMarr	Aye
Ricozzi	Aye
Sack	Aye

#### **F. RPB COMMITTEE ASSIGNMENTS AND REPORTS ON RPB COMMITTEE MEETINGS**

Authority members reported on recent RPB committee meetings.

#### **G. BUSINESS UPDATES**

**G.1** Mr. Singh, the RWA's Chief Information Digital Officer & Vice President of Customer Care, provided a Customer Information System Update, which included:

- Accomplishments
- Current activities
- Decisions and risks
- Next steps

**G.2** Mr. Bingaman reported that the RWA will partner with ClimateHaven, a start up lab created by Yale, for the development of innovative technologies and to tackle water-related challenges, which will be used to improve water quality, conservation, and sustainability.

Board members congratulated management on its award related to PFAS and the work performed by Mr. Vece, the RWA's Chief of Staff, on the RWA's FY 2024 Annual Report.

At 1:51 p.m., Ms. Campbell withdrew from the meeting and the Authority recessed the meeting for a short break.

[BREAK 1:51 P.M. TO 2:03 P.M.]

#### **H. DISPOSITION APPLICATION – 56 SQUANTUCK ROAD, SEYMOUR**

Mr. Lakshminarayanan, the RWA's Vice President of Engineering and Environmental Services, provided an overview of the application for the disposition of 56 Squantuck Road in Seymour.

He stated that the property is located on approximately 4.9 acres of Class III land in Seymour and was inherited as part of Birmingham Utilities. The reservoir has not been in use since acquired. The Town of Seymour has expressed an interest in purchasing the property for use as open space preservation. Given the town's right of first refusal and its interest in purchasing the property, it is in the best interest of the Authority to sell to the town.

Authority members discussed intended use, payment in lieu of taxes, dam ownership, and easements.

After discussion, on motion made by Mr. Ricoszi and seconded by Ms. LaMarr, the Authority voted to table the application to the October meeting, pending additional information regarding the proposed transaction.

Borowy	Absent
Curseaden	Aye
LaMarr	Aye
Ricoszi	Aye
Sack	Aye

**I. MEET AS COMMERCIAL BUSINESS COMMITTEE**

At 2:10 p.m., on motion made by Mr. Ricoszi and seconded by Ms. LaMarr, the Authority voted to recess the meeting to meet as the Commercial Business Committee.

Borowy	Absent
Curseaden	Aye
LaMarr	Aye
Ricoszi	Aye
Sack	Aye

At 2:33 p.m., Mr. Borowy entered the meeting.

At 3:16 p.m., the Authority reconvened.

**J. MEET AS COMPENSATION COMMITTEE (SPECIAL MEETING)**

At 3:16 p.m., on motion made by Ms. LaMarr and seconded by Mr. Ricoszi, the Authority voted to recess the meeting to meet as the Compensation Committee.

Borowy	Aye
Curseaden	Aye
LaMarr	Aye
Ricoszi	Aye
Sack	Aye

At 4:27 p.m., the Authority reconvened.

**K. ACT ON MATTERS ARISING FROM COMMITTEE MEETINGS**

There were no actions taken as a result of the Committee meetings.

Mr. Curseaden reminded members that the Derby Tank Dedication Ceremony is scheduled for Thursday, October 10, 2024 at 10:00 a.m.

He also noted changes to Boardpaq early next year.

At 4:28 p.m., on motion made by Ms. LaMarr and seconded by Ms. Sack, the Authority voted to adjourn the meeting.

Borowy	Aye
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Curseaden Aye  
LaMarr Aye  
Ricozzi Aye  
Sack Aye

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Catherine E. LaMarr, Secretary


(R) = Attended remotely.

UNAPPROVED

South Central Connecticut Regional Water Authority  
90 Sargent Drive, New Haven, Connecticut 06511-5966 203-562-4020  
<http://www.rwater.com>

**MEMORANDUM**

**TO:** David J. Borowy  
Kevin J. Curseaden  
Catherine E. LaMarr  
Mario Ricozzi  
Suzanne C. Sack

**FROM:**  Rochelle Kowalski  
Vice President & Chief Financial Officer

**DATE:** October 18, 2024

**SUBJECT:** Capital budget authorization request for November 2024

Attached for your meeting on October 24, 2024, is a copy of the resolution authorizing expenditures against the capital improvement budget for November 2024. The amount of the requested authorization, for funds held by the trustee, is \$5,000,000.

This would result in projected expenditures through November 2024 of \$21,992,857 or 36.6% of the total 2025 fiscal year capital budget, including State and Redevelopment.

Attachment



**RESOLVED**

That the Vice President & Chief Financial Officer is authorized to submit to the Trustee one or more requisitions in an aggregate amount not to exceed \$5,000,000 for the month of November 2024 for transfer from the Construction Fund for capital expenditures. Each such requisition shall contain or be accompanied by a certificate identifying such requisition and stating that the amount to be withdrawn pursuant to such requisition is a proper charge to the Construction Fund. Such requisitions are approved notwithstanding the fact that amounts to be withdrawn for a particular project may exceed the amount indicated for such month and year in the current Capital Improvement Budget but will not cause the aggregate amount budgeted for fiscal year 2025 for all Capital Improvement Projects to be exceeded. In the absence of the Vice President & Chief Financial Officer, the Controller is authorized to sign in her place.

**South Central Connecticut Regional Water Authority**  
90 Sargent Drive, New Haven, Connecticut 06511-5966 203-562-4020  
<http://www.rwater.com>

TO: David J. Borowy  
Kevin J. Curseaden  
Catherine E. LaMarr  
Mario Riconzi  
Suzanne C. Sack

FROM: *Rochelle* Rochelle Kowalski

COPY TO: Larry L. Bingaman

DATE: October 18, 2024

SUBJECT: Capital Budget Transfers

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The status of all capital projects is reviewed monthly. To obtain efficiencies in our capital program, any anticipated unspent funds are reallocated to support reprioritized projects or existing projects.

The attached summary reflects three amendments. These amendments redistribute funds from one project to another, totaling \$555,000.

Source of Funds	Available Funds	Reason	Reallocation to Projects
Lead Service Line Replacements	\$ 470,000	As inventory work nears completion, it is expected that fewer replacements will be required than originally anticipated.	Prospect Dam Improvements
LIMS Business Enhancements	\$ 50,000	Reallocation to the LIMS Upgrades project.	LIMS Upgrade
Lead Service Line Replacements	\$ 35,000	As inventory work nears completion, it is expected that fewer replacements will be required than originally anticipated.	LIMS Upgrade

CAPITAL BUDGET AMENDMENT REQUEST

Request Date:	10/17/2024	Type	Log	Mo/Yr
Requesting Division:	Engineering & Environmental Services	B2	25-11	Oct/24
Requested By:	Orville Kelly			

<b>Transfer From:</b>	
Project Description:	Lead Service Line Replacements
A) Original Budget	\$ 3,000,000
B) Total Previous Transfers (In or Out)	\$ 810,000
C) This Transfer	\$ 470,000
D) Revised Budget (A+/-B-C)	\$ 1,720,000
E) Estimated Project Costs	\$ 1,600,000
F) Remaining Funds Available for Transfer, if any (D-E)	\$ 120,000
Explanation why funds are available: As the lead service line inventory work approaches its completion into the investigation of unknown services, it is anticipated that project work for FY 2025 will require less funding that originally anticipated.	

<b>Transfer To:</b>	
Account Number:	001-000-107112-140030
Project Description:	Prospect Dam Improvements
A) Original Budget	\$ 530,000
B) Previous Transfers (In or Out)	\$ -
C) Revised Budget (A+/-B)	\$ 530,000
D) Amount to be Transferred	\$ 470,000
E) Proposed Revised Budget (C+D)	\$ 1,000,000
Explanation why funds are needed: This amendment will fund additional work required on the project as the result of unforeseen conditions. The additional work includes construction of a dewatering system to minimize turbid downstream discharge. Also, the 8/19/24 extreme rain event resulted in the reservoir level rising quickly, revealing an additional seepage area of considerable size. Investigation revealed voids in a masonry wall with voids in the spillway and auxiliary spillways. The voids require corrective action, consisting of grouting and construction of a cutoff wall below grade to block the seepage path, as well as installation of a geo-composite liner. Relocation of proposed retaining walls is also required due to a conflict with an existing 24" cast iron blowoff that was revealed during excavation work. The relocation will result in an increased size to the wall and associated footing. Total cost of the additional work is \$470,000, bringing the total estimated project cost to \$1,000,000.	

Approvals As Required By Type	Signature	Date
1) Requesting Vice President/Director	<i>Approved at CMC</i>	10/17/2024
2) Donor Vice President/Director	<i>Approved at CMC</i>	10/17/2024
3) Vice President - Finance & CFO	<i>Approved at CMC</i>	10/17/2024
4) Chief Executive Officer	<i>Larry Binzaman</i>	10/18/2024
5) Authority Members	Copy of minutes attached if required	

**CAPITAL BUDGET AMENDMENT REQUEST**

Request Date:	10/17/2024	Type	Log	Mo/Yr
Requesting Division:	Customer Care/Information Technology	B1	25-12	Oct/24
Requested By:	Edward Carboni			

<b>Transfer From:</b>	
Account Number:	001-000-107181-100423
Project Description:	LIMS Business Enhancements
A) Original Budget	\$ 50,000
B) Total Previous Transfers (In or Out)	\$ -
C) This Transfer	\$ 50,000
D) Revised Budget (A+/-B-C)	\$ -
E) Estimated Project Costs	\$ -
F) Remaining Funds Available for Transfer, if any (D-E)	\$ -
Explanation why funds are available: Budget funds are being reallocated to the LIMS Upgrade project.	

<b>Transfer To:</b>	
Account Number:	001-000-107181-100414
Project Description:	LIMS Upgrades
A) Original Budget	\$ 50,000
B) Previous Transfers (In or Out)	\$ -
C) Revised Budget (A+/-B)	\$ 50,000
D) Amount to be Transferred	\$ 50,000
E) Proposed Revised Budget (C+D)	\$ 100,000
Explanation why funds are needed: Amendment 1 of 2: This amendment will transfer funds from the LIMS Business Enhancements project to the LIMS Upgrades project in order to facilitate the upgrade of our LIMS Labware from version 7 to version 8. This upgrade is required to implement Labware Mobile to be utilized in our sampling process. Total cost of the upgrade is estimated at \$135,000.	

Approvals As Required By Type	Signature	Date
1) Requesting Vice President/Director	<i>Approved at CMC</i>	10/17/2024
2) Donor Vice President/Director	<i>Approved at CMC</i>	10/17/2024
3) Vice President - Finance & CFO	<i>Approved at CMC</i>	10/17/2024
4) Chief Executive Officer		
5) Authority Members	Copy of minutes attached if required	

**CAPITAL BUDGET AMENDMENT REQUEST**

Request Date:	10/17/2024	Type	Log	Mo/Yr
Requesting Division:	Customer Care/Information Technology	B2	25-13	Oct/24
Requested By:	Edward Carboni			

<b>Transfer From:</b>	
Account Number:	001-000-107143-000057
Project Description:	Lead Service Line Replacements
A) Original Budget	\$ 3,000,000
B) Total Previous Transfers (In or Out)	\$ 1,280,000
C) This Transfer	\$ 35,000
D) Revised Budget (A+/-B-C)	\$ 1,685,000
E) Estimated Project Costs	\$ 1,600,000
F) Remaining Funds Available for Transfer, if any (D-E)	\$ 85,000
Explanation why funds are available: As the lead service line inventory work approaches its completion into the investigation of unknown services, it is anticipated that project work for FY 2025 will require less funding that originally anticipated.	

<b>Transfer To:</b>	
Account Number:	001-000-107181-100414
Project Description:	LIMS Upgrades
A) Original Budget	\$ 50,000
B) Previous Transfers (In or Out)	\$ 50,000
C) Revised Budget (A+/-B)	\$ 100,000
D) Amount to be Transferred	\$ 35,000
E) Proposed Revised Budget (C+D)	\$ 135,000
Explanation why funds are needed: Amendment 2 of 2: This amendment will transfer funds from the LIMS Business Enhancements project to the LIMS Upgrades project in order to facilitate the upgrade of our LIMS Labware from version 7 to version 8. This upgrade is required to implement Labware Mobile to be utilized in our sampling process. Total cost of the upgrade is estimated at \$135,000.	

Approvals As Required By Type	Signature	Date
1) Requesting Vice President/Director	<i>Approved at CMC</i>	10/17/2024
2) Donor Vice President/Director	<i>Approved at CMC</i>	10/17/2024
3) Vice President - Finance & CFO	<i>Approved at CMC</i>	10/17/2024
4) Chief Executive Officer		
5) Authority Members	Copy of minutes attached if required	

**REGIONAL WATER AUTHORITY**  
**REVIEW OF FINANCIAL DATA**  
**Sep 30, 2024 (FY 2025)**

**STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**

**Operating Revenues**

FY25 revenue for water, including wholesale and fire service, is under budget by \$2,006k (approx. 4.0%).  
 Metered water revenue is under budget by \$2,094k (approx. 4.6%)

Total net other revenue is \$763k over budget due to other water and proprietary revenue being higher than budget.

**Operating Expenses**

Operating and Maintenance Expenses are currently under budget due to the following:

	<b>Sep-24</b>
Payroll is under budget primarily due to head count under runs and O&M/non-O&M mix.	\$ (479,000)
Employee Benefits are under budget primarily due OPEB reimbursement being higher than budgeted and O&M/non-O&M mix.	(212,000)
General & Admin is over budget due to due to timing.	97,000
Transportation is under budget primarily due to gasoline & diesel fuel expense, vehicle insurance, and timing.	(58,000)
Utilities & Fuel is under budget primarily due to timing of the sewer use charges.	(131,000)
Pump Power is over budget primarily due to CT statutory charges not anticipated in budget.	99,000
Chemicals Expense is under budget primarily due to timing.	(203,000)
Collection Expense is under budget due to lower year-to-date attorney fees and bank fees.	(103,000)
Insurance Premiums are under budget due primarily to timing.	(65,000)
Outside Services is under budget across multiple areas.	(202,000)
Training and continued education is under budget primarily due to timing.	(177,000)
Info. Technology Licensing & Maintenance Fees are under budget primarily due to timing.	(162,000)
Maintenance & Repairs are under budget across multiple areas.	(227,000)
All Other	(98,000)
	(1,921,000)

**Interest Income**

Interest Income is above budget primarily due to higher investment earnings.

**PROJECTED MAINTENANCE TEST**

The projected coverage is 1.17 with no shortfall.

**REGIONAL WATER AUTHORITY  
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION  
FOR THE MONTHS ENDING SEP 30, 2024**

Pg 2

	<b>FY 2024 Actual</b>	<b>FY 2025 Budget</b>	<b>FY 2025 Actual</b>	<b>(Under)Over Budget</b>
<b>Operating revenues</b>				
Metered water revenues	\$ 42,156	\$ 45,062	\$ 42,968	\$ (2,094)
Fire service	4,484	4,504	4,585	81
Wholesale	314	323	331	7
Other revenue - water	1,677	1,514	1,985	471
Other revenue - proprietary	3,850	4,242	5,466	1,224
Total operating revenues	<u>52,482</u>	<u>55,646</u>	<u>55,334</u>	<u>(312)</u>
<b>Operating expenses</b>				
Operating and maintenance expense	21,556	24,405	22,484	(1,921)
Expense associated with other revenue - water	770	707	1,012	306
Expense associated with other revenue - proprietary	1,317	1,714	2,339	625
Provision for uncollectible accounts	49	167	59	(107)
Depreciation	8,100	8,667	8,668	1
Payment in lieu of taxes	3,056	3,138	3,030	(108)
Amortization Pension Outflows/Inflows	469	74	74	(0)
Amortization OPEB Outflows/Inflows	(291)	(190)	(190)	(0)
Total operating expenses	<u>35,027</u>	<u>38,681</u>	<u>37,476</u>	<u>(1,205)</u>
Operating income	<u>17,455</u>	<u>16,965</u>	<u>17,858</u>	<u>894</u>
<b>Nonoperating income and (expense)</b>				
Interest income	3,539	2,838	3,660	822
(Loss) Gain on disposal of assets			(23)	(23)
Realized and unrealized (losses) gains on investments			-	-
Interest expense	(7,383)	(7,196)	(7,189)	7
Amortization of bond discount, premium, issuance cost and deferred losses	958	946	938	(8)
Amortization of Goodwill	-	-	-	-
Intergovernmental revenue	-	-	-	-
Contributions to related entities	-	-	-	-
Total nonoperating income and (expense) before captial contribution	<u>(2,886)</u>	<u>(3,412)</u>	<u>(2,614)</u>	<u>797</u>
Income (expense) before contributions	<u>14,568</u>	<u>\$ 13,553</u>	<u>15,243</u>	<u>\$ 1,692</u>
<b>Capital contributions</b>	<u>9</u>		<u>8</u>	
Change in net assets	14,577		15,251	
Total net assets - beginning of fiscal year	283,120		322,165	
Total net assets - end of reporting month	<u>297,697</u>		<u>\$ 337,416</u>	

	<b>Budget</b>	<b>Projected</b>	<b>(Under)Over</b>
	<b>FY 2025</b>	<b>FY 2025</b>	<b>FY 2025</b>
	<b>@114%</b>	<b>@114%</b>	<b>@114%</b>
<b>FY 2025 MAINTENANCE TEST</b>			
<b>(Budget vs. Projected)</b>			
Revenue Collected:			
Water sales	130,838	129,038	(1,800)
Interest Income	4,028	4,828	800
BABs Subsidy	644	644	-
Other Net	9,093	10,158	1,065
Common Non-Core	(390)	(390)	-
Total	<u>144,213</u>	<u>144,277</u>	<u>65</u>
Less:			
Operating and maintenance expenses	(71,610)	(71,610)	-
Depreciation	(9,000)	(9,000)	-
PILOT (A)	(9,295)	(9,095)	200
Net Avail for Debt Service (B)	<u>\$ 54,308</u>	<u>\$ 54,572</u>	<u>\$ 265</u>
Debt Service Payments (C)	<u>\$ 47,638</u>	<u>46,745</u>	<u>\$ (893)</u>
Debt Service @ 114% (D)	<u>\$ 54,307</u>	<u>53,290</u>	<u>\$ (1,018)</u>
Difference (B-D)	<u>\$ 0</u>	<u>\$ 1,283</u>	
RSF, Growth and/or General Fund (D)	-		
Coverage	<u>114%</u>	<u>117%</u>	



**REGIONAL WATER AUTHORITY  
OPERATING AND MAINTENANCE EXPENSE  
SEP 30, 2024**

Pg 3

**PERIOD ENDING SEP 30, 2024**

	<b>FY 2024 Actual</b>	<b>FY 2025 Budget</b>	<b>FY 2025 Actual</b>	<b>(Under) Over</b>
1 Payroll	\$ 8,208	\$ 9,036	\$ 8,557	\$ (479)
2 Employee Benefits	2,527	2,815	2,603	(212)
Pension Contributions	1,286	964	964	0
3 Administrative Building	302	366	385	20
4 General & Administrative	517	595	692	97
5 Transportation	270	345	288	(58)
6 Tools & Stores	106	130	120	(11)
7 Utilities & Fuel	446	736	605	(131)
8 Material From Inventory	92	119	113	(6)
9 Pump Power Purchased	1,047	1,295	1,394	99
10 Chemicals	1,443	1,444	1,241	(203)
11 Road Repairs	47	100	89	(11)
14 Postage	(1)	247	235	(12)
15 Printing & Forms	17	27	9	(18)
17 Collection Expense	321	408	305	(103)
18 Business Improvement	46	138	111	(27)
19 Public/Customer Information	87	85	72	(13)
20 Outside Services	1,434	1,596	1,394	(202)
21 Insurance Premiums	608	680	615	(65)
22 Worker's Compensation, pre-Churchill	6	16	11	(6)
23 Damages	33	23	17	(6)
24 Training & Cont. Education	125	306	129	(177)
25 Authority Fees	33	58	48	(10)
26 Consumer Counsel	15	20	36	16
27 RPB Fees	39	64	62	(3)
28 Organizational Dues	20	43	52	8
29 Donations	7	10	10	(1)
34 Central Lab/Water Quality	103	140	95	(44)
40 Environmental Affairs	33	71	96	25
44 Info. Technology Licensing & Maintenance Fees	1,047	1,159	997	(162)
45 Maintenance and Repairs	1,216	1,290	1,063	(227)
46 Regulatory Asset Amortization	78	78	78	(0)
	<u>\$ 21,556</u>	<u>\$ 24,405</u>	<u>\$ 22,484</u>	<u>\$ (1,921)</u>

**South Central Regional Water Authority**

**Analysis of Accounts Receivable ("A/R")**

(\$000 omitted)

**Total Accounts Receivable Aging (in days)**

	Sept 2024	Aug 2024	July 2024	June 2024 (Note 1)	May 2024	April 2024	March 2024	Feb 2024	Jan 2024	Dec 2023	Nov 2023	Oct 2023	Sept 2023
Under 30	\$ 7,906	\$ 6,780	\$ 6,741	\$ 8,290	\$ 5,677	\$ 5,625	\$ 6,085	\$ 6,386	\$ 6,231	\$ 6,728	\$ 7,585	\$ 6,745	\$ 8,369
31-60	1,758	1,274	1,461	1,775	1,212	1,279	1,336	1,316	1,411	1,976	1,888	1,591	1,568
61-90	617	840	547	715	665	640	628	740	665	935	775	620	783
91-180	1,022	902	1,038	1,128	1,071	1,017	1,248	1,357	1,349	1,168	1,062	1,085	1,120
181-360	1,096	1,208	1,153	1,170	1,072	1,143	1,173	1,109	1,217	1,208	1,272	1,320	1,338
More than 1 year	3,477	3,758	3,476	3,530	3,557	4,089	4,207	4,273	4,385	4,462	4,560	4,787	4,815
Sub Total	15,876	14,762	14,416	16,608	13,254	13,793	14,677	15,181	15,258	16,477	17,142	16,148	17,993
Interest due	1,558	1,574	1,598	1,609	1,611	1,673	1,694	1,680	1,704	1,691	1,696	1,703	1,690
Total Gross A/R plus interest	\$ 17,434	\$ 16,336	\$ 16,014	\$ 18,217	\$ 14,865	\$ 15,466	\$ 16,371	\$ 16,861	\$ 16,962	\$ 18,168	\$ 18,838	\$ 17,851	\$ 19,683

**Aged Accounts Receivable Focus of Collection Efforts**

	Sept 2024	Aug 2024	July 2024	June 2024 (Note 1)	May 2024	April 2024	March 2024	Feb 2024	Jan 2024	Dec 2023	Nov 2023	Oct 2023	Sept 2023
<b>Greater than 60 days:</b>													
A/R	\$ 7,577	\$ 8,095	\$ 7,613	\$ 7,952	\$ 7,771	\$ 8,356	\$ 8,736	\$ 8,940	\$ 9,211	\$ 9,249	\$ 9,141	\$ 9,270	\$ 9,498
Less: Multi-Tenants	(1,469)	(1,482)	(1,423)	(1,633)	(1,673)	(1,725)	(1,767)	(1,852)	(2,044)	(2,061)	(1,752)	(2,106)	(2,415)
Receiverships***	(1,824)	(2,120)	(2,175)	(2,198)	(2,174)	(2,144)	(2,157)	(2,121)	(2,308)	(2,089)	(2,186)	(2,135)	(1,996)
Liens	(1,929)	(2,058)	(1,789)	(1,696)	(1,644)	(1,731)	(1,664)	(1,734)	(1,741)	(1,740)	(1,512)	(1,423)	(1,357)
Total	\$ 2,355	\$ 2,435	\$ 2,226	\$ 2,425	\$ 2,280	\$ 2,756	\$ 3,148	\$ 3,233	\$ 3,118	\$ 3,359	\$ 3,691	\$ 3,606	\$ 3,730
	31%	30%	29%	30%	29%	33%	36%	36%	34%	36%	40%	39%	39%

**Collection Efforts**

	Sept 2024	Aug 2024	July 2024	June 2024 (Note 1)	May 2024	April 2024	March 2024	Feb 2024	Jan 2024	Dec 2023	Nov 2023	Oct 2023	Sept 2023
Shuts *	\$ 51	\$ 63	\$ 49	\$ 57	\$ 68	\$ 71	\$ 96	\$ 120	\$ 136	\$ 70	\$ 267	\$ 118	\$ 68
Red Tags **	-	-	-	-	-	-	-	-	-	-	-	-	3
Receivers	53	114	81	55	44	54	18	45	63	41	49	53	72
Top 100 Collection Calls	-	-	-	-	25	37	76	6	485	103	50	-	7
Other <sup>(1)</sup>	988	829	978	810	917	1,175	966	956	541	917	729	1,152	834
Total	\$ 1,092	\$ 1,006	\$ 1,108	\$ 922	\$ 1,054	\$ 1,337	\$ 1,156	\$ 1,127	\$ 1,225	\$ 1,131	\$ 1,095	\$ 1,323	\$ 984

\* Number of shuts

\*\* Number of Red tags

**South Central Connecticut Regional Water Authority**  
90 Sargent Drive, New Haven, Connecticut 06511-5966 203-562-4020  
<http://www.rwater.com>

TO: David J. Borowy, Chair  
Kevin J. Curseaden  
Catherine LaMarr  
Mario Ricozzi  
Suzanne C. Sack

FROM: Prem Singh

DATE: October 24, 2024

SUBJECT: Revisions to Rules and Regulations

---

South Central Connecticut Regional Water Authority's (RWA) *Rules and Regulations for Water Service and its Rules, Regulations and Rates Governing the Extension of Water Mains* were last revised in 2022. Several changes are recommended and are hereby submitted to the Authority for approval in "track changes" mode to highlight the changes.

Revisions are detailed below:

A. Rules and Regulations for Water Service:

1. Pg. 11 Owner Responsibilities: Added Item 6 and included request for approval from seasonal billing to year-round service under Item 7.
2. Pg. 17: Cross Connection Control Item 5: reworded backflow device installation placement
3. Pg. 19 Billing Item 8: Reworded to align interest with enabling legislation amendments approved in H.B. 05277 ([CT HB05277 | 2024 | General Assembly | LegiScan](#))
4. Pg. 23 Meters and Meter Testing Item 1: Incorporated reading device
5. Pg. 24 Meters and Meter Testing Item 4C: reworded meter location compliance and updated bulleting
6. Pg. 27 Meters and Testing Item 19: incorporated Customer supplied meter readings will not be accepted for billing purposes.
7. Pg. 31 Technical Standards Item 20: reworded allowance of polyethylene tubing with approval
8. Pg 32 Material Specifications Item 1: clarified plastic pipe specifications.

B. Rules, Regulations, and Rates Governing the Extension of Water Mains: No changes.

In Line with the 2022 review and approval of the Rules and Regulations, management recommends that the approval process include the Representative Policy Board, although not explicitly required in the enabling legislation. Inclusion of all parties in the process allows us to fend off future challenges to the document and address any concerns that are raised as part of the approval process.

The MM/DD, 2024 effective date on the Rules and regulations for water service will be aligned with the effective rate change date upon approval.

PS: DB

CC: Larry Bingaman  
Jim Hill  
Rochelle Kowalski  
Sunny Lakshminarayanan

# Rules and Regulations for Water Service



**APPROVED DATE TBD**

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Our STARS Values

Service | Teamwork | Accountability | Respect | Safety

**SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY 90  
SARGENT DRIVE  
NEW HAVEN, CONNECTICUT 06511(203) 562-4020  
[www.rwater.com](http://www.rwater.com)**

ADOPTED AUGUST 20, 1980  
REVISED AUGUST 26, 1980  
REVISED NOVEMBER 13, 1980  
REVISED AUGUST 25, 1981  
REVISED JULY 28, 1983  
REVISED JULY 12, 1984  
REVISED FEBRUARY 11, 1987  
REVISED JULY 14, 1988  
REVISED FEBRUARY 14, 1991  
REVISED SEPTEMBER 26, 1991  
REVISED APRIL 9, 1992  
REVISED FEBRUARY 18, 1998  
REVISED MAY 7, 2013  
REVISED FEBRUARY 18, 2016  
REVISED SEPTEMBER 28, 2017  
REVISED JANUARY 5, 2022  
REVISED December 5, 2022

REVISED TBD

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**for WATER SERVICE**

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### ***INTRODUCTION***

The South Central Connecticut Regional Water Authority (RWA) has adopted the following Rules and Regulations to ensure uniformity and fair practice to all customers consistent with the protection of the health and safety of the communities we serve. These regulations are intended to inform the public as to the administrative procedures, technical requirements, and rates and charges for obtaining connection to and maintaining service from the RWA's water supply.

The Rules and Regulations, including amendments or additions thereto, are an integral part of the rates, terms and conditions governing water service provided by RWA pursuant to its statutory authority. The terms, conditions and policies set forth in these Rules and Regulations have been approved by the Regional Water Authority and its Representative Policy Board pursuant to Section 14 of special Act No. 77-98, as amended, and are binding on every RWA customer (including applicants for service and former customers).



### **GENERAL PRINCIPLES**

1. The RWA may modify these Rules and Regulations at any time.
2. The RWA's regulations regarding the extension of water mains are available as a separate document.
3. Services performed after hours or on weekends or holidays are subject to special charges.
4. During drought conditions, or when it is in the best interest of the public, the RWA may curtail or suspend entirely the use of water for non-essential purposes. The RWA will not be liable for any losses incurred because of the curtailment or suspension of service.
5. Without special written permission from the RWA, no owner or tenant may supply water, whether metered or otherwise, to other persons. Individuals, moreover, may not permit any connection to be made on their premises for the supply of water to other premises. This prohibition applies whether or not the other premises are owned by the same individual or another party.
6. Customers must allow employees or duly authorized representatives of the RWA, when identified by proper badges, uniforms or written authority, to have access to their premises at all reasonable hours for the purpose of reading, testing, installing, changing and removing meters, inspecting all plumbing connections, fixtures and mains, collecting water samples for testing, and other purposes as are necessary under these Rules or when it appears that there is a violation of these Rules and Regulations.
7. All owners, lessees, agents, tenants, and users of water service must keep their pipes and fixtures in good working order and protected from frost, and make their water meters accessible.
8. Customers should avoid all unnecessary waste of water. Under emergency conditions, and with the consent of the RWA, water may be left running to prevent freezing of the customer's pipes. The customer must pay for the water used for these purposes, and take corrective action to protect the pipes before the next winter season.
9. Air conditioning or refrigeration installations totaling over a three-ton capacity must have water conserving equipment to reuse the water.
10. The RWA offers free water consumption monitoring and usage alert tools to customers. However, the customer has the sole responsibility to monitor their water consumption at the customer's location. The RWA provides this alert system as a courtesy only, and providing this courtesy service to its customers in no way creates legal liability on the part of RWA.

#### **(A) DEFINITIONS**

**"Abandonment"** - the condition in which water service to a building has been

discontinued at the Owner's request for a period of at least one year and the Owner has made no commitment as to possible future use.

**"ANSI"** - American National Standards Institute.

**"Applicant"** - any person or entity, such as a developer, municipality, or business, requesting water service from the RWA.

**"ASSE"** - American Society of Sanitary Engineers.

**"Automatic Fire Sprinkler System"** - a plumbing system designed to spray water to extinguish fires.

**"AWWA"** - The American Water Works Association.

**"Backflow"** - the reversal of the normal flow of water or other liquids caused by back pressure or back siphonage.

**"Backflow Preventer (BFP)"** - a device installed on a service pipe that protects the public water supply from backflow.

**"CBYD"** - Call Before You Dig.

**"Combination Service Line"** - a single service connection which is separated at the curb line to provide an individual curb valve and/or valve for both domestic usage and fire protection. Separate service pipes for fire and domestic usage are required from the curb valve to the place of use.

**"Combined Service"** - an existing service –which provides both fire and domestic service through a single service pipe. New installations of Combined Services are not permitted.

**"Common Enclosure"** - property under common ownership which is bounded by one or more of the following: property lines, public streets, public highways or RWA mains installed in easements on private or public property.

**"Corporation Stop"** - the device used by the RWA to connect the service pipe to the main.

**"Cross Connection"** - as defined in the State of Connecticut Cross Connection Control Manual "means any actual or potential connection between a public water system and any other source or system through which it is possible to introduce into the water system any contaminating, polluting agent."

**"CT DPH"** - Connecticut Department of Public Health.

**“Curb Box”** - a vertical pipe or casting with a cover placed over the curb valve and extending to the ground surface to allow access to the valve

**“Curb Valve”** - the valve located on the service pipe between the main and customer’s place of use located in the vicinity of the curb and public right-of-way line.

**“Customer”** - the party (owner or lessee) contracting for water service to or for a premises.

**“Domestic Service”** - all service or use other than fire service.

**“Drought”** - a prolonged period of abnormally low precipitation resulting in water shortages.

**“Facilities Charge”** - a charge made for the purpose of collecting a fair contribution from the Applicant toward the capital cost of the utility system which has been paid by existing customers.

**“Fire Flow Test”** - the measurement of flow from a hydrant performed by the RWA in accordance with generally accepted engineering practices.

**“Fire Hydrant”** - a device, connected to a hydrant lateral and provided with the necessary valves and outlets, to which a fire hose(s) may be connected for the purpose of extinguishing fires.

**“Fire Service”** - a water connection used to extinguish fires as well as test fire equipment.

**“Frontage”** - the length of a building lot’s perimeter boundary that abuts or is adjacent to the right-of-way of either existing or proposed public or private streets.

**“Hydrant Lateral”** - the pipe and fittings that run between the main and the fire hydrant.

**“Hydrant Permit”** - a written permit granted by the RWA for the temporary use of a hydrant.

**“Inch Foot Rate”** - the rate used to compute the annual fire service charge billed to municipalities within the RWA’s water district, as further defined in Section E, Public Fire Service.

**“Jobbing Bill”** - a bill rendered for services and materials other than metered water service.

**“Lawn Sprinkler”** - an underground piping system which is used to irrigate lawns and other forms of vegetation.

**"Main(s)"** - water pipes owned by or to be owned by the RWA used for the purpose of conveying water to the customer's service connection.

**"Meter Setting"** - the pipe, valves, fittings, and appropriate spread necessary for the installation of a meter on a service pipe and provided by the owner at his expense.

**"Meter Vault/Pit"** - a subsurface enclosure that protects water meters and other facilities installed outside of buildings.

**"N.F.P.A."** - National Fire Protection Association.

**"OSHA"** - Occupational Safety and Health Administration.

**"Owner"** - the person, persons, or legal entity holding title to the property or premises connected or proposed to be connected to the public water system.

**"PHC"** - Public Health Code of the State of Connecticut.

**"Premises"** - refers to but is not limited to the following:

- A building or combination of buildings in one common enclosure under common ownership occupied by one family, one company or one educational or institutional entity.
- Each unit of a multi-unit building under common ownership where such unit is equipped with its own separate water service pipe.
- A single building under common ownership.
- A single plot of land in one common enclosure used as a park or recreational area.
- A common interest ownership condominium complex, a building or buildings within a condominium complex, or a single unit within a condominium complex. The definition is dependent upon the number of service pipes and at the discretion of the RWA.

**"Pressure Reducing Valve (PRV)"** - A valve for reducing water pressure to a preset value.

**"Private Fire Protection"** - private water mains, fire pipes and other appurtenances installed on private property for the purpose of fire protection at particular premises.

**"Proportionate Share"** - a charge made for the purpose of reimbursing the RWA or main extension applicant for the installation cost of the water main fronting the property to be served.

**"Public Fire Protection"** - the public water mains, hydrants, and appurtenances installed for the purpose of fire protection in a public right-of-way.

**"Remote Meter Reading Device"** - a receptacle that is installed and can be read at a location some distance from where the meter is located, or a

metering system where meters or meter appurtenances send data to a central collection system.

**"RWA"** – South Central Connecticut Regional Water Authority

**"Service Connection"** - the portion of the service pipe from the main to and including the curb valve, at or adjacent to the street line or the customer's property line and such other valves, fittings, etc. as the Authority may require at or between the main and the corporation stop, but not including the curb box.

**"Service Pipe"** - the portion of pipe that runs between the curb stop and the customer's place of use and includes private fire lines.

**"Siamese Connection"** - an inlet equipped with one or more couplings to which a fire hose can be attached and through which water can be delivered by a fire department pumper to an automatic fire sprinkler system.

**"Subsidiary Meter"** – a water meter installed downstream of the RWA-owned meter that is read by the customer for individual billing purposes.

**"Summer Season"** - refers to the period from April 1 to November 1.

**"Tap"** - the process of drilling and threading a water main to accept a corporation stop.

**"Termination"** - the discontinuance of water service as defined by these regulations.

**"USC"** - University of Southern California.

**(B) SERVICE PIPE OWNERSHIP**

**RWA OWNERSHIP AND RESPONSIBILITIES**

1. Service connections installed between October 18, 1966 and August 25, 1980 are the property of the RWA. See the definition of "service connection" in Section A, above.
2. The RWA will maintain all service connections from the connection at the main up to and including the curb valve for those connections located in accepted public streets or in properly executed and recorded easements.
3. The RWA will own and maintain all water mains and appurtenances located in accepted public streets or in properly executed and recorded easements.
4. Only authorized employees of the RWA will be allowed to tap or make connections to its water mains.

5. The RWA will furnish and install all new service connections larger than 2 inches in diameter. The customer will be responsible for the cost of this work.
6. Except for repairs, no one may turn on water service into any building or part of a building, or do any work in connection with any service pipe without consent from the RWA.
7. If the RWA determines a service connection should be replaced or repaired, the RWA will perform the repair or replacement at its expense. The expenses would include costs necessarily incurred in respect to the repair or replacement such as the cost of excavation, backfill, removal and replacement of paving for walks, curbs, roadways, etc.

**OWNER RESPONSIBILITIES**

1. Service connections installed prior to October 18, 1966 and after August 25, 1980 are the property of the customer but are maintained by the RWA. See the definition of "service connection" in Section A, above.
2. The customer will furnish and install all new service connections of 2 inches in diameter or smaller. The RWA will tap the main, furnish and install the corporation stop, install the meter, and inspect the installation. The customer contracting for service will be responsible for the cost of the permit, excavation, backfill, removal and replacement of pavement for walks, curbs, etc., necessarily incurred in installing new services.
3. The customer will furnish, install, own and maintain the necessary curb box and that section of the service pipe from the curb valve to the place of use and must keep them in good repair. The RWA has the right to access the curb box as necessary.
4. Replacement service connections will be considered as new service connections when the following conditions apply:
  - a. An existing service connection ceases to be adequate to meet the owner's water demands due to increased use by the owner;
  - b. A larger service connection or a relocation of the service connection is requested by the owner;
  - c. A service connection is initially installed to the curb line only, and subsequently cannot be located in order to make a connection to it.

The owner will be responsible for all of the charges applicable to a new service connection as shown on the RWA's current Rate Schedule.

5. The property owner will maintain, replace, and repair summer season service lines connected to summer season mains.

6. RWA will review and determine whether a service should be year-round or seasonal.

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6-7. Customers who wish to convert from seasonal to year-round service should submit the request to RWA (see 6 above) and if approved, must lower service to a minimum depth of 4-1/2 feet below ground level, with the installation of a meter vault.

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7-8. When a premise is permanently abandoned, the property owners must immediately notify the RWA so that the service connection can be removed. The RWA will assume the cost for removing the service connection. Restoration of abandoned service will be considered a new service installation.

8-9. The customer will maintain all pressure reducing valves.

9-10. All water services located in a private right-of-way, whether serving one or more properties, are considered private services or service connections and are the responsibility of the owner of the right-of-way.

10-11. The customer must comply with any mandatory water restrictions issued by the RWA. Mandatory restrictions will be imposed in accordance with RWA's Drought Response Plan contained in its Water Supply Plan. Customers not complying with mandatory water use restrictions are subject to 1) RWA's Mandatory Water Restriction Charge and 2) termination of water service in accordance with regulations.

**(C) DOMESTIC SERVICE**

1. All domestic services will monitor consumption with an RWA meter. Separate service pipes are required for domestic and fire use. Combined service pipes are not allowed for any new application for service.
2. Each service will have a curb box and a full way curb valve without drain.
3. One service pipe will service each premise. Any other arrangement must be approved in advance by the RWA. Where more than one building is involved, there must be independent curb valves for each building.

4. The location of the service pipe and connection must be approved by the RWA before the excavation is started.
5. If a premise is subdivided so that more than one premise results, additional service pipes will be required for the additional premise(s) as provided in the RWA's Rules and Regulations. These additional service pipe(s) will be installed by the owner at the time the additional premises are created or within thirty (30) days of being notified by the RWA that additional service(s) is required.
6. All new domestic services shall have a meter located in a meter pit, installed in accordance with RWA requirements.

**(D) PRIVATE FIRE SERVICE**

1. Except for extinguishing fires or testing fire equipment, no branch connection will be made on, or water taken from, a private fireservice or a public or private fire hydrant without written permission from the RWA. Water taken from hydrants under a hydrant permit will be paid for in accordance with established rates and must comply with RWA Cross Connection Control Policies as provided in Section G of these rules.
2. Fire services and automatic fire sprinkler systems (including residential) will be designed and installed in accordance with the provisions of the National Fire Protection Association (NFPA) Code and other applicable codes, including proper backflow protection, and will require separate fire and domestic service lines.
3. Domestic water use may include residential life safety automatic sprinkler systems to one- and two-family dwelling units in accordance with the provisions of the National Fire Protection Association (NFPA) Code Section 13D, "Sprinkler Systems for One- and Two-Family Dwellings and Mobile Homes." The entire service will be metered. The meter will be sized for the minimum allowable flow demand per NFPA 13D. The water service will not be a fire service.
4. All sprinkler systems or private fire services will be metered or equipped with a detector check valve with metered bypass. An alarm system may be substituted when approved by the RWA. The type of meter or alarm will be determined by the RWA.
5. Detector check valves with metered bypass and meter vault are required on private fire hydrants or fire services when the service pipe or lateral is over 200 feet in length.
6. The customer is responsible for the ownership, inspection, maintenance and repair of private fire hydrants. Hydrants shall be



maintained per the requirements of AWWA M17: "Installation, Maintenance, and Field Testing of Fire Hydrants." Customers may contract with the RWA to perform maintenance services; such service fees will be negotiated between the parties on a case-by-case basis. The RWA shall have the right to inspect and operate private fire hydrants. If the hydrant is found to be inoperable or leaking, the Fire Marshal's office will be notified and the owner will have 30 days to make repairs. The RWA shall be notified when repairs are completed.

7. Water used through fire service meters will be charged at meter rates, but there will be no charge for water used in case of fire.
8. A reduced pressure principle backflow preventer (BFP) must be installed on all new service lines to fire sprinkler systems with a Siamese connection.
9. Effective January 1, 1999, a reduced pressure principle BFP will be installed on all lines to existing fire sprinkler systems equipped with a Siamese connection. Prior to this date, a double check valve assembly BFP may be allowed if approved by the RWA.
10. The customer will own and maintain reduced pressure principle BFPs and double check valve assembly BFPs. The customer and RWA may enter into an agreement for the RWA to conduct the annual testing as a service for a fee.

**(E) PUBLIC FIRE SERVICE**

Except as otherwise provided by the terms of any acquisition of another water system.

1. Public fire service, when provided by the RWA, will be billed at the established inch-foot rate. Only mains 6 inches and larger, in service as of the last day of the year, will be used in computing the inch-foot charge for the next year.
2. The inch-foot calculation shall be performed as follows: the number of inch-feet will be calculated by multiplying the length of each pipe in feet by its diameter in inches. All inch-feet for 6-inch through 12-inch mains will be charged directly to the town in which the main is located. Inch-feet for mains larger than 12- inches will be apportioned to the town in proportion to the inch-foot allocation for 12-inch mains.
3. The requirements of the municipal fire departments will determine the need for and location of public fire hydrants.
4. The RWA will own and maintain the fire hydrant laterals, but the applicant will be responsible for the cost.

5. Public fire hydrants may be owned by the municipality or by the RWA. When the hydrant is owned by the RWA, the installation cost will be the expense of the applicant. When it is owned by the municipality, the installation cost will be the responsibility of the municipality or the applicant as directed by the municipality.
6. When hydrants are owned by the RWA, an annual charge at the established rate will be made to the municipality to cover the capital and maintenance costs of the hydrants. Maintenance costs will include repairs, replacement, preventive maintenance and painting. The RWA is not responsible for snow removal and grass cutting around public hydrants. Municipally-owned hydrants shall be inspected and maintained by the municipality in accordance with the requirements of AWWA M17. The RWA shall have the right to inspect municipally-owned hydrants, and maintain, repair or replace municipally-owned hydrants if found to be leaking or operationally defective without prior notice to the customer. Municipally-owned hydrants can be replaced by the RWA at the expense of the municipality. Repairs to municipally-owned hydrants, if made by the RWA, will be charged at cost plus applicable overheads. The RWA retains the right to utilize public fire hydrants for distribution system operations regardless of ownership. The RWA will advise the municipality of these uses. Municipalities who own their own hydrants may contract with the RWA for maintenance services.
7. The charge for the installation of fire hydrants on the same side of the street as the main (short side) when connected to existing mains will be the average unit cost of installing hydrants and laterals on existing mains during the previous year. The charge for the installation of fire hydrants (including laterals) on the opposite side of the street from the main (long side) when connected to existing mains will be the actual cost of the installation. Refer to the definition of hydrant lateral in Section A above.
8. The RWA will add to the cost of new main extensions a charge to cover the cost of fire hydrant installations (including laterals). This charge will be included in the cost on a per-foot-of-main-installed basis. The per-foot charge applied will be based upon the prior year cost of fire hydrant installation (including laterals) on new main extensions. Refer to the definition of hydrant lateral in Section A above.
9. Use of public fire hydrants is for the purpose of fire suppression and the RWA's operations. Any other use will be by mutual agreement of the municipality and the RWA.

10. Use of water from a fire hydrant for purposes other than extinguishing fires will only occur pursuant to obtaining a hydrant permit at the discretion of the RWA and must comply with the RWA's Cross Connection Control Policies.
11. Fire flow tests will only be performed by the RWA on public hydrants in order to estimate available flow across the RWA's distribution system. These tests indicate the flow conditions only at the specific time and location of the test. Flow test data, therefore, should not be applied to other sites or locations.  
  
If so requested, the RWA will conduct a fire flow test at the requesting person's expense.
12. Tampering with a hydrant without prior authorization by the RWA is considered theft of service and will be subject to the tampering of hydrant fee for first and subsequent offenses. See the RWA Miscellaneous Rates section of the Rate Schedule for further information.

**(F) PRESSURE AND CONTINUITY OF SUPPLY**

1. Although the RWA is committed to providing reliable water service, we cannot guarantee a specific or uniform pressure or an uninterrupted supply of water. Customers, therefore, are cautioned to provide sufficient storage of water where an absolutely uninterrupted supply must be ensured, such as for steam boilers, domestic hot water systems, gas engines, etc.
2. It is the intention of the RWA to give notice in advance of work that will necessitate any interruption of the supply or change in pressure. The RWA, however, is not liable for any damage to person or property sustained as a result of this interruption in service or change in pressure unless due to the RWA's negligence. Property owners, therefore, should regulate their installations connected with the water supply system so that damage will not occur if water is shut off or pressure changes without notice.
3. In case of accident, or for the purpose of making connections, alterations, re-pairs, changes or for other reasons, the RWA may at any time shut off the water in the mains.
4. The RWA may also, whenever the public welfare may require it, restrict the use of water in order to reserve a sufficient supply for public fire service or for other emergencies.
5. Under normal operating conditions, the RWA will endeavor to maintain pressures within its distribution system between 25 and

125 p.s.i. For premises where pressures will be below 35 p.s.i. at the point where the service enters the building, execution of a low pressure agreement will be required. In these cases and in cases where the customer requires higher pressures than available, a booster pump system should be installed on the water service on the customer side of the meter at the customer's expense. Future maintenance of such booster pump system will be the customer's responsibility.

For new premises where pressures may exceed 115 p.s.i. at the point where the service pipe enters the building, execution of a high pressure agreement will be required. In these cases, a pressure reducing valve (PRV) should be installed by the customer. Future maintenance of the PRV will be the customer's responsibility.

6. When the RWA finds it necessary to increase pressures in the distribution system and the increased pressures result in a customer's pressure exceeding 80 p.s.i. at the point where the service line enters the building, the RWA will offer to provide a PRV to the customer at no cost. Installation, future maintenance, and replacement of the PRV will be the customer's responsibility. In those cases where the increased pressure will result in the customer's pressure exceeding 115 p.s.i. at the point where the service line enters the building, the RWA will furnish and install a PRV at no cost to the customer. Future maintenance and replacement of the PRV will be the customer's responsibility.

**(G) CROSS CONNECTION CONTROL**

1. All state regulations governing Cross Connection Control currently located within Section 19 of the Public Health Code (PHC) of the State of Connecticut as issued by the Connecticut Department of Public Health (CTDPH) must be adhered to strictly.
2. In addition to requirements of the PHC, the RWA may require a backflow preventer (BFP) on a water service line when additional protection of its distribution system is required. The following list provides examples, not limited to those listed, of the types of premises where additional protection may be required:
  - Sites with auxiliary water sources
  - Sites maintaining active private wells
  - Sites where toxic/objectionable materials may be used in conjunction with RWA-supplied water
  - Sites with existing fire sprinkler systems tapped off domestic lines

- Sites maintaining fire services
  - Sites maintaining irrigation systems
  - Sites with connection to shipboard potable water systems
  - Water service connection to offshore customers
  - Sites where cross connection inspections are not possible due to intricate restrictions or where a repeated history of establishment or reestablishment of cross connections has been documented
  - Temporary water services
  - Water haulers
  - Mobile/portable washing units
3. Upon request, the RWA will provide information regarding the specific requirements for the type of BFP and for the specific circumstances pertaining to various facilities including those mentioned above. Installation of BFPs is the responsibility of the customer.
  4. All BFPs must be approved by AWWA, ANSI, ASSE or USC and installed in strict accordance with CTDPH and manufacturers' specifications. Improperly installed BFPs are unacceptable and will be recorded as violations. Reduced pressure zone type backflow preventers are prohibited from underground/vault installations without positive gravity drainage.
  5. All BFPs must be installed at the point of entry where the service enters the building, not more than 5 feet from the finished floor -in well-lit areas and be readily accessible for inspection and testing. Particular attention should be paid to confined spaces, hazardous environments, flooding potential, freezing temperatures or other mechanical damage due to vandalism or other causes. Where such situations are present, every effort should be made to relocate BFPs away from these hazardous environments. All BFPs are to be installed no more than 5 feet off the floor, unless approved by the RWA. BFPs should be set horizontally, and may only be set vertically upon review and approval by RWA.
  6. All projects involving the use of BFPs must be submitted to the RWA for approval prior to installation. The submission must include mechanical and plumbing drawings and text describing the proposed BFP. A letter will be sent to the tap applicant stating the RWA's requirements for Backflow Prevention for that specific project. The tap applicant must contact the RWA's Cross Connection Department after installation of the backflow device is complete in order to have the backflow device installation tested and inspected.
  7. The RWA is not responsible for any damages due to a backflow preventer function, malfunction, leakage or failure. The RWA is not

responsible for damage due to thermal expansion.

8. All testable BFPs must be tested annually by a CTDPH-certified and RWA-recognized backflow prevention device tester. All results must be submitted in writing to the RWA immediately following completion of the test. The RWA will exclude individuals who fail to provide this information from our list of recognized testers and will notify the CTDPH. RWA testing services are available at the rate approved in the most recent rate schedule.
9. The RWA may at any time, with cause, and at its own expense, check and test any BFPs in the water system. If annual tests have not been performed per paragraph 8 above, the RWA will charge the BFP owner for the test at the rate found in the RWA's rate schedule. CTDPH-mandated plumbing inspections and routine BFP testing will be conducted during normal RWA business hours. Special arrangements can be made in advance as needed.
10. If a continuous water supply is necessary within a premise, the property owner must make alternate arrangements to provide for the continuation of flow during times of BFP testing, repair or replacement. This arrangement may include a parallel installation or the installation of a bypass around the BFP. All such bypasses are required to also include a BFP of equal or superior type to ensure equal or superior protection.

**(H) BILLING**

1. All metered water, whether used or wasted, will be billed in accordance with RWA's regularly established Rate Schedule except under the conditions for billing adjustments as described in the RWA's policy regarding a one-time waste adjustment.
2. All bills for service are payable upon receipt.
3. Regular annual metered service will be billed monthly, at the discretion of the RWA.
4. Seasonal metered service will be billed a minimum of twice per year; a seasonal service charge will be billed upon the installation of the meter for the summer season and a water usage charge will be billed when the meter is removed at the end of the summer season. RWA may bill at lesser intervals for water usage if it chooses to do so.
5. Fire service will be billed in accordance with RWA's regularly established Rate Schedule.  
Private fire service connections will be billed monthly in arrears.  
Public fire service will be billed semi-annually for the preceding six-month period.

6. Miscellaneous non-water charges, as approved in the RWA's rate schedule, may be included on all metered bills, private fire service bills and jobbing bills.
7. Jobbing bills are rendered upon completion of projects. Anyone requesting the RWA to perform jobbing work may be required to make a deposit in advance for the estimated cost of the work.
8. ~~Amounts which are due and unpaid outstanding after 3028 days after from the billing date will be charged interest beginning on the billing date until paid. Interest will be charged at~~ the rate of one and one half percent (1.5%) each month as set by the Representative Policy Board. *Any invoices not paid when due will constitute an automatic lien on the premises served and a charge against the owner. The lien will take precedence over all other liens or encumbrances except taxes and may be foreclosed upon in the same manner as a lien for taxes.*
9. The customer will be responsible for all costs incurred by the RWA in connection with any collection activities on a delinquent account.
10. In cases where a meter fails to register, the meter will be changed or repaired. The customer will be charged the average daily consumption as recorded for a similar period.
11. In cases where new or existing premises are occupied without a meter or are found to be receiving unmetered service, the customer will be charged a fee for unmetered use for the period prior to the meter installation in accordance with Connecticut General Statute 16 -259a. The fee will be estimated based on the actual registration of the meter. An Unmetered Active Service Fee may be applied to the account.
12. Individual meter billings may not be combined into one cumulative billing.
13. Unless otherwise notified, the RWA will directly bill the owner of the premises for its rates and charges. *In cases where a tenant is billed directly, failure to pay rates and charges when due will constitute an automatic lien upon the premises served and a charge against the owner of the property.* Amounts owing from tenants after (90) days shall be billed to the owner and are thereafter immediately due and payable. In the event the RWA subsequently receives payment from the tenant for such amounts, such payments made by the owner will be refunded to the owner of the premises.
14. With each billing invoice the RWA will notify customers of the availability of information describing their rights as customers.

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15. When two or more tenants, each paying his/her own bill, are supplied from the same service pipe, and any one of the parties fails to pay water bills when due or to comply with the Rules of the RWA, the owner of the property will be required to provide access to the RWA's equipment or to provide for separate services for each tenant.
16. The RWA may, in its sole discretion, require a customer to make a cash deposit. Simple interest, at the rate designated in the Connecticut General Statutes, Section 16-262j, will be applied with the deposit to any amount due from the customer. Deposits that are no longer required will cease to draw interest on the date service is terminated, the date notice is sent to the customer's last known address, or upon return of the deposit.

**(i) ADJUSTMENT OF BILLS**

Bills which are incorrect due to meter or billing errors will be adjusted as follows:

1. Whenever a meter in service is tested and found to have over-registered more than two percent, the RWA will adjust the customer's bill for the excess amount paid as determined below.
  - a. If the time period during which the meter over-registration occurred can be definitely determined, the amount of overcharge will be based on that period.
  - b. If the time period during which the meter over-registration occurred cannot be definitely determined, it will be assumed that the over-registration existed for a period equal to one-half of the period since the meter was last tested. If more than one customer received service through the fast meter during the period for which the refund is due, a refund will be paid to the present customer only for the period during which he/she received service through the meter.
2. Whenever a meter in service is found not to register, the RWA will estimate the charge for the water based on historical consumption for the same period during the previous year.
3. Billing adjustments due to a meter register jump or abrupt increase in registration as a result of trauma to the meter will be calculated on the basis that the meter should have been registering at one hundred percent accuracy. The billing adjustment amount will be based on the difference between the old meter registration error and the accurate registration on the new meter installed.



4. When a customer has been overcharged as a result of incorrect meter reading, incorrect bill calculation, incorrect meter connection or other similar reasons, the amount of the overcharge will be adjusted, refunded or credited to the customer.
5. When a customer has been undercharged as a result of incorrect meter reading, incorrect bill calculation, incorrect meter connection or other similar reasons, the amount of the undercharge may be billed to the customer in accordance with Connecticut General Statute 16-259a. CGS 16-259a allows for total consumption billing if the customer, by affirmative act, is responsible for the inaccurate billing or fails to provide for reasonable access to the premises during business hours.

**(J) TERMINATION OF SERVICE**

1. The RWA may refuse or discontinue service without notice in the event of:
  - a. A hazardous condition;
  - b. Illegal or unauthorized provision of service;
  - c. A cross connection which represents a public health threat.
2. Whenever there is a local and/or state-wide drought declared, the RWA will require that all leaks found on a customer's service line be repaired within 72 hours to avoid disconnection of water service.
3. The RWA may refuse or discontinue service with seven days written notice in the event of:
  - a. Fraud or material misrepresentation in obtaining service;
  - b. Customer tampering with pipes, meters, or other utility equipment;
  - c. Failure by the customer to make payment under an agreement to amortize an unpaid account balance over a reasonable period of time and/or to simultaneously keep current his/her accounts charges continue to accrue;
  - d. Customer use of equipment in such a manner as to adversely affect the RWA's equipment and/or service to others after the customer has been given an opportunity to correct the situation;
  - e. Non-compliance with these Rules and Regulations, except in instances outlined in Section J-1 above;
  - f. Where furnishing service would be in contravention of any orders, ordinances laws of the municipal, state or federal governments;

- g. Failure by the customer to furnish service, equipment, permits, certificates or rights of way which have been specified by the RWA as a condition of obtaining service or withdrawal of such equipment and permissions;
  - h. Failure of a non-residential customer to fulfill any other obligation under his/her contract with the RWA; or  
Failure by the customer to take corrective action to make repair to a leak on the service line portion that is deemed customer responsibility according to established RWARules and Regulations.
  - j. Failure to comply with a mandatory water restriction.
4. The RWA may refuse or discontinue service with fifteen (15) days written notice in the event of:
- a. Non-payment of a delinquent bill, after reasonable effort for collection, and provided that the termination would not be a violation of any applicable provision of the Connecticut General Statutes.  
The RWA will first send a termination notice to the customer following a monthly invoice for delinquent balances. Delinquent is defined as unpaid utility service for a period of more than 33 days from the billed date. The notice will contain, in both English and Spanish, a summary of the customer's rights and will state the date after which termination may occur.  
The RWA has the right to place a lien on the property records for non-payment of charges.
  - b. Failure of the customer to allow the RWA reasonable access to its equipment.
  - c. Failure of the customer to maintain the necessary plumbing provisions in accordance with these Rules and Regulations.
5. Each notice regarding termination of service will contain the grounds for termination and an explanation of the customer's rights with respect to termination of service.
6. The RWA will not terminate service under the following conditions:
- a. During the time that a resident of the home is seriously ill, provided that the customer provides the RWA with a registered physician's certificate within fifteen (15) days of the mailing of the termination notice. The certificate must

be renewed every fifteen (15) days or by the last date of the period specified in the certificate by the physician.

In such cases, the customer must make reasonable arrangements to amortize the unpaid balance of the account and to simultaneously keep the account current in regard to subsequent billing in accordance with Connecticut General Statutes.

- b. During a billing dispute provided that the customer notifies the RWA within fifteen (15) days after the mailing of a termination notice. The customer has the right to request a copy of the Important Notice for Residential Customers – Customer Rights.
- c. The customer may make a payment of 20% of the balance due and enter into a reasonable amortization agreement to avoid termination of service. If they default on that agreement they will receive a new termination notice. Customers can only have one 20% minimum payment to avoid termination in a twelve month period.
- d. Whenever an owner, agent, lessor or manager of a residential dwelling is billed directly for service furnished to a building of which he/she is not an exclusive occupant unless provisions have been made for occupant to receive service in his/her own name without any liability for the amount due while the owner, agent, etc. was billed directly. If this solution is not feasible, the RWA will not terminate service to the dwelling but may pursue remedies provided by the Connecticut General Statutes.
- e. For delinquency on any Friday, Saturday, Sunday, legal holiday or day before any legal holiday or at any time the RWA's business office is not open or within one hour of the closing of its office.

(K)

**METERS AND METER TESTING**

1. The RWA will determine type, size, and location of the meter, meter and reading device, to be installed.
2. The RWA will not install subsidiary meters. Property owners will install, own, maintain and read subsidiary meters, if desired. Subsidiary meters will be installed downstream of the RWA's meter(s) and bills will be computed based on the RWA's meter(s) only. Property owners considering subsidiary meter installation shall obtain approval in advance from the RWA.

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3. The RWA will own, install, maintain and remove meters and associated remote reading devices. The customer will pay for a replacement meter or meter reading device required due to freezing, hot water, faulty connections, tamper, theft or customer's negligence. However, if after a RWA inspection of the meter vault/ pit it finds the meter and vault/pit to be installed and maintained to RWA specifications, then the RWA may waive the frozen meter charge.
4. The customer will provide an accessible and protected location for the meter. The location will be subject to the approval of the RWA according to the following criteria:
  - a. For all services, meters must be set in external vaults. When the main is located within an easement which is also the primary travel way through a development, the edge of easement will be considered the same as a street line when determining the need for a meter vault.
  - b. Exterior settings will be in vaults built and installed to RWA specifications at the customer's expense. Meter vaults and pits will be owned and maintained by the property owner and will be installed on the customer's property as close to the street line as possible. Meter vaults in disrepair or dangerous condition must be repaired to the Authority's standards; vaults that prevent access due to its condition may be subject to a penalty for non-access.
  - c. Unless otherwise approved by the RWA, all meters will be in meter pits located by the front property line. RWA may allow these meters to be located inside a building, only if no suitable location is available outside the building. If allowed by the RWA, a meter may be located inside a building when it is equipped with an external remote reading device. If RWA allows a meter to be inside the building being served, then the meter shall be located within a basement with normal walking height and width. Normal walking height is a minimum unobstructed vertical height of 6-1/2 feet as measured from floor to ceiling. Normal width is a minimum unobstructed horizontal width of 2-1/2 feet as measured perpendicular to the line of the pathway and over the full walking height. Also, an inside setting must provide adequate accessibility, protection against freezing or other damage to the meter, where no goods subject to water damage are stored and where walls and floors are not susceptible to water damage. Such inside settings will be located at a point where the service pipe enters the building.
  - d. Under no circumstances should meters be installed in crawl spaces, garages, finished basements, closets, entryways, finished ~~rooms~~ levels, or hazardous or dangerous environments.
  - e. If the RWA finds that alterations, renovations, obstructions or other

changes-conditions have made the meter installation non-compliant as defined in Section K, the customer will be required to relocate the meter to a meter vault at the customer's expense as directed by RWA.

5. The customer is responsible for maintaining piping on either side of the meter, which includes service line from the curb valve to the point of entry to the building to ensure that it is in good condition and that it is valved on both sides of the meter so that the meter may be removed or replaced conveniently and without draining the interior piping. The customer is responsible for any repairs or changes to piping necessary to comply with these requirements.
6. When meters 1-1/2 inches and larger are installed, a bypass around the meter with valve, locking device and seal will be installed so the meter can be changed, tested, or repaired without shutting off the water supply to the premise. In all cases where water cannot be shut off temporarily, these requirements will prevail and will be at the customer's expense. All meters sized 3 inches or larger which are installed in a basement or sub-basement shall have a dry pipe installed from the 2 inch test tee and piped to the outside of the building. The piping shall be either 2 inch copper tubing or 2 inch plastic schedule 80. Where the tubing exits the building, a 2 inch female or male thread shall be installed with a cap or plug. A drain valve shall be installed on the dry pipe above the test tee so water can be drained after use to prevent freezing. The pipe should exit the building at street level in an area that is accessible to RWA personnel so a fire hose can be connected to it in order to test the meter in accordance with industry standards.

7. If a customer has reason to believe that a meter is not registering accurately, the RWA will, upon written request, test the meter. The RWA will test the meter at no charge if the meter has not been tested in the previous year. The customer or authorized representative may be present during the test based on pandemic protocols.
8. Swimming pools or other facilities which might require considerable quantities of water may be required to be separately metered and to have separate services. Customers are not permitted to fill pools with water directly from hydrants. The RWA may pursue appropriate enforcement action and may assess a usage fee based on estimated metered consumption.
9. Meters are set and sealed by RWA employees. No one other than authorized employees of the RWA may break a seal or disconnect, open, adjust or otherwise interfere with a meter.
10. Plumbing must be arranged at the customer's expense so that each meter will be independent of any other meter.
11. Meter yokes 5/8 inch through 1 inch must be installed on all new services and on all replacement services.
12. Copper setters 5/8 inch through 1 inch must be installed on all new and replacement services where a meter vault is required.
13. Custom setters 1-1/2 inches and 2 inches must be installed on all new and replacement services installed inside the building or in a vault.  
A meter will not be placed in service or remain in service if:
  - a. at the minimum test flow rate the meter registers less than 95% or more than 101.5% of the water passed through it; or
  - b. at the intermediate and maximum test flow rates, it over-registers or under-registers more than 1-1/2%.
14. The RWA will adopt a periodic test schedule for its meters in accordance with applicable meter testing requirements.
15. All meters removed for periodic complaint tests, or for any other reason, will be tested in the condition in which they are found in order to determine the average meter error. Tests will be made at the intermediate and maximum rates of flow and the average meter error will be one-half the algebraic sum of the errors of the two tests.
16. The RWA will maintain meter testing equipment which will be checked annually by the State of Connecticut, Department of Consumer Protection, Division of Weights and Measures.

17. Test meters used for comparative testing in the field will be tested at least once every thirty (30) days when being used.
18. Meter testing will be in accordance with test procedures contained in AWWA Meter Specifications or Manual M6 - Water Meters.
19. The decision of what type, style, and location for a remote reading device is solely within the discretion of the RWA. **Meter readings supplied by the customer will not be accepted for billing purposes.** Any customer who refuses the installation of an electronic remote reading device shall be required to pay a manual meter reading charge each billing period.

**(L) APPLICATIONS FOR SERVICE**

1. The owner of the premises to be supplied or his/her authorized agent should apply for service at the RWA's office. The RWA may require appropriate identification such as a Social Security number, a driver's license, or a state-issued identification card. The applicant, directly or through his/her agent, agrees to take water from the RWA subject to the Rules and Regulations of the RWA. All applicable charges must be paid at the time of application as detailed in the RWA's Rates, Fees and Charges for Water Service. The RWA will not accept an application for service from a customer having a delinquent water account until the account has been paid in full.
2. Applications for taps must be made at least five (5) days, excluding weekends and holidays, prior to the time of installation. Arrangements for the installation of the tap must be made at least two (2) days in advance of the desired schedule date. Arrangements should be completed and confirmed before any excavation work is started. Scheduling of work will be at the discretion of the RWA.
3. Applications for service connections 4 inches and larger should be made sufficiently in advance of the required installation date so that the RWA can prepare an estimated cost of installation and contracts. Applicant shall submit estimated water demands for proposed developments when applying for new service. Upon receipt of the signed contract with the required estimated payment, the RWA will schedule the work.
4. A facilities charge will be paid by each applicant for domestic or combined water service. The charge will be based on the number of meters and the size of the meters to be installed.
5. A service connection charge and meter installation charge will be paid for each new service connection.
6. When, within one year of the date of a meter installation that was

subject to a facility charge, a customer requests an increase in meter size or number of meters, the customer will pay an additional charge which will be the difference between the original charge and the charge for the new meters being installed.

7. Each applicant for each domestic or combination water service connected to a main that was installed at the RWA's expense will pay a proportionate share. A maximum of 200 feet will be used in determining the proportionate share for each service connected to the main.
8. A proportionate share will also be paid by applicants for each domestic water service connected to a main extension which was installed under the terms of an Advance Payment Extension Contract as defined in the Rules, Regulations and Rates Governing the Extension of Water Mains.
9. At the time of application the applicant must furnish the RWA with the information necessary to properly review the size of the service pipe and tap for conformance with the RWA standards. If services are improperly sized, they will not be accepted.
10. Where service is to be installed to the curb valve only, the applicant and his/her assigns will be responsible for permanently maintaining the location of the service lateral and the curb box. He/she will be responsible for installing the service pipe from curb box to place of use and insuring it is properly inspected and approved by the RWA.  

Should the location of the service connection not be permanently maintained, and if after the reasonable assistance of the RWA, it cannot be located in such a way as to make connection to it, the applicant or his/her assigns will be responsible for its replacement. Replacement service connections in this circumstance will be considered new service connections and the applicant or his/her assigns will be responsible for all of the charges applicable to a new service connection.
11. If the applicant's water service demands exceed the capacity of an existing main, the RWA may require, at the applicant's expense, the replacement/ upgrade of the main to maintain adequate service.
12. Applications for the extension of water mains should be made at the RWA office and are subject to the provisions of the RWA's Rules, Regulations and Rates Governing the Extension of Water Mains.
13. Applications for use of water for construction purposes must be made to the RWA before such use, and such uses will be charged at the RWA's scheduled rates. Permits or receipted bills will be issued



and must be shown on the job site upon request of authorized RWA employees. All water use must be metered.

14. Applicants for water service will pay for the extensions of water mains to limits defined in the Rules, Regulations and Rates Governing the Extension of Water Mains. If mains exist to those limits, the applicant will pay the proportionate share of the cost of the extension(s) according to such Rules.
15. Customers or their authorized agent, who wish to convert from seasonal to year- round service, should apply to the RWA and will be responsible for all applicable charges.

**(M) TECHNICAL STANDARDS AND PROCEDURES FOR THE INSTALLATION OF 1- INCH THROUGH 2-INCH WATER SERVICES**

1. Except where service pipes are not intended for use during freezing weather and are actually drained during such periods, all service pipes will be laid a minimum of 4-1/2 feet below the finished grade in order to prevent freezing. If at any time the grade is changed so that any part of the service pipe is covered by less than 4-1/2 feet, the owner will be responsible for lowering the pipe before freezing weather occurs. Where the service pipe from the curb to the building is not laid to depth, a separate drain valve with curb box must be provided adjacent to and on the house side of the curb valve.
2. Service pipes are to be installed on undisturbed ground and left uncovered so that a representative of the RWA can make an inspection to see that the installation conforms to these Rules and Regulations. The customer will schedule the inspection prior to backfilling the service connection excavation. Backfill material should be compacted around and one foot over the pipe. When excavation is in rock, there should be no projecting rock within 6 inches of the outside of the pipe side, top and bottom. The bottom 6 inches of the trench should be refilled with sand and properly compacted before the pipe is laid. All excavated rock should be disposed of and the trench refilled with sand, gravel or other suitable material.
3. The contractor shall be responsible for ensuring the stability and safety of the trench and adjacent structures by using such trench support and bracing as deemed necessary by applicable OSHA standards or RWA standards – whichever are more restrictive. Copies of the most current RWA standards are available at RWA headquarters.

4. If a safe trench and work area are not maintained by the contractor, Authority personnel will refuse to work until the trench or area is made safe. In this event, the excavator will bear the responsibility and liability for maintaining a safe and adequate trench excavation at all times and at any depth.
5. Since the contractor must maintain all excavations in proper condition for carrying on the work, the contractor will do all bailing, draining or pumping which may be necessary to keep the trenches or other excavations free of water, and will not, under any conditions, allow groundwater to enter the pipes.
6. In accordance with the application Regulations of Connecticut State Agencies, the contractor will notify "CALL BEFORE YOU DIG" (1-800-922-4455 or "811") prior to the start of any excavation.
7. Clearances, wherever possible, should not be less than 12 inches where service pipes cross other underground utilities.
8. No service pipe should cross any portion of a subsurface sewage disposal system or be installed less than 10 feet away from any portion of a subsurface sewage disposal system.
9. Service pipes must be installed perpendicular to the water main from tap to curb valve and in a straight line from the curb valve to the point of entrance to the building. Any deviation from this requirement must be approved in writing by the RWA before installation.
10. The scheduling of a tap may require up to several weeks' notice from the applicant. The length of the notice period is dependent upon materials availability and the availability of RWA field crews. Applicants are advised to inquire about current scheduling at the time of application. When taps are required on concrete pressure pipe, the excavation should be made in accordance with plans furnished by the RWA. Extreme care must be used in order not to damage concrete pipe while excavating.
11. Service pipes will not be in the same trench with other underground facilities, except as approved by the RWA and in accordance with the requirements of the Connecticut Public Health Code.
12. Service pipes will enter the property to be served through its frontage along an RWA-owned main located in either a public street or an approved easement and will not cross intervening or enter onto adjacent properties.

13. Lots to be serviced must have a minimum of ten (10) feet of deeded frontage along a public or private right-of-way which contains a water main extension.
14. In accordance with current state laws, rules and regulations, blue warning tape is required on all water service installations. Warning tape will be installed no less than 12 inches and no more than 18 inches above each service pipe.
15. Copper trace wire or blue warning tape manufactured for trace application shall be installed above plastic pipe to assist with future identification of the pipe's location.
16. For underground service pipe 2 inches and smaller, all new fittings from the corporation stop in the main up to and including the service valve on the upstream (street) side of the meter shall be flared, iron pipe size (I.P.S.) thread or compression connection fittings. Interior exposed fittings shall be flared or Iron Pipe Size (I.P.S.) thread connections only.
17. In all cases, soldered connections will not be allowed anywhere along the service line from the corporation stop at the main up to the point where the service enters the place of use and within the metersetting.
18. In no case will connections be allowed on the service pipe upstream of a water meter.
19. Check valves, pressure reducing valves, backflow prevention devices, booster pumps and other such equipment must be located downstream of the meter.
20. In cases where the length of service pipe exceeds 300-50 feet from the curb valve to the building, the RWA may allow the use of polyethylene tubing with prior review and approval as well as the conditions outlined in Section N.
21. Polyethylene tubing may not be used within 500 feet of any landfill area or any area with underground fuel tanks.

**Commented [DB2]:** Copper tubing rolls come in 50 or 100 feet. If a transition/coupling is required anyways, a pipe transition with a material change does not introduce additional risk of service failure.

**(N) MATERIAL SPECIFICATIONS**

1. Service Pipe
  - Size
    - Service pipes must have a minimum 1-inch nominal inside diameter; 2-1/2 and 3-inch diameter pipe is prohibited.
  - Material
    - Service pipes 1-inch through 2-inches in diameter must be of Type K soft temper copper tubing and must conform to the

latest revision standard specification for seamless copper water tube, ASTM B43-58.

- Where allowed in advance by the RWA and only located on the customer side of a meter vault or pit, plastic service pipes 1 inch through 2-inches in diameter shall be polyethylene pressure tubing, Pressure Class 200 p.s.i, SDR 9, CTS. It should conform to the latest revision of AWWA Standard C901 and should be marked with the size, material and pressure class. Plastic piping must transition to copper tubing from the meter vault towards entering the building. Trace wire made of Copper 18 gauge is required for all plastic service lines. Trace wire must be wrapped around the polyethylene tubing and be clamped to copper tubing exiting meter vault and entering building. Cross-linked polyethylene (PEX) piping is not acceptable for underground installation.
- Service pipes 4-inches in diameter or larger should be of ductile iron cement lined minimum Class 52 or a class with a wall thickness suitable for pressures and loads encountered. Ductile iron pipe should conform to the latest revision of AWWA Standard C151. Ductile iron pipe should be furnished with a double cement-mortar lining. The lining should conform to the latest revision of AWWA Standard C104.

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## 2. Fittings

- Fittings for underground copper service pipe shall be flared, iron service size (I.P.S.) thread or compression fittings that conform to the latest revision of AWWA Standard C800.
- Fittings for underground polyethylene tubing should be of the mechanical type with stainless steel inserts, conforming to the latest revision of AWWA Standard C901.
- Fittings for service pipes 4 inches and larger should be restrained mechanical joint, or push-on joint only. Flanged fittings should not be used underground. All fittings should be made of double cement mortar lined ductile iron and should conform to the latest revision of AWWA Standard C110.

## 3. Valves

### Curb Valves

- Curb valves 2-inches and smaller should be Teflon (PTFE) coated ball type without drain and 90° stops. Brass components should conform to the latest revision of AWWA Standard C800/ASTM B-62 (85-5-5-5).
- Curb valves 4-inches and larger should be resilient seated, fusion bonded, epoxy coated M.J. gate valves and should open right

(clockwise). Valves should conform to the latest revision of

AWWA Standard C-509. Interior and exterior fusion bonded epoxy coating should conform to the latest revision of AWWA Standard C-550.

- Buried valves must have a 2-inch square operating nut.

#### Service Valves

- Service valves 2-inches and smaller should be PTFE coated ball type, without drain, furnished with locking provision and integral meter saddles as approved by the RWA. Brass components should conform to the latest revision of AWWA Standard C800/ASTM B62 (85-5-5-5). The use of gate valves is prohibited.
- Service valves 4-inches and larger should be resilient seated, fusion bonded, epoxy coated flanged gate valves and should open right (clockwise). Valves should conform to the latest revision of AWWA Standard C-509. Interior and exterior fusion bonded epoxy coating should conform to the latest revision of AWWA Standard C-550. Non-buried service valves will have an operating wheel.
- Outside stem and yoke (OS & Y) valves are required on fire services 4 inches and larger.

#### 4. Curb Boxes

- Curb boxes for 1-inch curb valves must be of the Buffalo Screw Type with 2-1/2-inch diameter shaft. Whenever a curb box is exposed to vehicular traffic, it must be of the Roadway Type.
- Curb boxes for 1-1/2-inches and larger curb valves should be of the Buffalo Type with 5-1/4-inch diameter shaft.
- All curb boxes should be of cast iron and fitted with a cast iron cover marked with the word "WATER" and installed with the cover flush with the finished grade.
- Plastic curb boxes and curb box covers are prohibited.

#### 5. Meter Vaults and Manholes

- Meter vault and manhole specifications and diagrams along with piping arrangements will be furnished on request by the RWA.
- Plastic meter pit top sections are prohibited.
- Composite covers or hatch doors are required for meter pits/ vaults, and must be pre-approved by the RWA.

6. Meter Setters

- Meter setters for 5/8-inch through 1-inch meters, basement installation, should be Ford Series 500 or RWA-approved equal.
- Meter setters for 5/8-inch through 1-inch meters, vault installations, should be Ford Series 70 or RWA-approved equal.
- Meter setters for 1-1/2-inch meters, vault or basement settings, should be Ford custom setters VVB66-B or RWA-approved equal.
- Meter setters for 2-inch meters, vault or basement settings, should be Ford Custom setters VVB77-B or RWA-approved equal.

7. Other

- Warning tape will be plastic or metallized plastic, blue in color, a minimum of 4-inches in width and have the words "CAUTION - WATER LINE BURIED BELOW" imprinted on it in black letters.
- Trace wire will be made of Copper 18 gauge.
- Backflow prevention device (BFP) will be manufactured in accordance with the latest revision of AWWA Standard C511 and pre-approved for use by the RWA.

# ***RULES, REGULATIONS and RATES GOVERNING the EXTENSION of WATER MAINS***



Our **STARS** Values

Service | Teamwork | Accountability | Respect | Safety

***SOUTH CENTRAL CONNECTICUT  
REGIONAL WATER AUTHORITY (RWA)***



**90 SARGENT DRIVE  
NEW HAVEN, CONNECTICUT 06511  
(203) 562-4020  
[www.rwater.com](http://www.rwater.com)**

REVISED February 18, 1998  
REVISED May 7, 2013  
REVISED December 7, 2015  
REVISED January 5, 2022



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**for WATER SERVICE**

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## **I. DEFINITIONS**

**"Applicant"** - the party requesting service, the provision of which requires an Extension.

**"Deferred Extension"** – in cases where the Applicant can connect to an existing main, the RWA may defer installation of all, or a portion, of an Extension required by its regulations until further extension is determined to be required on the street by RWA.

**"Extension"** - the linear footage of water main required in order to service property(ies) according to the terms and conditions set forth by these rules.

**"Extension Contract"** - an Advanced Payment Extension Contract executed by the RWA and the Applicant providing for the installation of an Extension pursuant to which the cost of such Extension is paid by the Applicant to the RWA as described in these Rules. The Contract shall define the period in which the Extension is to be installed and the duration of the contract.

**"Main(s)"** - water pipes owned by or to be owned by the RWA, used for the purpose of conveying water to the Taker's service connections.

**"Proportionate Share"** – a charge made for the purpose of reimbursing the RWA or main extension applicant for the installation cost of the water main fronting the property to be served.

**"Proportionate Share Agreement"** - the agreement for payment of a proportionate share of an Extension Contract.

**"Proportionate Share Applicant"** - the party entering into a Proportionate Share Agreement with the RWA for water service to a property which is subject to the proportionate share provisions of these Rules and Regulations.

**"RWA"** - the South Central Connecticut Regional Water Authority.

**"Taker"** - any party connected directly to an existing Extension by a service line on which an Extension Contract is in effect.

## **II. GENERAL PRINCIPLES**

1. Title of ownership in an Extension is vested in the RWA.
2. An Extension is under the sole control and jurisdiction of the RWA. This includes the right to connect additional customers without the consent of the Applicant; to make further extensions beyond or running laterally from the Extension; or to connect the Extension with any other portion of the distribution system of the RWA. The RWA may take these actions without incurring any obligations to the Applicant or Takers receiving service from the Extension except as provided.
3. All Extensions will be installed, owned and maintained by the RWA. Installations will be performed by the RWA with its own resources, or by

an approved subcontractor hired by the RWA.

4. If the property to be supplied by an Extension is at such an elevation that pressure will be below 35 p.s.i. or above 115 p.s.i. where the service enters the building, the Applicants for such an Extension will be obligated to execute either a Low Pressure Agreement or a High Pressure Agreement with the RWA prior to final acceptance by the RWA of the application. These Agreements will be recorded in the Land Records of the municipality in which the property is situated. In the case of an application for service to new construction or developments, the RWA may, in its sole discretion, require the Applicant to pay for any main replacement in, or main extension of, the RWA's existing distribution system in order to provide service within the p.s.i. levels described above.
5. Water mains will be extended from the existing service area or pressure zone in accordance with the RWA's long-range plans for service area coverage, which are designed to assure an optimum range of pressures throughout the RWA's distribution system, and to minimize construction of new pumping stations and storage facilities. Extensions will not necessarily be initiated at the nearest water main. Applicants will be responsible for the cost of the entire Extension regardless of the distance required.
6. If additional facilities, such as storage tanks and booster pumps, are required to provide adequate service to an Extension and only that Extension, the costs associated with the planning, design and construction of such facilities will be charged to the Applicant. The facilities will be constructed in accordance with the RWA's Standards for the Development of Satellite Water Systems. These standards are available as a separate document.
7. If additional facilities as described above will benefit the RWA's existing system or will be required to serve additional extensions by future applicants, the RWA will construct the facilities at its expense.
8. Extensions will be made in streets that are accepted and maintained by the municipality or in rights of way granted to the RWA. Extensions will also be made in new streets subject to the following: (a) the street will be constructed to line and grade conforming to the plan and profile as accepted by and recorded with the municipality; (b) a bond has been posted with the municipality by the owner, to insure satisfactory completion of said street according to the specifications of the municipality; and (c) there is written confirmation of all the items listed above by the proper municipal authority.

9. Private rights of way for mains must be located within the access road to the area being served.
10. Mains will be located to the extent possible within the paved portion of a street or right of way.
11. The Applicant for water service is responsible for all new main extensions required to provide service to a proposed subdivision, development, etc. This responsibility includes approach mains, "loop" mains and replacement/upgrade of mains required to connect the project to the RWA's water distribution system and to meet and maintain minimum design pressure, needed fire flow and water quality criteria.
12. The RWA will determine the required length, size, material, routing and location of an Extension, based in general on the following principles:
  - (a) The terminal point of an Extension installed in streets not within a development will be the property line beyond the last Taker to be serviced by the Extension, including the installation of a main required to cover the entire frontage of a subdivision tract.
  - (b) An Extension installed in streets within a development or subdivision will include all mains required to cover buildings to be served by the development or subdivision to intersecting streets.
  - (c) The size of main to be installed will be based on the existing and future needs of the RWA's water system and/or prevailing municipal fire ordinances, and the costs will be allocated as provided in Section II-17 of these Rules. The minimum size for new mains will be 8-inch diameter, except in state roads, where the minimum size for new mains will be 16-inch diameter.
  - (d) Phased construction within a development or subdivision may be allowed upon prior written approval by the RWA.
13. With the exception of new developments, when an Extension passes corner properties having access to a main on an adjacent street, the RWA will install at its expense that corner property's portion of the Extension from the existing main to the far property line. If this distance is subdividable in accordance with the zoning regulations of the municipality, the RWA will only install the corner property's portion of the Extension from the existing main to the subdivided line. In no case, however, will the distance contributed by the RWA exceed 150 feet.
14. Where the Rules and Regulations require main extensions as shown on the site plan approved by the municipal Planning and Zoning agency, but

on streets which will not be constructed, the RWA may defer installation of the Extension until an additional main is required in the street.

15. Each Extension will terminate at the farthest property line of the last potential Taker to be served by such Extension. In cases where the Applicant can connect to an existing main, the RWA may defer installation of all, or a portion, of an Extension required by its regulations until further extension is required on the street. At the time of application, the RWA will notify the Applicant of its obligation to pay for the installation of a deferred extension. The Applicant shall pay, prior to the installation of the deferred extension, the estimated cost of the deferred extension based on the deferred length times the RWA's average cost of installation extensions of the required size.
16. When an Extension is made in unfinished streets, the Applicant is responsible for damages to the main and all such fixtures and appurtenances such as hydrants, gate boxes, blow-off boxes, etc., including its relocation, if damaged, or if relocation is necessitated by acts or omissions of the Applicant or his agents. If, after the Extension is installed, the grade is changed to reduce the required minimum cover of the mains, fixtures or appurtenances, then the Applicant will pay the cost of lowering the mains to the depth required to correct this deficiency. This responsibility will remain in force until such time as the street is officially accepted by the proper municipal authority.
17. The RWA will determine the size of the main required for each Extension. In those municipalities with fire ordinances in effect which specify the size of water mains, the RWA will comply with the ordinance requirements except where the size stipulated in the ordinance would have a detrimental effect on the RWA's system. In such a case the main will be sized for the overall best interest of the water system. The Fire Marshal in the affected municipality will be advised of the deviation from the ordinance. Costs will normally be based on sizes not larger than 8-inches, unless it is necessary to install main larger than 8-inches to satisfy the requirements of the Applicant. In that case, the cost will be based on the cost of the main size actually required.
18. Lots to be serviced must have a minimum of ten (10) feet of deeded frontage along a public or private right-of-way to contain the Extension.
19. The cost of each Extension installed by the RWA will be the actual cost of the main, encompassing labor and equipment used, plus overhead at the RWA's prevailing overhead rates for the main size required. If pavement excavation and replacement or repairs are required for the Extension, the additional costs will be added to the cost of the

Extension. Cost of deferred extensions will be the deferred length times the RWA's average cost of installing extensions of the required size.

20. All requests for the installation of public fire hydrants must be made directly to the municipality and are subject to order by the municipality.
21. When the RWA installs fire hydrants in connection with an Extension, the RWA will add a charge to cover the installation of the fire hydrant (including laterals) as a cost per foot. The per foot charge applied is based upon the prior year cost of fire hydrant installation (including laterals) on new main extensions.

### **III. APPLICATIONS**

1. Applications for Extensions will be accepted only from the owner of public record of the property which the Extension will serve.
2. Applications must be made at the RWA offices and will not be processed until all information requested by the RWA is supplied.
3. The Applicant, if a development is involved, will be required to furnish with the application one (1) reproducible subdivision map of the property to be supplied. This map must be a facsimile of the one approved and filed with the proper municipal authority. The applicant, if requested by the RWA, will furnish plan and profile drawings of the street(s) in which the main is to be installed as approved by and filed with the municipality. Only maps, plans, profiles or other drawings prepared and stamped by an engineer or surveyor licensed in the State of Connecticut will be accepted.
4. The Applicant of a development or subdivision must notify the RWA at the time of application if phased construction is proposed. Phasing should be indicated on a property map supplied to the RWA.
5. Application for the Extension will automatically expire ninety (90) days from the date of application if, within this period, all conditions required for acceptance of such application are not fulfilled. Upon cancellation of an Extension application, the Applicant may renew the application and will be subject to the Rules and Regulations in effect at the date of renewal.
6. Contract proposals for Extensions will automatically expire ninety (90) days from the date transmitted to the Applicant, if within this period the RWA has not received all fully executed required documents, including but not limited to the Extension Contract, High or Low Pressure Agreements and easements, and payments due at the time of contract execution. Upon expiration of a contract proposal, the Applicant may

request the proposal be subject to the Rules and Regulations in effect at the date of the renewal.

**IV. ADVANCE PAYMENT EXTENSION CONTRACT**

1. An Applicant, on execution of an Extension Contract, will deposit with the RWA an amount equal to the RWA's estimated cost of the Extension. Any additional amount which may result from increased costs, as determined by the RWA, must be paid on demand to the RWA. The RWA may delay installation of any Extension or service taps in an Extension until the additional amount has been received.
2. Upon completion of the Extension, the RWA will determine the actual cost of the extension. If the actual cost is less than the deposit, the RWA will refund the difference to the Applicant. If the estimated cost is less than the actual cost, then an additional charge will be made to the Applicant, payable within fifteen (15) days of being invoiced. If not paid within thirty (30) days after the due date, the applicant will be assessed interest at a rate of 1.5% per month. The RWA may delay the installation of any service taps in such Extension until the additional amount has been received.
3. No interest will be paid by the RWA on any or all of the amount paid by the Applicant.
4. If an Extension under an Extension Contract is installed in a street or highway which property is abutted by other than that of the Applicant, the RWA agrees to require that the other property owners, before making any connection for water service, will pay their proportionate share of the cost of the extension. These property owners, referred to as "Proportionate Share Applicants", will pay their share in full at the time of their application for water service. When received by the RWA, these amounts will be refunded to the Applicant, unless the Extension was installed at the expense of the RWA, in which case the RWA will retain any funds so collected. Total refunds on the Extension Contract to the Applicant will not exceed the total amount paid by the Applicant. The Proportionate Share Applicant for water service will be subject to all of the terms, conditions, and provisions of the contract.
5. The Applicant will be entitled to receive the proportionate share amounts collected by the RWA from the Proportionate Share Applicant for a ten (10) year period starting from the date of the completion of the main installation. Liability for payment of refunds for proportionate sharing will cease at the end of that ten (10) year period, and any part of the amount paid by the Applicant not refunded within the contract period will be the property of the RWA.

6. The Applicant or a Proportionate Share Applicant may not assign the Extension Contract or the Proportionate Share Agreement or any money due by reason of the terms of these agreements, without the written consent of the RWA.
7. The proportionate share provisions of the Extension Contract will not apply to existing RWA customers whom the RWA decides to connect to the newly installed extension.
8. All Takers connected to extensions installed in accordance with the terms of an Extension Contract will be subject to the applicable rates, rules, regulations, terms and conditions of service of the RWA. However, when the municipality does not pay the fire service charge for a particular Extension, these charges will be paid on a pro rata basis by all Takers on the Extension.
9. The RWA reserves the right to require that an Extension Contract cover all mains needed to supply a real estate development or subdivision in its entirety.

#### **V. INSTALLATION**

1. Extensions will be scheduled for construction after the Applicant has fully complied with all conditions and contractual obligations.
2. Each main will be installed in a public street that has been approved by a municipality, or in a private right of way if given the written consent of the RWA. In the case of a right of way, the Applicant must provide an executed Right of Way Agreement and related documentation as specified by the RWA, prior to the main installation.
3. Extensions will normally be scheduled for construction in the order in which all requirements have been met. However, the RWA may vary such scheduled in order to integrate timing with other previously approved projects, in consideration of weather conditions, or based on the availability of materials or the immediacy of need.
4. It is the responsibility of the Applicant to erect and maintain stakes to indicate correct street lines and grades, lot lines and hydrant locations in order to facilitate proper installation of the mains and appurtenances as determined by the RWA.



**REVISED**  
**RPB COMMITTEE MEETINGS**

<b>Month</b>	<b>Meeting</b>	<b>Will Attend</b>
<b>October 2024</b>	<i>Finance Committee – (Teams Only)</i> Monday, Oct. 7 at 5:00 p.m.	Kevin
	<i>Nominating Committee – (Teams Only)</i> Monday, Oct. 7 at 6:00 p.m.	N/A
	<i>Land Use Committee - (Lake Saltonstall, Branford)</i> Wednesday, Oct. 9 at 4:30 p.m.	Catherine
	<i>Consumer Affairs Committee - (Teams Only)</i> Monday, Oct. 21 at 5:30 p.m.	Mario
	<i>Executive Committee – (Hybrid)</i> Wednesday, Oct. 16 at 5:00 p.m.	David
<b>November 2024</b>	<i>Finance Committee – (Hybrid)</i> Monday, Nov. 4 at 5:00 p.m.	Kevin
	<i>Land Use Committee – (Hybrid)</i> Wednesday, Nov. 13 at 5:30 p.m.	Mario
	<i>Consumer Affairs Committee (Teams Only)</i> Monday, Nov. 18 at 5:30 p.m.	Suzanne
<b>December 2024</b>	<i>Finance Committee (Hybrid)</i> Monday, Dec. 9 at 5:00 p.m.	Mario
	<i>Land Use Committee (Hybrid)</i> Wednesday, Dec. 11 at 5:30 p.m.	Suzanne
	<i>Consumer Affairs Committee (Teams Only)</i> Monday, Dec. 16 at 5:30 p.m.	Catherine

# CIS/RWAY Project



## CIS/RWAY Project Health Indicators

Schedule	Target April 2025 Go-Live	Capital Budget	\$16.01M	FY25 Spend	\$1.69M (A) / \$7.9M (B)	Scope	+ Omni-Channel
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### Accomplishments

- **Completed Visual Validation of ETL6 Data Migration**
- **Completed Systems Integrations/Interfaces development**
- **Completed IST2 Test Script Development (end to end test cases)**
- Began Integrated System Testing (IST2) & Bill Parallel testing as planned
- UMAX & peripheral training development schedule and resources assessment complete as part of critical path items assessment to go-live
- OCM Champions and Change Networks in place. Mobilizing and preparing for upcoming End User Training, Cutover and Customer/Stakeholder Communications
- First customer communication in the Waterlines complete
- Completed performance environment provisioning

### Decisions, Risks & Issues

- Key Decision(s)
  - No impact to rate change in January/Feb. Produce a full clean bill cycle with new rates in March. No budget impact for April Project Go-Live.
- Key Risks – Mitigation Plans Underway
  - Manage resource constraints as they arise.
- Key Issues - None

### Current Activities

- Itineris peripheral Development and Configuration items
- Continued Refinement to End User Training materials and classes schedule
- Data conversion and data cleansing defects remediation
- **Continued Integrated System Testing (IST2) & Bill Parallel Testing**
- Continued cutover planning activities
- **Procure OCM Snap Comms tool for employee level communication**

### Next Steps: Development / Deployment Phase

- **Complete Integrated System Testing (IST2)**
- **Complete Bill Parallel testing**
- **Complete End User Training materials and classes schedule**
- **Mock 1 Go-Live Readiness Execution (1 day SAP lockout on 11/4)**
- Complete Integrated System Test (IST2) End to End Test Cases
- Integrated System Test (IST2) Test Execution

**South Central Connecticut Regional Water Authority**

90 Sargent Drive, New Haven, Connecticut 06511-5966 203-562-4020

<http://www.rwater.com>

DATE: September 5, 2024

TO: David Borowy, Chair  
Kevin J. Curseaden  
Catherine E. LaMarr  
Mario Ricozzi  
Suzanne C. Sack

CC: Larry L. Bingaman  
Sunny Lakshminarayanan

FROM: John Triana

SUBJECT: Application to the Representative Policy Board for Disposition of 4.9832 acres located at 56 Squantuck Rd. in Seymour (Land Unit SE 5)

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Enclosed for your review is an application to the Representative Policy Board (RPB) for the disposition of 4.9832 acres located at 56 Squantuck Rd. in Seymour for not less than \$55,000. This parcel is located about 3/4 of a mile from the intersection of Squantuck Rd. (Rt. 188) and Roosevelt Dr. (Rt. 34). It is unimproved, raw land, but includes an access road to the nearby Great Hill Reservoir dam. The parcel is noted as Land Unit SE 5 in the Regional Water Authority's (RWA) Land Use Plan.

A draft resolution of the RWA accepting the application, and a draft letter from the RWA to the RPB requesting consideration of the application, are also attached.

We would like to discuss the application at your September 26, 2024 meeting and upon your approval, request that it be submitted to the RPB. If you have any questions, please reach out to us.

**RESOLUTION FOR ADOPTION  
BY REGIONAL WATER AUTHORITY**

Authority Meeting September 26, 2024

**Resolved,** That the Authority hereby accepts the Application for Disposition for 4.9832 acres located at 56 Squantuck Rd. in Seymour that is Land Unit SE 5, as a completed Application, substantially in the form submitted to this meeting, and authorizes filing said Application with the Representative Policy Board.

and

Further resolved, if approved by the Representative Policy Board, the President and CEO, and the Vice President Engineering and Environmental Services, are authorized to take any and all actions necessary to complete the transfer interest in real estate.