

Middlesex Water Company
Distribution System Improvement Charge
BPU Docket No. WR23050288
DSIC Recovery Period: April 01, 2024 - September 30, 2024

MWC Proposed DSIC Assessment 2
(April 2024 - September 2024)

Eligible Investment (Qualified DSIC Additions to UPIS During DSIC Period)	\$ 10,284,886 (A)
Less: Accum Depr	(77,796) (B)
Less: Deferred Tax	(26,859) (C)
Eligible Net Investment (Net DSIC Additions to UPIS During DSIC Period)	<u>\$ 10,180,232</u>
Times Pre-Tax ROR	7.94% (D)
Pre-Tax Return on Investment	807,960
Add: Depreciation	164,625
Revenue Recovery	<u>972,586</u>
Revenue Factor	<u>1.155166</u> (E)
DSIC Revenue Requirement Recovery Amount - Annual	\$ 1,123,498 (F)
DSIC Revenue Requirement Recovery Amount - Quarterly	\$ 280,875
DISC Revenue Requirement Recovery Amount - Monthly	\$ 93,625

(A) - DSIC Eligible Projects Closed to UPIS During DSIC Period.

(B) - Accumulated Depreciation:			
DSIC Eligible Projects Closed to UPIS	DSIC No. 1	DSIC No. 2	Total
Composite Depreciation rate	\$ 4,578,067	\$ 5,706,819	\$ 10,284,886 (A)
Depreciation Expense	1.60%	1.60%	1.60%
1/2 Year Convention (For First 6-Months)	<u>73,279</u>	<u>91,346</u>	<u>164,625</u>
	54,959.26	22,837	77,795.87 (B)
	75.00%	25.00%	

(C) - Deferred Taxes:			
DSIC Eligible Projects Closed to UPIS	DSIC No. 1	DSIC No. 2	Total
MACRS Rate Water Plant (4% - 1/2 Year Convention 1st Year)	\$ 4,578,067	\$ 5,706,819	\$ 10,284,886 (A)
Tax Depreciation 1st Year	2.00%	2.00%	
Book Depreciation	<u>91,561</u>	<u>114,136</u>	<u>205,698</u>
Tax Depr Greater Than Book	54,959	22,837	77,796
Deferred Taxes at 21%	<u>36,602</u>	<u>91,300</u>	<u>127,902</u>
	\$ 7,686	\$ 19,173	\$ 26,859 (C)

(D) - Pre-Tax Rate of Return:		Weighted Avg Cost of		
		Ratios	Cost Rate	Capital
	Long Term Debt (1)	46.12%	3.05%	1.41%
	Preferred Stock	0.28%	5.01%	0.01%
	Common Equity	53.60%	9.60%	5.15%
Subtotal Return on Rate Base	<u>100.00%</u>	<u>6.57%</u>	<u>7.94%</u>	(D)

Revenue Factor:	
Dollar of Revenue	1.0000000
Less: GRT Tax	(0.1284256)
Less: Bad Debts	(0.0032668)
Less: BPU Assessment	(0.0021759)
Less: DRC Assessment	<u>(0.0004554)</u>
Revenue Remaining After Taxes, Bad Debts, and Assessments	<u>0.865676</u>

(E) - Revenue [Gross-Up] Factor 1.155166 (E)

(F) - Revenue Requirement:	
Total Annual Revenues Established in 2021 Base Rate Case (Docket No. WR21050813)	\$ 110,110,446
DSIC Cap Percentage	5.00%
DSIC Revenue Requirement Recovery Amount Cap (FF Docket #23050288)	\$ 5,505,522
Current DSIC Revenue Requirement Amount - Annual	\$ 1,123,498 (F)
DSIC Revenue % of Total Revenue	1.02%

Monthly cost per 5/8th Inch Meter - Typical Residential Customer -	\$ 0.65
Quarterly cost per 5/8th Inch Meter - Typical Residential Customer -	\$ 1.95
DSIC Revenue as a % of Total Revenue	1.02%

Note (1) - Cost rate for long-term debt reduced from 3.20%, which was the approved embedded cost of debt in the Company's most recent base rate case. Support schedules included in this filing.

Middlesex Water Company
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DSIC Recovery Period: April 01, 2024 - September 30, 2024
DSIC Charge by Meter Size Calculation

Meter Size	/-----GMS Customer Class-----\ Residential Commercial Industrial			Private Fire	Total GMS/PF Meters (1)	AWWA Ratio	Equivalent Meters	EM% To Total	Monthly DSIC Charge	Monthly DSIC Revenue	Quarterly DSIC Charge	Quarterly DSIC Revenue	Annual DSIC Revenue
5/8"	45,546	1,003	-	-	46,549	1.00	46,549	32.32%	\$ 0.65	\$ 30,257	\$ 1.95	\$ 90,771	\$ 363,082
3/4"	7,883	398	2	-	8,283	1.50	12,425	8.63%	\$ 0.98	\$ 8,117	\$ 2.94	\$ 24,352	\$ 97,408
1"	1,386	509	8	12	1,915	2.50	4,788	3.32%	\$ 1.62	\$ 3,102	\$ 4.86	\$ 9,307	\$ 37,228
1-1/2"	122	403	20	-	545	5.00	2,725	1.89%	\$ 3.24	\$ 1,766	\$ 9.72	\$ 5,297	\$ 21,190
2"	45	1,025	37	55	1,162	8.00	9,296	6.45%	\$ 5.19	\$ 6,031	\$ 15.57	\$ 18,092	\$ 72,369
3"	-	237	39	41	317	15.00	4,755	3.30%	\$ 9.74	\$ 3,088	\$ 29.22	\$ 9,263	\$ 37,051
4"	-	67	80	292	439	25.00	10,975	7.62%	\$ 16.24	\$ 7,129	\$ 48.72	\$ 21,388	\$ 85,552
6"	-	11	52	320	383	50.00	19,150	13.30%	\$ 32.49	\$ 12,444	\$ 97.47	\$ 37,331	\$ 149,324
8"	-	13	17	277	307	80.00	24,560	17.05%	\$ 52.00	\$ 15,964	\$ 156.00	\$ 47,892	\$ 191,568
10"	-	4	8	57	69	115.00	7,935	5.51%	\$ 74.75	\$ 5,158	\$ 224.25	\$ 15,473	\$ 61,893
12"	-	2	-	2	4	215.00	860	0.60%	\$ 139.76	\$ 559	\$ 419.28	\$ 1,677	\$ 6,708
Total (1)	54,982	3,672	263	1,056	59,973		144,017	100.00%		\$ 93,614		\$ 280,843	\$ 1,123,374
DSIC Revenue Requirement (From Page 1)										\$ 93,625		\$ 280,875	\$ 1,123,498
Rounding Difference										\$ (11)		\$ (32)	\$ (124)

(1) Meter counts are active meters as of 9/30/24

Middlesex Water Company
Distribution System Improvement Charge
BPU Docket No. WR23050288
DSIC Recovery Period: April 01, 2024 - September 30, 2024
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
Actual as of June 30, 2024

Series	Amount Outstanding	Effective Cost Rate	Annualized Cost	Composite Interest Rate
First Mortgage Bonds:				
3.00% to 5.50% Series FF	\$ 310,000	4.86 %	\$ 15,066	
0.00% Series GG	263,314	0.00	-	
4.00% to 5.00% Series HH	335,000	6.85	22,948	
0.00% Series II	64,655	0.00	-	
3.40% to 5.00% Series JJ	220,000	6.84	15,048	
0.00% Series KK	439,537	0.00	-	
5.00% to 5.50% Series LL	566,000	6.30	35,658	
0.00% Series MM	603,067	0.00	-	
3.00% - 4.375% Series NN	820,000	4.58	37,556	
0.00% Series OO due 2031	1,153,898	0.00	-	
2.00% - 5.00% Series PP due 2031	460,000	3.75	17,250	
0.00% Series TT due 2032	1,304,407	0.00	-	
3.00% - 3.25% Series UU due 2032	550,000	4.03	22,165	
0.00% Series VV due 2033	1,383,770	0.00	-	
3.00% - 5.00% Series WW due 2033	585,000	4.86	28,431	
0.00% Series 2018A 2017 RENEW - Fund due 2047	5,451,261	0.00	-	
3.00% to 5.00% Series 2018B 2017 RENEW - Trust due 2047	2,130,000	5.18	110,334	
0.00% Series XX due 2047	8,982,038	0.00	-	
3.00% to 5.00% Series YY due 2047	3,455,000	5.06	174,823	
4.00% NJEDA Series 2019A due 2059 *	32,500,000	3.66	1,189,500	
5.00% NJEDA Series 2019B due 2059 *	21,200,000	4.04	856,480	
2.90% Private Placement Series 2020A due 2050	40,000,000	2.91	1,164,000	
2.90% Private Placement Series 2021B due 11/18/2050	45,500,000	3.21	1,460,550	
2.79% Private Placement Series 2021A due 11/5/2041	19,500,000	2.80	546,000	
0.00% Series 2022B WTM/RENEW due 8/1/2056	33,895,500	0.00	-	
2.70% - 3.03% Series 2022A WTM/RENEW due 8/1/2056	15,946,200	4.20	669,740	
5.24% Private Placement Series 2023A due 3/2/2043	40,000,000	5.25	2,100,000	
Total Long-Term Debt	\$277,618,646		\$8,465,549	3.05 %

Middlesex Water Company
 Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
 Actual at January 31, 2023 and
 Estimated at September 30, 2023

Actual at January 31, 2023

Series	Amount Outstanding (1)	Effective Cost Rate (2)	Annualized Cost	Composite Interest Rate
<u>First Mortgage Bonds</u>				
0.00% Series EE	\$ 192,280	0.00	-	
3.00% to 5.50% Series FF	645,000	4.86	31,347	
0.00% Series GG	352,343	0.00	-	
4.00% to 5.00% Series HH	435,000	6.85	29,798	
0.00% Series II	151,772	0.00	-	
3.40% to 5.00% Series JJ	318,000	6.84	21,751	
0.00% Series KK	528,210	0.00	-	
5.00% to 5.50% Series LL	665,000	6.30	41,895	
0.00% Series MM	703,135	0.00	-	
3.00%- 4.375% Series NN	920,000	4.58	42,136	
0.00% Series OO due 2031	1,304,407	0.00	-	
2.00% - 5.00% Series PP due 2031	510,000	3.75	19,125	
5.00% Series QQ due 2023*	9,915,000	3.13	310,340	
0.00% Series TT due 2032	1,454,915	0.00	-	
3.00% - 3.25% Series UU due 2032	605,000	4.03	24,382	
0.00% Series VV due 2033	1,526,918	0.00	-	
3.00% - 5.00% Series WW due 2033	630,000	4.86	30,618	
0.00% Series 2018A 2017 RENEW - Fund due 2047	5,689,765	0.00	-	
3.00% to 5.00% Series 2018B 2017 RENEW - Trust due 2047	2,180,000	5.18	112,924	
0.00% Series XX due 2047	9,361,560	0.00	-	
3.00% to 5.00% Series YY due 2047	3,545,000	5.06	179,377	
4.00% NJEDA Series 2019A due 2059 *	32,500,000	3.66	1,189,500	
5.00% NJEDA Series 2019B due 2059 *	21,200,000	4.04	856,480	
2.90% Private Placement Series 2020A due 2050	40,000,000	2.91	1,164,000	
2.90% Private Placement Series 2021B due 11/18/2050	45,500,000	3.21	1,460,550	
2.79% Private Placement Series 2021A due 11/5/2041	19,500,000	2.80	546,000	
0.00% Series 2022B WTM/RENEW due 8/1/2056	34,933,118	0.00	-	
2.70% - 3.03% Series 2022A WTM/RENEW due 8/1/2056	16,230,000	4.20	681,660	
5.24% Private Placement Series 2023A due 3/2/2043	-	5.25	-	
Potential Issuance, September 2023**	-	5.39	-	
Total Long-Term Debt	\$251,496,422		\$6,741,883	2.68 %

Estimated at September 30, 2023

Series	Amount Outstanding (1)	Effective Cost Rate (2)	Annualized Cost	Composite Interest Rate
<u>First Mortgage Bonds</u>				
0.00% Series EE	0	0.00	-	
3.00% to 5.50% Series FF	310,000	4.86	15,066	
0.00% Series GG	268,858	0.00	-	
4.00% to 5.00% Series HH	335,000	6.85	22,948	
0.00% Series II	71,833	0.00	-	
3.40% to 5.00% Series JJ	220,000	6.84	15,048	
0.00% Series KK	449,260	0.00	-	
5.00% to 5.50% Series LL	566,000	6.30	35,658	
0.00% Series MM	636,423	0.00	-	
3.00%- 4.375% Series NN	820,000	4.58	37,556	
0.00% Series OO due 2031	1,204,068	0.00	-	
2.00% - 5.00% Series PP due 2031	460,000	3.75	17,250	
5.00% Series QQ due 2023*	-	3.13	-	
0.00% Series TT due 2032	1,354,576	0.00	-	
3.00% - 3.25% Series UU due 2032	550,000	4.03	22,165	
0.00% Series VV due 2033	1,431,486	0.00	-	
3.00% - 5.00% Series WW due 2033	585,000	4.86	28,431	
0.00% Series 2018A 2017 RENEW - Fund due 2047	5,530,762	0.00	-	
3.00% to 5.00% Series 2018B 2017 RENEW - Trust due 2047	2,130,000	5.18	110,334	
0.00% Series XX due 2047	9,108,545	0.00	-	
3.00% to 5.00% Series YY due 2047	3,455,000	5.06	174,823	
4.00% NJEDA Series 2019A due 2059 *	32,500,000	3.66	1,189,500	
5.00% NJEDA Series 2019B due 2059 *	21,200,000	4.04	856,480	
2.90% Private Placement Series 2020A due 2050	40,000,000	2.91	1,164,000	
2.90% Private Placement Series 2021B due 11/18/2050	45,500,000	3.21	1,460,550	
2.79% Private Placement Series 2021A due 11/5/2041	19,500,000	2.80	546,000	
0.00% Series 2022B WTM/RENEW due 8/1/2056	34,241,373	0.00	-	
2.70% - 3.03% Series 2022A WTM/RENEW due 8/1/2056	15,946,200	4.20	669,740	
5.24% Private Placement Series 2023A due 3/2/2043	40,000,000	5.25	2,100,000	
Potential Issuance, September 2023**	(3) 20,000,000	5.39	1,078,000	
Total Long-Term Debt	\$298,374,383		\$9,543,549	3.20 %

BPU Docket WR23050292
 2023 MWC Rate Case



Notes:

- (1) Company-Provided.
- (2) As developed on page 2 of this Schedule.
- (3) Assumed to be average March 2023 A2 rated utility bond.

Middlesex Water Company
Distribution System Improvement Charge
BPU Docket No. WR23050288
DSIC Recovery Period: April 01, 2024 - September 30, 2024

April 2024- September 2024

Project ID #	Project Name / Location	Reason for Project	Project Description	Estimated Duration	Projected In Service Date	Actual Transferred Cost
01P-2023-301	RENEW 2023	Main Repl (Internal)	Replacement of approximately 24,000 LF of cast iron 6" water main in the Port Reading/Carteret region. (Restoration)	180	6/1/2024	\$ 1,858,539.53
01P-2019-303	Rt 35 6" Main Replacement	Main Repl (Internal)	Replacement of 920 LF of Water Main and appurtenances on Rt 35 in Woodbridge- Restoration	60	2/29/2024	\$ 64,522.07
01P-2022-304	Red Root Creek Main Replacement	Main Repl (Internal)	Replcement of 300 lf of 12" main at the Red Root Creek Crossing at Cattail Way	30	3/1/2024	\$ 384,387.18
01P-2024-301	RENEW 2024	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program. (Partially In Service)	180	11/1/2024	\$ 1,524,121.32
01P-2022-305	Decker Place Water Main Replacement	Main Repl (Internal)	Replacement of 760 lf of 8" main on Decker Place Woodbridge (LSRP Closeout)	30	2/29/2024	\$ 6,180.33
01P-2019-307	St. Georges Ave Water Main Replcement	Main Repl (Internal)	2000 lf of 8" Main Replacement on Rt 35 in Woodbridge. Includes 3 hydrants and 10 services.	45	6/30/2024	\$ 1,079,879.41
01P-2021-311	Ridgedale Ave Main Replacement	Main Repl (Internal)	Replacement of 3,600 lf of 6" main and appurtenances on Ridgedale Ave in Woodbridge (Unrefunded Escrow)	90	12/19/2022	\$ 750.00
01P-23-315	Drummond Ave Water Main Replacement	Main Repl (Internal)	Replacement of 6" and 12" main due to a sewer failure/conflict on Drummond Ave in Fords.	30	7/11/2024	\$ 179,709.08
01P-2022-301	RENEW 2022	Main Repl (Internal)	Replacement of approximately 24,000 LF of cast iron 6" water main in the Iselin (Woodbridge) (Restoration labor and permit fees)	180	12/2/2022	\$ 10,989.31
01P-2019-308	Northern Tingley Lane Area Reinforcement	Main Installation	Dead End Closure that provides redundancy with two large peninsulas. Eliminating one large single feed area and dead end.	90	8/3/2024	\$ 915,916.28
01P-2023-312	Oak Tree Rd & Warwick Road Hydrant Relocations	Hydrant Relocation	Relocation of two hydrants due to County road project	30	7/12/2024	\$ 54,133.65
01P-2019-316	Metuchen Ave Main Replacement	Main Repl (Internal)	Replacement of 12" main on Metuchen Ave (as-builts/closeout)	90	4/12/2023	\$ 1,529.72
01P-24-304	Washington Ave Main Relocation	Main Repl (Internal)	Relocation of main and appurtenances on Washington Ave in Carteret due to Borough road improvement program	60	9/6/2024	\$ 53,220.40
01B-2024-911	T&D Mains Replacement Blanket	Blanket	Installation & Replacement of miscellaneous T&D mains during the year		Apr 2024 - Sep 24	\$ 810,383.16
01B-2024-913	Service Line Replacement Blanket	Blanket	Service line replacement during the year		Apr 2024 - Sep 24	\$ 692,169.86
01B-2024-915	Hydrants Replacement Blanket	Blanket	Hydrant replacement during the year		Apr 2024 - Sep 24	\$ 516,605.87

2nd Submission Apr 2024-Sep 2024	
Base Spending	\$ 2,446,217.93
Base or Project	\$ 5,706,819.24
Submission 2 Total	\$ 8,153,037.17

YEAR 1 SPENDING	
Total Base Spending	\$ 6,165,077.86
Total DSIC Spending	\$ 10,284,886.44
Total DSIC Eligible Spending	\$ 16,449,964.30

(A)

MIDDLESEX WATER COMPANY

Fifth Revised Sheet No. 44

B.P.U. No. 1 - WATER

Cancelling

Fourth Revised Sheet No. 44

RATE SCHEDULE NO. 9

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

APPLICABILITY:

Applicable to customers throughout entire territory for general metered and private fire protection service connections.

CHARACTER OF SERVICE:

Continuous except as limited by "Standard Terms and Conditions".

RATE:

DSIC will be assessed based on the size of the customer meter. The DSIC rate is in addition to Rate Schedules No. 1 and No. 2.

GENERAL METERED AND PRIVATE FIRE PROTECTION SERVICE

<u>Size of Meter</u>	<u>Charge Per Quarter</u>	<u>Charge Per Month</u>
5/8"	\$ 1.95	\$ 0.65
3/4"	2.94	0.98
1"	4.86	1.62
1-1/2"	9.72	3.24
2"	15.57	5.19
3"	29.22	9.74
4"	48.72	16.24
6"	97.47	32.49
8"	156.00	52.00
10"	224.25	74.75
12"	419.28	139.76

Date of Issue: _____, 2024

Effective for service

Rendered on and after:

Issued by: Nadine Leslie, President
1500 Ronson Road
Iselin, New Jersey 08830-0452

_____, 2024

Filed pursuant to an Order of the Board of Public Utilities, State of New Jersey, dated October 25, 2023, in Docket No. WR23050288.