

INTEREST RATE SWAPS REPORT

For the Year Ended June 30, 2020

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General Information – Interest Rate Swaps

An interest rate swap is a contract between two parties to exchange certain cash flows for a defined period of time related to an underlying asset or liability without actually exchanging the underlying principal amount. The computational base on which the swapped payments are calculated is referred to as the "notional amount." Interest rate swaps are used to convert one interest rate basis to a different basis (e.g., from floating to fixed or fixed to floating) and enable bond issuers to accomplish financial goals such as hedging variable rate exposure, improving asset/liability matches or reducing borrowing costs.

In the municipal marketplace, the two parties to a swap are called "counterparties" and consist of an agency, such as the City of Roseville, and a financial institution. The counterparties exchange interest payments on specific dates according to a predetermined formula. Only the net payment amount is exchanged. The floating rate resets are generally based on the LIBOR¹ or SIFMA² index.



Swap Risks

- 1. Basis Risk: (1) the degree to which the difference between two prices fluctuates; (2) the residual risk that remains after a hedge has been placed; (3) the risk from receiving one floating rate, such as SIFMA and paying another, such as the interest rate on your own obligations.
- 2. Counterparty Risk: The risk that the party on the other side of a swap transaction does not fulfill its obligations under the swap.
- 3. Rollover Risk: Rollover risk occurs when the term of the swap does not match the term of the asset or liability that the swap is intended to hedge.
- 4. Tax Risk: Tax risk arises since SIFMA is a tax-exempt index whereas LIBOR is a taxable index, implying that the ratio of SIFMA to LIBOR should approximately be 1-Marginal tax rate. As tax rates increase, SIFMA as a percent of LIBOR should decrease, whereas if tax rates decrease, the reverse would theoretically hold true. Historically the ratio has averaged at approximately 67% of 1-Month LIBOR. Simply stated, basis/tax law risk is the risk of a change in the SIFMA/LIBOR ratio.
- 5. Termination Risk: During the term of the swap either party may decide to terminate the swap or some contractual provisions may require the swap to be terminated. Unless the swap is at the market, upon termination one of the parties will need to make a termination payment depending upon market interest rates relative to the swap fixed rate. If market rates are higher than the swap fixed rate the party receiving the fixed rate will need to make the termination payment and vice versa.

¹ London Interbank Offered Rate (LIBOR) is a daily reference rate based on the interest rates at which banks offer to lend unsecured funds to other banks. LIBOR is currently scheduled to be phased out of use by the end of 2021. An interest rate swap that relies on LIBOR as a basis for rate calculation will need to seek a replacement rate index in accordance with the swap agreement.

² The Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Index is a 7-day high-grade market index comprised of tax-exempt VRDOs.

City of Roseville Interest Rate Swaps

The City's exposure to Electric System variable rate debt has been hedged through an interest rate swap.

Structure of the City's Interest Rate Swaps Related to the 2012 Electric System Revenue Refunding Certificates of Participation

The City has an interest rate swap with Morgan (counterparty) that is structured as a *floating-to-fixed rate* swap. These swaps are based on the notional amount of the 2008A Electric System Revenue Refunding COPs (2008A COPs). The City makes fixed interest payments to the counterparties in exchange for floating rate interest payments (SIFMA or percent of LIBOR) made by the counterparties. A floating-to-fixed rate swap enables the City to structure a synthetic fixed rate liability.

The 2008A COPs were refunded by the 2012 Electric System Revenue Refunding Certificates of Participation (2012 COPs) and the 2012 COPs were purchased by U.S. Bank through a direct purchase agreement.



Background

Due to the liquidity crunch in early 2008, the auction-rate market began to fail. The City took quick action to resolve the high reset rates and downgrade of the bond insurer (FGIC) by terminating the 2005 Electric swap and refunding the outstanding par. On May 13, 2008 the City issued the 2008 Electric System Revenue Certificates of Participation Series A (2008A COPs) and Series B (2008B COPs) in the original principal amounts of \$90,000,000 and \$64,500,000 respectively, to defease the 2005 Electric COPs Series B and C.

The 2008A COPs were issued as variable rate securities (VRDOs) with interest calculated weekly. The rate fluctuated according to the market conditions but was capped at 12%. The City entered into a 27-year interest rate swap agreement with Morgan Stanley (60%) and Bank of America (40%) for the entire amount of the 2008A COPs. The combination of the variable rate 2008A COPs and a floating-to-fixed rate swap creates a synthetic fixed rate debt for the City.

In November 2012 the 2008A COPs were refunded by the 2012 Electric System Revenue Refunding Certificates of Participation (2012 COPs) and the 2012 COPs were purchased by U.S. Bank through a direct purchase agreement. The direct purchase agreement acts similar to a loan and was analyzed as the most cost effective option regarding the refunding of the 2008A COPs. The direct purchase option removed the liquidity bank trading risk, remarketing risk, and any LIBOR manipulation. Risks associated with the viability of a Letter of Credit provider are essentially removed. U.S. Bank offered a 3.5 year term based on 70.5% of one-month LIBOR plus 62.5 basis points (bps).

In May 2016 U.S. Bank renewed the terms of the direct purchase agreement with a 3.5 year term based on 70.5% of one-month LIBOR plus 55 bps.

On November 1, 2019 the City paid down \$36,000,000 of the outstanding 2012 COPs, terminated the interest rate swap agreement with Bank of America for a cost of \$7,176,500, and renewed the U.S. Bank direct placement for the remaining \$54,000,000 at an interest rate of 80% of one-month LIBOR plus 60 basis points. The Morgan Stanley interest rate swap agreement remains in effect.

Interest Rate Swaps Related to the 2012 Electric System Revenue Refunding Certificates of Participation

Annual Reporting Requirements

Description										
Original notional amount - Total	\$90,000,000									
Original notional amount – Morgan Stanley	\$54,000,000									
Original notional amount – Bank of America	\$36,000,000									
Type of swap	Variable-to-fixed rate swap									
Variable rate debt type	Variable rate demand obligation (VRDOs)									

Payment and Swap Terms											
Interest Rate Swaps with Morgan Stanley and Bank of America											
Fixed swap rate – Morgan Stanley	3.321%										
Fixed swap rate – Bank of America	3.364%										
Floating swap rate – Morgan Stanley and Bank of America	70.5% of one-month LIBOR ¹										
Pricing frequency of swap rate	Weekly										
Payment frequency of swap agreement	Monthly										
Average life of outstanding swap	9.16 years										
Effective date of outstanding swap	May 13, 2008										
Maturity of outstanding swap	February 1, 2035										
U.S. Bank Direct Purch	ase of 2012 COPs										
Interest rate	80% of one-month LIBOR + 60 basis points										
Payment frequency	Monthly										
Term of U.S. Bank direct purchase agreement	3.5 years										
Maturity of U.S. Bank direct purchase agreement	May 1, 2023										

Details for the Year Ended June 30, 2020										
Notional amount as of June 30, 2020 - Total	\$54,000,000									
Notional amount as of June 30, 2020 – Morgan Stanley	\$54,000,000									
Notional amount as of June 30, 2020 – Bank of America	\$0									
Notional amount retired FY20	\$36,000,000									
Average floating rate received from counterparties	1.046%									
Average interest rate paid to U.S. Bank for direct purchase	1.911%									
Synthetic fixed rate for FY20	4.191%									

Swap Counterparties Information										
Morgan Stanley credit rating ¹	A+									
Bank of America credit rating ¹	A+									
Fair value of swap as of June 30, 2020 – Morgan Stanley (\$13,691,174)										
Material changes to report for FY20	None									
Defaults (City or counterparty) to report for FY20	None									
¹ Credit rating by Standard & Poor's Agency										

Interest Rate Swap Related to the 2012 Electric System Revenue Refunding Certificates of Participation

_	-	Morgan Stanley
From	10	Notional
(and including)	(but excluding)	Amounts
2/1/2018	2/1/2019	54,000,000
2/1/2019	2/1/2020	54,000,000
2/1/2020	2/1/2021	54,000,000
2/1/2021	2/1/2022	54,000,000
2/1/2022	2/1/2023	54,000,000
2/1/2023	2/1/2024	51,075,000
2/1/2024	2/1/2025	47,655,000
2/1/2025	2/1/2026	44,100,000
2/1/2026	2/1/2027	40,410,000
2/1/2027	2/1/2028	36,570,000
2/1/2028	2/1/2029	32,595,000
2/1/2029	2/1/2030	28,455,000
2/1/2030	2/1/2031	24,150,000
2/1/2031	2/1/2032	19,680,000
2/1/2032	2/1/2033	15,045,000
2/1/2033	2/1/2034	10,215,000
2/1/2034	2/1/2035	5,205,000

Amortization Schedule of Interest Rate Swap Notional Amounts

Summary of Payments

2012 Electric Swaps and related U.S. Bank Direct Purchase Agreement \$90,000,000 Swap: 60% Morgan Stanley - 40% Bank of America

			M	OR	GAN STANL	.EY			BANK OF AMERICA ⁴						U.S. BANK				
			\$54,00	0,0	00 Notional Aı	nou	nt		\$36,000,000 Notional Amount					\$90,000,000 Principal Amount					
		Fic	3.321% xed Rate	1-1 F	70.5% of Month LIBOR loating Rate	N	et Swap		3.3 Fixed	64% d Rate	1-1 Fl	70.5% of Month LIBOR loating Rate	N	et Swap		Direct Purchase Agreement 70.5% of 1-Month		-	OTAL
Month	Due	4	Amount		Amount	Pa	ayment		Amount			Amount	ayment		LIBOR + 55 bps		PAYMENTS		
Jul-19	8/1/2019	\$	149,445	\$	(76,482)	\$	72,963	Ş	\$ 1	.00,920	\$	(50,988)	\$	49,932	\$	173,910		\$	296,805
Aug-19	9/1/2019		159,408		(76,411)		82,997		1	07,648		(50,941)		56,707		164,455			304,159
Sep-19	10/1/2019		139,482		(60,631)		78,851			94,192		(40,421)		53,771		152,325			284,947
Oct-19	11/1/2019		149,445		(62,484)		86,961			-		-		-		153,683			240,644
Nov-19	12/1/2019		154,427		(57,317)		97,110			-		-		-		91,170			188,280
Dec-19	1/1/2020		149,445		(56,998)		92,447			-		-		-		90,815			183,262
Jan-20	2/1/2020		154,427		(57,054)		97,373			-		-		-		94,163			191,536
Feb-20	3/1/2020		144,464		(48,807)		95,657			-		-		-		83,694			179,351
Mar-20	4/1/2020		144,464		(29,687)		114,777			-		-		-		86,722			201,499
Apr-20	5/1/2020		149,445		(25,421)		124,024			-		-		-		62,460			186,484
May-20	6/1/2020		149,445		(7,576)		141,869			-		-		-		41,711			183,580
Jun-20	7/1/2020		149,445		(5,794)		143,651			-		-		-		33,255			176,906
	3	\$ 1	L,793,342	\$	(564,662)	\$1	,228,680		\$ 3(02,760	\$	(142,350)	\$:	160,410	\$	1,228,363		\$	2,617,453

Total Floating Rate Amounts¹ \$ (707,012)

Total Variable Rate Amounts² 1,228,363

Net Variable Rate Amounts \$ 521,351

Fixed Rate Amounts³ \$ 2,096,102

Total Net Variable Rate + Fixed Rate Amounts \$ 2,617,453

¹Amount due from swap counterparties to the City

²Amount due from the City to U.S. Bank as bondholder of the 2012 Electric System Revenue Refunding COPs

³Amounts due from the City to the swap counterparties

⁴ This swap was terminated on November 1, 2019. The last payment made under this agreement was on October 1, 2019.

Interest Rate Swaps Related to the 2012 Electric System Revenue Refunding Certificates of Participation

Fiscal Impact

The following chart details the 2008A COPs and 2012 Direct Purchase Bonds savings when compared to a conventional fixed rate issue. For the year ended June 30, 2020 the 2008A/2012 bonds had savings of \$544,682 and have achieved total savings of over \$12.5 million compared to a conventional fixed rate issue.

June 30th	Planned 2008 Debt Service	С	onventional Fixed Debt Service	Pla	Actual 2008 Debt nned Savings Service				Actual Savings
2006	\$ 3,217,723	\$	4,098,280	\$	880,557		\$	3,082,768	\$ 1,015,512
2007	3,480,935		4,457,344		976,409			3,033,424	1,423,920
2008	3,439,643		4,321,714		882,072			4,206,828	114,887
2009	3,557,232		4,517,335		960,103			4,604,131	(86,796)
2010	3,628,393		4,517,335		888,942			3,774,816	742,519
2011	3,628,393		4,517,335		888,942			3,782,223	735,112
2012	3,629,892		4,517,335		887,443			3,924,644	592,691
2013	3,628,374		4,517,335		888,961			3,277,866	1,239,469
2014	3,628,393		4,517,335		888,942			3,574,621	942,714
2015	3,628,393		4,517,335		977,044			3,422,447	1,094,888
2016	3,629,892		4,517,335		972,599			3,425,498	1,091,837
2017	3,628,374		4,517,335		977,679			3,483,903	1,033,432
2018	3,628,393		4,517,335		976,409			3,485,797	1,031,538
2019	3,628,393		4,517,335		977,044			3,499,961	1,017,374
2020	2,177,935		2,710,401		532,466			2,617,453	92,948
	\$ 52,160,359	\$	65,278,424	\$	13,555,610		\$	53,196,379	\$ 12,082,045

Actual savings to date \$ 12,082,045

Actual versus planned savings variance to date \$ (1,036,021)

Actual versus planned savings - percent of savings 89.13%

Notes

- Savings carried over from 2005 bond issue
- Price date of 5/13/2008
- Fixed swap rate of 3.321% (\$54M) and 3.364% (\$36M) (70.5% of 1-month LIBOR)
- Assumption that Electric variable rate securities trade at 70.5% of LIBOR (no trading differential)
- Conventional fixed rate estimated as of 5/13/2008 (arbitrage yield of 4.80%)