

AGENDA REPORT

TO:	D EANNA J. SANTANA
	CITY ADMINISTRATOR

FROM: Katano Kasaine

SUBJECT: Status of Negotiations for Goldman Sachs DATE: September 13, 2012

Interest Rate Swap

City Administrator Approval Approval	Date 9/13/12
Approvin	COUNCIL DISTRICT: City-Wide

RECOMMENDATION

Staff recommends that the City Council accept this report updating the status of City efforts to negotiate and terminate the City's interest rate Swap Agreement with Goldman Sachs & Co.

EXECUTIVE SUMMARY

At its meeting of July 3, 2012, the City Council directed staff to continue negotiations with Goldman Sachs, towards the goal of reaching agreement on a termination of the City's prior interest rate Swap Agreement. The Council further directed that staff report back in September on the status of these negotiations, at which point further action could be taken.

Included with this cover report are the previous staff reports to the Finance and Management Committee meetings of May 8 and June 26, 2012, as *Attachments A and B*, respectively. As of the September 13 submittal deadline for this report, the City and Goldman Sachs continue to be in active negotiations. As negotiations progress, additional time is required for fmal outcomes to be reached. Staff will provide an updated status report to the Finance Committee's second meeting in October, 2012.

For questions regarding this report, please contact Katano Kasaine, Treasurer, at (510) 238-2989.

Respectfully submitted,

Katano Kasaine, Treasurer

Attachment A: May 8, 2012 agenda report Attachment B: June 26, 2012 agenda report

Finance and Management Committee
September 25, 2012



AGENDA REPORT

TO: DEANNA J. SANTANA CITY ADMINISTRATOR

FROM: Katano Kasaine

SUBJECT: INTEREST RATE SWAP

(GOLDMAN SACHS & CO.)

DATE: April 25, 2012

City Administrator

Approval

Date

4/27/12

COUNCIL DISTRICT: City-Wide

RECOMMENDATION

Staff recommends that the City Council adopt a resolution authorizing the City Administrator to negotiate and terminate the City's interest rate Swap Agreement with Goldman Sachs & Co., to the extent that the City is able to do so, at a below market value cost and not later than the end of the next Fiscal Year, June 30, 2013, and report back to the City Council with the final results of the termination.

EXECUTIVE SUMMARY

When the City of Oakland (the "City") restructured the City of Oakland, California Special Refunding Revenue Bonds (Pension Financing) 1988 Series A (the "1988 A Bonds") in 1998, it entered into a forward-starting synthetic fixed rate swap agreement (the "Swap") with Goldman Sachs Mitsui Marine Derivatives Products, U.S., L.P. (the "Goldman Sachs") in connection with the issuance of Oakland Joint Powers Financing Authority (the "Authority") Lease Revenue Bonds, 1998 Series A1/A2 (the "1998 Bonds"). The original series of bonds was fied to the Swap were fixed in 2008, the Swap no longer serves its original purpose, which was to mitigate interest rate risk. As of March 30, 2012, the notional amount on the swap is \$68.9 million and the Swap does not expire until 2021. Due to changes in interest rates since the execution of the Swap, as of April 19, 2012, the Swap had a negative market value of approximately \$15.57 million.

The Swap is a contractual arrangement under which the City is obligated to make payments based on a fixed rate equal to 5.6775% to Goldman Sachs until 2021. Similarly, Goldman Sachs is obligated to make payments to the City based on short term floating rates which, in light of current market conditions, are currently below the fixed rate and expected to remain so. The City pays approximately \$4 million annually in interest on the Swap (net of Goldman Sachs payments).

	Item:	`
Finance and	Managemen	t Committee
		May 8, 2012

Date: April 25, 2012

There have been many speculations and misleading information in the public regarding the City's Swap, therefore, the City contracted an outside consultant, BLX Group LLC ("BLX") to review the terms and prepare various analyses to determine the City's net benefit relating to the Swap. The analyses conducted by BLX will help clarify the Swap structure and assist the City in evaluating the available options such as, 1) terminating, 2) refinancing or 3) leaving the Swap in place unfil 2021. BLX's analysis consisted of the following:

- Retrospective analysis of the original bonds and the cash flow impact of the subsequent series of refunding bond issues, including the Swap.
- Evaluation of the counterparty fees that were charged on both the original execution date of the swap (1997) and the restructuring date (2003) to ensure proper pricing.
- Evaluation of the economics of terminating, refinancing, and continuing with the Swap under current market conditions.

Overall, the City has realized a net benefit of approximately S37.5 million in present value savings from the Swap, even with the various refinancings that occurred. The analyses also indicates that the pricing levels at the time of execution in 1997 and the 2003 restructuring was in line with the current market at that time.

Below is a chart summarizing the analysis conducted to calculate the net present value savings for the three options noted above: [1) Terminating (2013 Termination with Cash), 2) Refinancing (2013 Termination Financed at an estimated interest rate of 4%), 3) Leaving the Swap in place until 2021]

Summary of Savings (in 000s)

	. 1985A Debt Service	Ref Bonds Debt Service	A 1 1 1 1 1 1 1 1 1 7 7 7 7 7 7 7 7 7 7	Total Adjusted Debt Service	t Gross Savings ⁽²⁾	FV'd *** Savings (4/1/12) ⁽³⁾	PV of Future Savings	NPV ⁽⁴⁾
1	\$521,565	\$491,899	\$46,917	\$538,817	(\$17,251)	\$87,604	(\$50,072)	\$37,532
2	\$521,565	\$491,899	· \$48,287	\$540,186	(\$18,621)	\$87,604	(\$51,074)	\$ 36,5 <u>3</u> 0
. 3	\$521,565	\$491,899	\$47,241	\$539,140	(\$17,575)	\$ 87,604	(\$50,072)	\$37,532

⁽¹⁾ The debt service is adjusted to captures savings in the various refundings
(2) The difference between 1985A Debt Service and Total Adjusted Debt Service

(3) Future value savings

	Item:	
Finance and	Management Comn	nittee
	May 8	2012

⁽⁴⁾ The difference between the FV'd Savings and PV of Future Savings

Currently, the City has three options; 1) terminate the Swap, 2) refinance the Swap or 3) take no action (continue the Swap pursuant to the contract). After evaluating the options, Staff recommends that to the extent that the City is able to do so, the City should terminate the Swap at a below market value cost to achieve economical benefits.

OUTCOME

Approval of this recommendation will result in authorizing the City Administrator to negotiate and terminate the City's Swap with Goldman Sachs at a below market value cost, to the extent the City is able to do so, by the end of FY 2012-13 and report back to the City Council with the final results of the termination. By terminating the Swap today or in the near future at a below market value, the City will realize economic savings.

BACKGROUND/LEGISLATIVE HISTORY

The Swap is related to one in a series of refunding bond issues related to the \$221,540,000 Redevelopment Agency of the City of Oakland, Cahfomia 1985 Series A Bonds (the "1985A Bonds"). The primary purpose of the 1985A Bonds was to purchase life insurance annuity contracts, the receipts of which were to be applied toward pension obligations. The 1985A Bonds were fixed rate bonds.

On January 11, 1989, the City advance refunded the 1985A Bonds through the issuance of the 1988A Bonds. The 1988A Bonds were fixed rate bonds.

In 1997 the City executed the Swap as a hedge against changes in short term rates in connection with the 1998A Bonds, which were issued as variable rate demand obligations on July 16, 1998. Under the Swap, the City received floating amounts based on the Securities Industry and Financial Markets Association Index ("SIFMA Index") and is to pay fixed amounts based on a rate of 5.6775% through the end of the swap agreement in 2021. The SIFMA Index is a national rale based on a composite of approximately 250 Issuers of high-grade, seven-day tax-exempt variable rate demand obligation issues of \$10 million or more.

On March 21, 2003, the City restructured the Swap by changing the formula for the floating amounts from the SIFMA Index to 65% of the One-Month LIBOR and, in consideration for such change, received a one-fime upfront payment of \$5,975,000. The Swap continued to act as a hedge on the 1998A Bonds.

On June 21, 2005, the City refunded the 1998A Bonds with the \$126,975,000 Oakland Joint Powers Financing Authority Refunding Revenue Bonds 2005 Series A-1 and A-2 Auction Rate Securities (the "2005A Bonds"). The Swap remained in effect. No amendments were made at that time despite the fact that Goldman Sachs appeared to have had the right to terminate the Swap as a result of the redemption of the 1998A Bonds. The Swap served as a hedge to the floating rate interest of the 2005A Bonds.

	Item:	
Finance	and Managemen	t Committee
	ì	May 8, 2012

On April 16, 2008, the City refinded the 2005A Bonds with the S107,630,000 Oakland Joint Powers Financing Authority Refunding Revenue Bonds 2008 Series A-1 (the "2008A1 Bonds"). The 2005A Bonds were redeemed early due to the collapse of the auction rate market and to achieve interest rate savings. Contemporaneously with the Series 2008A1 Bonds, the City also issued its 2008 Series A-2 bonds, which along with the 2008Ai Bonds were fixed rate bonds. As of such date, the Swap was no longer serving as a hedge since the related debt was fixed rate.

For reference, the above bond financings have been summarized in ATTACHMENT A hereto.

<u>ANALYSIS</u>

The City has been actively exploring what options may be available to terminate or refinance the Swap, and whether any such options provide an economic benefit to the City. Absent a termination or refinancing, the City can be expected to continue to make net annual payments of approximately S4 million in 2013 and decreasing annually thereafter under the Swap until its scheduled maturity date in 2021. The Swap, in accordance with industry standard termination provisions, can be terminated prior to mamrity by the City at its then current market value, plus transactional costs often referred to as the 'bid-ask' spread. Similar to a bond, as rates fall, the value of the Swap increases for the receiver of the fixed rate (i.e. City). As of April 19, 2012, the market value of the Swap is negative \$15,570,000 and changes on a daily basis in accordance with changes in medium term interest rates (5-7 years)!

Summary of C	urrent Swap Options	
Terminate:	Terminate Swap by paying the market value of the Swap.	
Refinance:	Finance the termination cost with a new obligation	
No Action:	Continue to make payments pursuant to the terms of the Swap	

In order for the City to better evaluate each option, the City needed to determine the net benefits, the expected cash flow and the present value impact of each option to make a sound decision. Therefore, the City hired BLX to review the terms of the Swap and to prepare various cash flow analyses, both retrospectively and prospectively, in the context of the various refunding bond issues. Among other things, BLX prepared analyses to determine if the City has received and will expect to receive a net benefit from the bond financings, including the impact of the Swap. These analyses provide the City a complete financial picture of the effect of the Swap and identify any issues that may be relevant to on-going negotiations with Goldman Sachs. Specifically, the analyses included:

 Historical analysis of the 1985A Bonds and the cash flow impact of the subsequent 1988A Bonds, 1998A Bonds (including the Swap and its 2003 restricturing), 2005A Bonds, and 2008A1 Bonds;

Item:
Finance and Management Committee
May 8, 2012

Subject: Goldman Sachs Swap Date: April 25, 2012

• The evaluation of the counterparty fees that were charged on both the original execution date of the swap (1997) and the restructuring date (2003) to ensure the City received proper pricing; and

• The economics of terminating the Swap and refinancing the Swap under today's interest rate and market conditions relative to taking no action (i.e., continuing with the Swap pursuant to the contract).

ANALYSIS CONCLUSIONS

Refunding Savings Analysis

The analyses indicate that, in the aggregate, the City will still realize a net benefit (i.e., a reduction from what the City would have otherwise paid) from the various refinancings, including the Swap, of the original 1985A Bonds despite the challenging market conditions and increased financing costs that have persisted since late 2007. More specifically, the analysis indicates that the various re-financings of the 1985A Bonds resulted in the City realizing approximately \$41 million in present value savings at the end of the term (2021). See ATTACHMENT B hereto for further details.

Swap Pricing

BLX reviewed and independently created a pricing model for the Swap to review the pricing/valuation levels of the Swap at the time of execution in 1997, the re-structuring in 2003, and at current market conditions. BLX did not find any evidence that the City was overcharged on the Swap. In addition, BLX has confirmed that the value of the Swap as reported by Goldman Sachs currently is substantially the same as BLX's valuation.

Swap Options

Over the course of the last several months, the City has undertaken the necessary steps to evaluate its current options under the Swap. More specifically, the City could Terminate, Refinance, or take No Action. As part of this effort, as noted above, BLX conducted an independent review of the savings and independently modeled the pricing of the Swap. These analyses were conducted in order to identify any potential issues that might assist the City in moving forward with negotiations with Goldman Sachs, among other things. Separately, the City has had on-going discussions with Goldman Sachs to explore the potential for terminating or re-financing the Swap [in effect, financing the market value of the Swap, currently valued at \$15,570,000 (as of April 19, 2012)]. BLX assisted the City by evaluating, and confirming, the economics of each of the Termination, Refinance, and No Action options as follows:

Terminate and No Action Options. BLX has confirmed that the economics of Terminating the Swap at market value is economically equivalent to taking No Action. The reason for this is that

	Item:	
Finance and	Management Committee	;
	May 8, 2012	

mathematically, the market value of the Swap is, by definition, the present value of the expected future payments under the Swap. This is true so long as future interest rates are consistent with what is implied by today's interest rates. If, however, interest rates rise in the future by more than what is implied by today's interest rates, the cost of terminating the Swap will go down. Similarly, the cost will go up if interest rates fall. Since the City is not in the business of forecasting interest rates, the City should not view the possibility of future changes in the market value of the swap as supporting one option over the other.

Refinance Option. BLX has confirmed that there is no economic benefit to re-financing the Swap. While the nominal rate of a re-financing (likely in the three percent to four percent (3-4%) range) would be below the fixed rate on the Swap, the 'loan' amount would be equal to the current market value of the Swap, any re-financing would necessarily be more expensive to the City versus using funds on hand since the market value of the swap implies a discount rate of less than 3-4%.

There are benefits (not necessarily economic) of eliminating the Swap from the City's books, and therefore the City would prefer to terminate the Swap as soon as possible, all other variables being equal. However, for the reasons described above, taking No Action will likely produce the best economic result for the City, unless the City is able to Terminate at a below market value. In this regard, while Goldman Sachs has proposed options that attempt to minimize the costs that the City would incur in implementing a Termination of Refinancing Option, in the City's opinion, such amounts are not compelling enough to take action. Since discussions with Goldman Sachs continue, to the extent that more favorable terms for the City can be negotiated, the City would recommend terminating the Swap subject to available resources (funds) of the City.

Therefore, the City recommends and requests that City Council provide the City Administrator with the authority to terminate the Swap to the extent that the City is able to do so at a below market value cost and not later than the end of the next Fiscal Year (ending June 30, 2013). If by that time, the Swap has not been terminated, the City will update the City Council as appropriate

PUBLIC OUTREACH/INTEREST

This item did not require any additional public outreach other than the required posting on the City's website.

<u>COORDINATION</u>

This report has been prepared by the Treasury Division in coordination with City Attorney's Office, and Budget Office.

Item:		
Finance and Management	t Comr	nittee
1	May 8,	2012

COST SUMMARY/IMPLICATIONS

Terminating the Swap at a below market value will generate savings to the City.

SUSTAINABLE OPPORTUNITIES

There is no impact to economic, environmental, or social equity opportunities following actions under this report.

CEQA

This report is not a project under CEQA.

For questions regarding this report, please contact Katano Kasaine, Treasury Manager, at (510) 238-2989.

Respectfully submitted,

KATANO KASAINE Treasury Manager

Prepared by:

Dawn Hort, Financial Analyst

Treasury Division

Attachments: .

Attachment A: Flowchart of bonds Financings
Attachment B: Cashflow Saving Analysis

Item: _____ Finance and Management Committee May 8, 2012

Attachment B

Period			ding Bonds		1	Total Adj	- Grosa	FV'd Cumulative	PV°o
Ending	1988A D/S	Saries_	Debi SarVice	1998A Swap	DSRF	Refunding DS	Savings	Savings	Future Saving
08/01/85					l i				
08/01/85	22,872,792	1965A	25,107,666		(2,235,096)	22,872,782	-	-	
06/01/87	23,054,581	198SA	24,708,353		(1,851,781)	23,054,581	_	-	
06/01/68	22,352,044	1985A	24,266,986		(1,934,944)	22,352,044	•	-	
08/01/88	21,609,813	1988A	10,266,575		- j	10,288,575	11,321,236	11,321,238	
08/01/90	21,321,206	1968A	15,432,663		• !	15,432,693	5,686,344	18,138,508	
08/01/91	20,683,700	1986A	15,432,693			15,432,693	5,450,838	25,038,269	
06/01/92	20,741,919	1986A	15,432,683		- 1	15,432,653	5,309,056	31,990,458	
08/01/93	20,900,394	1886A	21,947,883		- 1	21,947,863	(1,047,463)	32,162,626	
08/01/94	20,374,705	1988A	21,409,368	,	•	21,409,386	(1,034,683)	32,334,042	
08/01/95	19,313,709	1888A	20,631,986		· - !	20,831,988	(1,518,281)	32,654,759	
08/01/98	21,119,413	1868A	22,683,573		-	22,663,573	(1,584,160)	33,009,066	
08/01/97	20,427,956	1968A	22,074,553		-	22,074,553	(1,849,596)	33,404,906	
06/01/98	19,870,397	-	6,502,044		• [8,502,044	13,368,353	48,748,236	
08/01/99	19,239,994	1 5 98A	5,454,654	4 250,734	(1,031,483)	8,673,925	10,566,069	62,151,393	
08/01/00	16,588,172	1998A	13,299,558	3,157,390	(1,043,334)	15,413,614	3,152,558	68,995,445	
08/01/01	17,587,392	1898A	15,789,682	3,366,799	(1,255,410)	17,921,071	(333,709)	73,520,524	
08/01/02	17,724,581	1998A	12,480,421	8,392,293	(872,845)	18,160,069	(455,509)	75,857,420	
08/01/03	17,490,407	1990A	12,179,050	822,157	(349,549)	12,451,659	5,028,749	62,363,404	
08/01/04	16,905,767	1898A	11,267,697	6,766,102	(254,801)	17,601,197	(865,431)	82,673,265	
08/01/05	15,937,936	_	3,128,267	5,190,780	(431,014)	7,866,013	8,051,925	92,737,250	
08/01/09	14,795,576	2005A	12,624,648	3,217,508	- [15,842,154	(1,076,578)	95,574,165	
08/01/07	13,722,219	2005A	13,423,058	2,445,721	-	15,868,777	(2,146,558)	98,718,280	
06/01/08	13,092,875	_	14,474,969	3,210,608	(115,924)	17,569,955	(4,477,060)	99,381,578	
08/01/09	12,686,197	2006A1	13,821,400	4,524,972	(174,388)	17,972,008	(5,065,809)	97,477,898	_ `
08/01/10	12,629,354	200SA1	14,385,400	4,673,584	(180,738)	16,876,249	(9,246,694)	92,868,530	
08/01/11	12,098,940	2008A1	14,479,850	4,227,875	(111,274)	18,699,051	(8,527,111)	87,122,312	
08/01/12	11,481,024	2008A1	14,571,300	3,775,076	(81,515)	18,264,660	(5,783,838)		(6,789,78
08/01/13	10,790,088	2008A1	14,997,750	3,322,854	(107,630)	17,912,974	(7,122,887)		(7,033,18
08/01/14	10,174,700	2006A1	14,820,750	2,847,274	(107,338)	17,560,688	(7,385,988)		(7,220,74
08/01/15	9,592,925	2008A1	14,935,550	2,334,541	(107,338)	17,182,755	(7,586,830)		(7,327,20
08/01/18	2,076,525	2008A1	15,073,350	1,830,011	(107,338)	16,798,025	(14,719,500)		(14,106,25
08/01/17		2008A1	15,095,950	1,403,435	(10,870,630)	5,826,755	(5.826,755)		(5,340,64
08/01/18			-	1,023,958	• 1	1,023,956	(1,023,958)		(961,98
08/01/19			-	725,500	•	725,509	(725,509)		(674,63
08/01/20			-	466,037	- ;	468,037	(468,037)		(429,18
08/01/21			<u>-</u>	227,785	- 	227,785	(227,785)		(207,69
	<u>821.595,247</u>		491.899.108	70.045.0B1	122,804,1191	\$39,140,070	(<u>17.674.</u> 8 23)		rsp.071.66
					Current F	Vd Cumulativa Sa	vinas As of	04/23/12	67,603,64

TO: DEANNA J. SANTANA CITY ADMINISTRATOR FROM: Katano Kasaine

SUBJECT: Supplemental Report

Goldman Sachs Interest Rate Swap

DATE: June 8, 2012

City Administrator Date Approval

COUNCIL DISTRICT: City-Wide

RECOMMENDATION

Staff recommends that the City Council adopt a resolution authorizing the City Administrator to negotiate and terminate the City's interest rate Swap Agreement with Goldman Sachs & Co., to the extent that the City is able to do so, at a below market value cost no later than the end of the next Fiscal Year, June 30, 2013, and report back to the City Council with the tinal results of the termination.

OUTCOME

Approval of this recommendation will result in authorizing the City Administrator to negotiate and terminate the City's Interest Rate Swap Agreement with Goldman Sachs at a below market value cost, to the extent the City is able to do so, by the end of FY 2012-13 and report back to the City Council with the final results of the termination. By terminating the Swap today or in the near future at a below market value, the City will realize economic savings.

REASON FOR SUPPLEMENTAL

At the May 8, 2012 meeting, the Finance and Management Committee asked staff to provide the following additional information regarding the Swap:

- 1. Submit full BLX Group LLC's Interest Rate Swap Analysis and Report (Attachment A)
- 2. Information on swap terminations by other public entities
- 3. New legislation from other municipalities for sound financial management on their swap program.
- 4. City Attorney to present legal analysis on options to be scheduled and discussed at closed session.

	Item:	
Finance and	Managemen	t Committee
	Ju	ine 26, 2012

Deanna J. Santana, City Administrator Subject: Supplemental Report: Goldman Sachs Swap

Date: June 8, 2012 Page 2

<u>ANALYSIS</u>

During the 2008 mortgage credit crisis and associated financial market turmoil, both municipalbond insurers and the largest banks (the entities that typically provide the guarantees on shortterm floating rate tax exempt debt) suffered rating downgrades and financial collapse or near collapse. Among other things, this caused the interest rates of issuers of short term tax exempt debt to increase dramatically, while long term taxable rates actually fell to record lows in an investor flight to safety. These events had a dramatic impact on the interest rate swap market. As a result, many issuers' (who had interest rate swap agreements) interest payments on floatingrate bonds exceeded payments they received under swap agreements causing them to become concerned about the ability to remarket short term debt. As a result, many issuers of short term variable rate debt including those with swap agreements proceeded in restructuring their variable debt portfolios, Including swap transactions. Each tax-exempt issuer who terminated their swap had their distinctive situation, and each restructuring varied case by case. Staff has found no evidence that any public entity terminated their swap at a discount, unless it was due to the downgrade and bankruptcy of the counterparty or the ability of the public entity to make the swap payments. All other public entities not in the categories stated above terminated their swaps at market value.

Case Study No. 1: Swap Termination due to Credit Downgrade and Bankruptcy

In some cases, through no fault of their own, the issuer determined to terminate their swaps due to the credit downgrade of the swap counterparty, or its guarantor. These issuers can effectively receive a discount because the issuer has the right to replace the counterparty at no cost to the issuer under the swap agreement. If the issuer chooses to terminate in lieu of replacing, the issuer effectively realizes as savings, or cost avoidance, the costs that would have been incurred on the replacement. The discount varies for each issuer because it is determined by the cost of replacing the troubled counterparty with a healthy counterparty.

For example, The New York Metropolitan Transportation Authority (MTA) was required to pay \$9.4 million to terminate two swaps when Lehman Brothers declared bankruptcy in 2008. In July 2009, Metro Transportation Commission (MTC) terminated their swaps with Ambac for \$104 million due to Ambac's bankruptcy. The bonds associated with these swaps were refunded in August 2009.

The San Francisco International Airport ("SF Airport") terminated three (3) swaps in the fall of 2008 for a notional amount of \$200 million with Bear Steams and Lehman (as the swap counterparties) for a discount of approximately twenty-three percent (23%) due to the bankruptcies of the counterparties. In December 2010, the SF Airport also terminated one (1) swap with DEPFA for \$71 million and received a discount of approximately twenty-seven percent (27%) when DFPFA was downgraded and wanted out of the swap agreement.

	Item:
Finance and	Management Committee
	June 26, 2012

Date: June 8, 2012

Page 3

Case Study No. 2: Swap Termination when Public Entity Defaulted

The Asian Art Museum (the "Museum") in San Francisco was in the middle of a financial crisis which included a technical defauh on a \$120 million bond debt to J.P. Morgan Chase ("JP Morgan") and faced bankruptcy. In 2008, when MBIA was downgraded due to their investments in mortgage-backed securities, the Museum's bonds lost their protection, and the interest rate soared above 10% before settling at about 7.5%. In December 2009 the Museum was able to secure a one-year letter of credit from JP Morgan, which brought the interest rate down to 3.4%. However, the letter was set to expire in December 2010. In January 2011, JP Morgan agreed to restructure the Museum's bonds by replacing the variable rate debt with fixed rate debt and terminated the swap associated with the bonds. As a result, the Museum was able to terminate the swap by restructuring their debt under certain criteria presented by JP Morgan (i.e., City of San Francisco now guarantees the debt).

Case Study No. 3: Swap Termination at Market Value

Staff has spoken to numerous public entities that have outstanding swaps and all currently have a negative mark to market value which is the fair value of the swap based on the current market price. Some public entities indicated that they are comfortable with the performance of the swap and that their swap is functioning as expected, hedging against variable rate debt. For those public entities that terminated their swaps, but not in connection with a credit downgrade, bankruptcy or default, staff found no evidence that these public entities received any type of concessions. The table below presents public entities who have terminated their swap at market value.

		Date of
Issuer	Counterparty	Termination
City of Los Angeles	Natixis/Societe Generale	Sep-08
Alameda Joint Powers Financing Authority	Merrill Lynch/Lehman/Bear Stearns	Apr-08
Sacramento County	Morgan Stanley	Apr-08
San Dieguito Public Facilities Authority	Morgan Stanley	May-08
Val Verde Unified School District	Bank of America	May-08
Municipal Electric Authority of GA	Merrill Lynch	Jun-08
Chapman University	Bank of America	Jul-08
City of Aurora, CO	JPMorgan/Morgan Stanley	Sep-09
Sacramento County	Bank of America	Mar-10
Albuquerque Academy	JPMorgan	Sep-10
University of La Verne	Allied Irish Bank	Dec-10
Metropolitan Transportation Commission	JPMorgan	Apr-11
Sacramento County	Deutsche Bank '	Sep-11
San Francisco International Airport	JPMorgan	Sep-11
Sacramento County	Morgan Stanley	Oct-11

		Item:	•
Finance	and	Management C	ommittee
		June	26, 2012

Date: June 8, 2012

Page 4

New Legislution From Other Municipalities for Sound Financial Management on Their Swap Program

The bursting of the housing bubble in 2008 caused the values of securities tied to real estate pricing to plummet, damaging financial institutions globally. The financial crisis resulted in the collapse of large financial institutions, the bailout of banks by governments, and downturns in stock markets. As a result, the derivatives market, including swaps, experienced dramatic impacts. Staff has inquired to see if other municipalities have revised their swap program with any new legislation as a result of the fall out of the swap market. Staff did not tind any new legislation or policy change from other municipalities in regard to their swap policy. However, new legislation was adopted by other municipalities lo provide "responsible banking" as presented below.

Legislation Type	Purpose	Action
Ordinance No. 182138 Responsible Banking Investment Monitoring Program	Primary requirement is additional disclosure for banks: a statement of "community reinvestment activities" specific to the City of Los Angeles which includes:	Adopted by Council on May 15, 2012
(City of Los Angeles)	the number, size and type of small business loans; home mortgages; home improvement loans; community development loans; and investments within the City by census tract during the preceding year;	
	a description of the institution's participation in the City's foreclosure prevention and home loan principal reduction programs and any other similar programs, reported by census tract; and	
·	the institution's Community Reinvestment Act (CRA) score	
Responsible Banking Act (New York City)	A bill that will monitor the banks and provide transparency on how the funds are allocated throughout communities: • Create a new advisory council to	Passed by Council on May 15, 2012 Vetoed by the Mayor on May 30, 2012

	Item:	
Finance and	Management Commit	tee
	June 26, 20	112

Deanna J. Santana, City Administrator . Subject: Supplemental Report: Goldman Sachs Swap

Date: June 8, 2012 Page 5

	oversee all banks doing business with the City and require the banks to publish an annual report on their practices. • Increase transparency by requiring all banks to disclose how they meet the credit needs of New York City neighborhoods: small business lending, homeowner mortgage payments, their activity in lending to affordable housing projects and how they handle foreclosures (preventing the disrepair of foreclosed properties)	
Resolution No. 36926 Responsible Banking (City of Portland)	 The resolution serves the following purposes: Creates more flexibility for deposits by the City's Treasurer by allowing deposits in smaller institutions, including credit unions; Aims to increase competition in the market for the City's banking services and include social responsibility practices of banks as part of the bid evaluation criteria; and Increases transparency by reaffirming the City's commitment to take in public input on its Investment Policy on an annual basis and publishing online where City funds are invested or deposited on a monthly basis. 	Adopted by Council on May 16, 2012

COST SUMMARY/IMPLICATIONS

Terminating the Swap at a below market value will generate savings to the City.

	Item:
Finance and	Management Committee
	June 26, 2012

Page 6

SUSTAINABLE OPPORTUNITIES

Date: June 8, 2012

There are no economic, environmental or social equity opportunities associated with this report.

For questions regarding this report, please contact Katano Kasaine, Treasury Manager, at (510) 238-2989.

Respectfully submitted,

KATANO KASAINI Treasury Manager

Prepared by: Dawn Hort, Financial Analyst Treasury Division

Attachment(s):

Attachment A: Interest Rate Swap Analysis and Report (BLX)

	Item:
Finance	and Management Committee
	June 26, 2012



CITY OF OAKLAND, CALFORNIA TREASURY DIVISION

INTEREST RATE SWAP ANALYSIS AND REPORT

April 2, 2012

.BLX Group LLC - 777 S. Figueroa St., Suits 3200 Los Angeles, CA 90017 213 612 2200 PH 213 612 2499 FX WWW.BLXGROUP.COM



April 2, 2012

Katano Kasaine, Treasury Manager Treasury Division 150 Frank H. Ogawa Plaza, Suite 5330 Oakland, CA 94612

Re:

City of Oakland

Interest Rale Swap Analysis and Report

Dear Ms. Kasaine:

At the request of the Treasury Division, City of Oakland (the "City"), BLX Group LLC ("BLX") has prepared the following report (the "Report") in connection with the currently outstanding interest rate swap by and between the City and Goldman Sachs Mitsui Marine Derivative Products, L.P. ("GS") originally dated January 9, 1997, and amended and restated March 21, 2003 (the "Swap"). The Report was prepared pursuant to our engagement to provide the City with an independent review of the facts and circumstances relating to the Swap and an evaluation of the City's options for terminating the Swap.

The Report consists of three sections:

In Part I of the Report, we provide an overview of the Swap and the relevant bond transactions pertaining to the Swap, which collectively provides the context for our analysis. More specifically, we have prepared debt service, swap, and other relevant cash flows, both retrospectively and prospectively, for the purpose of providing a complete financial picture for the City. Key data, including present value savings are included.

In Part II of the Report, we provide our findings on the Swap, including current market value (i.e., termination cost), cash flow projections, and other relevant data. In addition, using historical end of day market data as of the trade dates, we determine the amounts (I.e., spreads) charged by the counterparty on both the original execution date and the restructuring date as more fully described herein. Finally, we identify the City's options for terminating the Swap, and the expected cash flow and present value impact of each option, and some potential strategies to negotiate more favorable terms with the counterparty.

Part 111 contains the supporting schedules and calculations prepared by BLX in connection with this Report.

We look forward to the opportunity to discuss the enclosed with you and your staff.

Sincerely

Craig Undenvood

President

Eric H Chu

Managing Director

PART I: REFUNDING OVERVIEW AND ANALYSIS

BACKGROUND

The Swap is related to one in a series of refunding bond issues related to the \$221,540,000 Redevelopment Agency of the City of Oakland, California 1985 Series A Bonds (the "1985A Bonds"). The primary purpose of the 1985A Bonds was to purchase life insurance annuity contracts, the receipts of which were to be applied toward pension obligations. The 1985A Bonds were fixed rate bonds.

On January 11, 1989, the City advance refunded the 1985A Bonds through the issuance of the \$209,835,000 City of Oakland, California Special Refunding Revenue Bonds (Pension Financing) 1988 Series A (the "1988A Bonds"). The 1988A Bonds were fixed rate bonds.

On January 9, 1997, the City executed the Swap as a hedge against changes in short terms rates in connection with the then anticipated \$187,500,000 Oakland Joint Powers Financing Authority 1998 Series A-1 and A-2 Lease Revenue Bonds (the "1998A Bonds"), which were issued as variable rate demand obligations on July 16, 1998. Under the Swap, the City received floating amounts based on the SIFMA Index and paid fixed amounts based on a rate of 5.6775%. In addition, one-time upfront payments totaling \$617,174.18 (for structuring and insurance) were made by GS on behalf of the City.

On April 25, 2000, we believe the Swap was assigned from GS Financial Products, U.S., L.P. to Goldman Sachs Mitsui Marine Derivative Products, L.P.

On March 21, 2003, the City restrictured the Swap by changing the formula for the floating amounts from the SIFMA Index to 65% of One-Month LIBOR and in consideration for such change, received a one-time upfront payment of \$6,062,500 (of which \$87,500 was paid to the swap advisor). The Swap would continue to act as a hedge on the 1998A Bonds.

On June 21, 2005, the City refunded the 1998A Bonds with the \$126,975,000 Oakland Joint Powers Financing Authority Refunding Revenue Bonds 2005 Series A-1 and A-2 Auction Rate Securities (the *2005A Bonds*). Contemporaneously with the Series 2005A Bonds, the City also issued its 2005 Series B Auction Rate Bonds. The Swap hedged the floating rate interest of the 2005A Bonds.

On April 16, 2008, the City refunded the 2005A Bonds with lhe \$107,630,000 Oakland Joint Powers Financing Authority Refunding Revenue Bonds 2008 Series A-1 (the "2008A1 Bonds"). The 2005A Bonds were redeemed early due to the collapse of auction rate market and lo achieve Interest rate savings. Contemporaneously with the Series 2008A1 Bonds, the City also issued its 2008 Series A-2 bonds, which along with the 2008A1 Bonds were fixed rate bonds. As of such date, the Swap was no longer serving as a hedge since the related debt was fixed rate.

Figure 1 below summarizes the financing timeline.

Figure 1. 1985A Bonds and Rafinancings [1988A, 1998A, 2005A 2008A1) '198SA Bonds Issued: \$221,540,000 Redevelopment Agency of the City of Oakland, California 1985 Series A 1988A Bonds issued to refund the 1985A Bonds \$209,835,000 City of Oakland, California Special Refunding Revenue Bonds (Pension Financing) 1988 Series A 1998A Bonds Issued to refund the 1988A \$187,500,000 Bonds. The City entered Into the Swap Oakland Joint Powers Financing Authority approximately 1 1/2 years earlier, on a forward 1998 Series A-1 and A-2 Lease Revenue Bonds starting basis. GS Financial Products US, LP Interest Rate Swap 2005A Bonds issued to refunded the 1998A \$126,975,000 Bonds Oakland Joint Powers Financing Authority Refunding Revenue Bonds 2005 Series A-1 and A-2 200SAt Bonds Issued to refund the 2005A \$107,630,000 Bonds. Oakland Joint Powers Financing Authority Refunding Revenue Bonds

SAVINGS ANALYSIS AND CONCLUSION

There can be many reasons why a city or other governmental entity chooses to refinance (or 'refund' in public finance tems), bonds, including to achieve economic savings, change the source of payment and/or security of the bonds, extend or shorten the maturity date, restructure the shape of the debt service cash flows, etc. Economic savings are measured simply by comparing the original annual debt service requirements of the bonds with the debt service requirements of the refunding bonds. In each annual period, on a net basis, there are either positive savings (i.e. lower debt service) or negative savings (i.e. higher debt service). In order to appropriately consider the time value of money, the annual savings amounts are then present valued to the date of measure. The sum of the present valued amounts is known as the 'net present value savings' or 'NPV Savings'. A positive NPV Savings amount would indicate positive savings for the city/governmental entity.

2008 Series A-1

As shown on Schedule A hereof, we prepared comprehensive debt service schedules for each of the bond issues shown above. These schedules take into account actual and projected bond debt service, debt service reserve fund cash flows, issuance costs, carrying costs, net swap payments, and monies received by the City as part of certain of the financings. The purpose of this analysis is to determine if the City has realized a positive NPV Savings from the bond refinancings, including the impact of the Swap. Our analysis indicates that, taken together, the various re-financings of the 1985A Bonds will result in the City realizing approximately \$37.5 million in NPV Savings. In other words, had the City simply left the 1985A Bonds outstanding, its overall financing cost would have been \$37.5 million greater, expressed in today's dollars.

PART II: INTEREST RATE SWAP ANALYSIS

CURRENT SWAP VALUO

As of March 27, 2012, the outstanding Restructured Swap had a market value of S15.1 million as indicated below. This is approximately the amount that would be required to be paid by the City to terminate the swap if computed as an Optional Termination, as that term is used in the relevant documents

Swap Value as of March 27, 2012	
SWap Principal Valus	 (\$14,632,184.14)
Accrued Interest	(\$602,283.44)
Swap Market Value	(\$15,134,467.68)

Econonics of Termination vs. Refinancing

As mentioned, in order to terminate the Swap, the City will be required to make a cash payment. While the City may be able to finance the payment (to avoid spending cash on-hand), the costs of financing would likely be greater than if the City continued the Swap until its scheduled maturity date.

Consider that a swap's value is defined as (1) the present value of the future net cash flows (i.e. the amount received less the amount paid on each exchange date) under the swap. The future fixed cash flows are known and computed directly from the fixed rate and the notional schedule. The future floating cash flows are determined by computing the "fonvard rates" from the current LIBOR swap curve using a method known as "bootstrapping". In the case of the Swap, given the current low interest rate environment, the City can be expected to be a net payer on all future exchange dates. All future net cash flows are individually present valued to today using the same LIBOR swap curve to arrive at the market value, or termination cost, of a swap. Hence, so long as the City continues to make the future net payments In lieu of tenninating the Swap, the City in effect will be financing a loan (i.e., the termination amount) at rates expressed by the LIBOR swap curve. Given current LIBOR swap rates, the implied loan rate is approximately 1.45%.

Therefore If the City were to actually finance the termination amount (e.g., borrow money through a bond issue or private placement), the borrowing rate would need to be less than 1.45% to be economically advantageous over keeping the Swap in place.

Termination Amount Financing Costs	4, 4, 4
Continued Swap Payments	(Implied) 1.45%
Finance Termination Amount with Now Source	Unlikely to be less than 1,45%

However, as the City is aware, the floating amounts determined from the forward rates are based on current market expectations (implied by the LIBOR swap curve), but each actual floating amount will be determined by the then one-month LIBOR rate. Therefore, the amount financed, or equivalently the financing rate of continuing the Swap may be higher or lower than 1.45% depending on whether actual one-month LIBOR rates are higher or lower than the forward rates determined today.

Current One-Month LIBOR (3/27/2012)	.24%
ForWArd Rates	.24% (current) - 3.63% (2021)
Weighted Average Forward	t.661

Hence, if the Swap remains in place and the one-month LIBOR rate is, on average, lower than the forward rates computed today, the effective financing rate will be higher than 1.45%. More specifically, one-month LIBOR would need to be less than 1.56%, on a notional amount weighted average basis. However, assuming one-month LIBOR cannot fall below 0%, the City's downside would be limited. For example, if one-month was 0% for entire remaining term of the Swap, the financing cost would increase to approximately 2.40%.

The uncertainty of leaving the swap in place as described above can be eliminated by entering into a new, off-setting mirror swap. Under the mirror swap, the City would pay a floating rate equal to the floating rate under the Swap and receive a fixed rate that less than the fixed rate paid on the Swap. The differential in fixed rates between the mirror swap and the Swap is itself a fixed rate creating a fixed cash flow payment stream. Economically, the mirror swap would be expected to be the lowest cost among the fixed cash flow options, e.g., bond issuance, private placement note, etc.

Alternatively, financing the termination amount through further fixed debt will be more expensive than allowing the Swap to remain in place or entering into a mirror swap unless a discounted termination amount can be negotiated with GS.

SWAP REPINANCING BREAKEVEN ANALYSIS

In order to evaluate the economics of a potential refinancing structure, the City should consider whether the refinancing will be more or less expensive, on a present value basis, as compared to leaving the Swap in place. We first prepared various hypothetical loan schedules (3 year and 5 year terms) with level payments that are economically equivalent to the Swap (i.e., the present value of the loan payments equals the present value of the future Swap payments, or termination amount). Present value discount factors were derived from the LIBOR swap curve. For each level payment loan schedule, we detennined loan sizes at various hypothetical loan rates (e.g., 3%, 3.5%, etc.). For example, we computed that a 3 year loan in the amount of \$12,656,646 at a rate of 3% is economically equivalent to the Swap. Therefore, the termination amount on the Swap must be no greater than \$12,556,646 to breakeven, and to the extent the termination amount is below such amount, the City would be realizing a present value benefit. The results are summarized below.

Discount Required	to Breakeven with Swap	
Loan Rate	3 Yr Loan	5 Yr Loan
3.0%	\$509,044	\$1,005,606
3.5%	615,254	1,161,843
4.0%	720,092	1,315,105

ORIGINAL SWAP AND RESTRUCTURED SWAP PRICING LEVELS

As part of our review, we have independently modeled the Swap and using historical market data as of the trade dates (both the original execution date and the restructuring date), have detennined the 'mid-market' rate for the Swap. The mid-market rate as of a date is the hypothetical fixed rate such that the

value of the swap on such date is S0. In reality, in order to transact a swap, the value of the swap will necessarily be a value other than \$0 to reflect transactional costs, and the fixed rate will be higher (or lower if entering Into a receive fixed rate swap) than the mid-market rate. In industry pariance, this is often referred to as the 'spread' and is typically either negotiated upfront or determined via competitive bidding. The purpose for determining the mid-market rate of the Swap as of the trade dates is to confirm that the spreads charged by GS were reasonable, given the facts and circumstances on those dates. Factors would have included the 'bid-ask' quotes, the credit of the City, the potential cost to GS to collateralize its offsetting swap¹, and revenue for the swap desk.

Based on our independent valuation of the Swap as of January 9, 1997, the spread charged by GS was 0.246%, which had a present value of \$2,819,790.

Original Swap Pricing Details		
Spread (%)	 	0.246%
lbp (.01%)		\$114,545.86
Spread (S)		\$2,819,790

Based on our independent valuation of the Swap restructuring as of March 21, 2003, the spread charged by GS was approximately 0.146%, which had a present value of \$1,446,000. While further study of the facts and circumstances is required, our initial view is the spread by charged GS was reasonable and within customary ranges.

Restructuring Details as of	3/21/03 Restructuring Date	
Original Swap Vatue		(\$20,179,504.27)
Cash Payment to the City		\$6,062,500.00
GS ReStructuring Spread	14.56 bps X \$99,162.64	. \$1,445,825.03
Restructured Swap Value		(\$27,667,829.30)

Based on the calculations above, the total spread charged by GS was .392%.

Nogotiating improveo Termination Cost

Since the value of the Swap is purely driven by market data under a contractual obligation, there are limited avenues to pursue negotiating a lower termination amount. In some cases, an end user such as the City can successfully obtain a discount to the market value by persuading the counterparty to concede an adjustment for the end-user's credit quality (or more specifically, since the Swap is out of the money and represents a liability to the City, the likelihood of the City defaulting on what is essentially an unsecured obligation). This is often called the Credit Valuation Adjustment, or CVA. The premise is that the counterparty has already reflected the CVA loss on their books and therefore will not realize any incremental loss as a result of cash settling the termination at the discounted value. In the case of the City, this may be difficult given the City's relatively strong ratings in the current environment.

Outside of the CVA, any discount on the termination amount would be expected to create a loss for GS. Since the City has no apparent contractual leverage, any discount offered would be the result of intangible and/or qualitative arguments not specifically related to the Swap. The City may wish to

¹ Counterparties typically always enter offsetting swaps in order to have 'matched books'. In this way, they minimize interest rate risk and earn the spread amount. Typically, their offsetting swaps have 100% bi-lateral requirements. Since there is an incremental cost to posting collateral, the expected value of this cost is passed through to the end user, in this case the City.

consider any leverage that can be derived from its relationship with GS in the context of future business or more generally, the cost to GS of continued negative publicity.

MARKET TIMING AND TERMINATION COST

As the City is aware, interest rate swaps change in value over time as interest rates (i.e., the LIBOR swap curve) change for the same reasons that the value of a bond changes in response to changes in interest rates. While interest rates (i.e., the LIBOR swap curve) can change by a substantive amount (e.g., 0.10% shifts are not that uncommon, which translates to approximately \$240,000) on any given day, there is nothing to suggest that the value will change, positive or negative, by a meaningful amount in the near to medium term. In that regard, any ability for the City to achieve a better termination cost would be primarily driven by negotiating improved terms with GS, as opposed to market timing.

Schedule A

					arison

Ending 05/01/85	1986A D/5	Series				Total Adj	Gross	FV'd Cumulativa	P√of
05/01/85			Debt Service	1998A Swap	DSRF	Refunding D5	Savings	Saving8	Future Saving
08/01/88	22,872,792	1985A	25,107,888		(2,235,096)	22,372,792	-		
08/01/87	23,054,881	1985A	24,708,383		(1,651,781)	23,054,591	-	•	
08/01/88	22,352,044	1985A	24,286,988		(1,934,944)	22,352,044		-	
06/01/89	21,609,613	1988 A	10,288,575		- '	10,298,575	11,321,239	11,321,238	
08/01/90	21,321,206	1988A	15,432,883		-	15,432,963	5,868,344	13,136,508	
00/01/91	20,883,700	1968A	15,432,363		•	15,432,963	5,450,838	25,036,266	
06/01/92	20,741,919	1988A	15,432,863		• .	15,432,863	5,309,058	31,990,459	
08/01/93	20,900,394	1988A	21,947,863		•	21,947,863	(1,047,469)	32,162,626	
08/01/94	20,374,705	1988A	21,409,388		•	21,409,388	(1,034,683)	32,334,042	
08/01/95	19,313,708	1988A	20,831,958			20,531,988	{1,513,261}	32,654,759	
08/01/98	21,119,413	1888A	22,883,573	•	•	22,683,573	(1,564,180)	33,009,066	
06/01/97	20,427,955	1988A	22,074,553		-	22,074,553	(1,848,596)	33,404,906	
0 5 /01/98	19,870,397		6,502,044		-	6,502,044	13,368,353	48,746,236	
08/01/99	19,239,994	1998A	5,454,854	4,250,734	(1,031,463)	8,673,925	10,566,069	62, 151, 393	
08/01/00	18,566,172	1996A	13,299,558	3,157,390	(1,043,334)	15 413 614	3,152,558	68,965,445	
08/01/01	17.587.382	1998A	15,789,882	3,388,799	(1,255,410)	17,921,071	(333,709)	73,520,524	
08/01/02	17,724,561	1998A	12,460,421	8,392,293	(672,645)	13,180,069	(455,509)	75,857,420	
08/01/03	17,480,407	199 8 A	12,179,050	622,157	(349,549)	12,451,659	5,028,749	82,383,404	
08/01/04	18,905,767	1998Å	11,267,897	6,788,102	(254,801)	17,801,197	(895,431)	82,673,265	
08/01/05	15.937 938	-	3,126,267	5,190,760	(431,014)	7,888,013	8,051,925	92,737,250	
08/01/06	14.765,576	2005A	12,624,848	3,217,508	• • • •	15 842,154	(1,078,578)	95,574,195	
06/01/07	13.722,219	2005A	13,423,056	2,445,721	-	15 869,777	(2,148,558)	98,716,280	
08/01/08	13,092,875	_	14,474,969	3,210,909	(115,924)	17,589,955	(4.477,080)	99,361,573	
08/01/09	12,880,197	2008A1	13,621,400	4,524,972	(174, 368)	17,972,006	(5,095,909)	97,477,696	
08/01/10	12,629,354	2088A1 ·	14,385,400	4,673,584	(160,736)	18,878,249	(8,243,994)	92,669,530	
08/01/11	12,066,940	2008A1	14,479,850	4,227,675	(111,274)	18,596,051	(6,527,111)	87,122,312	
08/01/12	11,431,024	2008A1	14,571,300	3,775,076	(81,515)	18,264,880	(8,793,938)	41,122,412	(6,769,78
08/01/13	10,790,088	2008A1	14,697,750	3,322,854	(107,630)	17,912,974	(7,122,987)		(7,033,164
08/01/14	10,174,700	2008A1	14,820,750	2,847,274	(107,336)	17,560,688	(7,385,988)		(7,220,74
08/01/15	9,592,925	2000A1	14,935,550	2,334,541	(107,336)	17,162,755	(7,569,830)		(7,327,200
08/01/16	2,076,525	2008A1	15,073,350	1,830,011	(107,336)	16,796,025	(14,719,500)		(14,106,25
03/01/17	-, 0,020	200 BA 1	15,095,950	1,403,435	(10,870,630)	5,628,755	(5,628,755)		(5,340,94
08/01/18		2000.1	10,000,000	1.023.953	(10,0.0,000)	1,023,958	(1,023,958)		(961,96;
08/01/19			-	725,509	-	728,509	(725,509)		(674.93
08/01/20			-	466.037	-	486,037	(469,037)		(429,18
08/01/21				227,785	-	227,785	(227,7851		(207,69
			-	-2.1.90					1201,030
ł	521.58 <u>5.747</u>		491.899.108	70,045.081	(22,80 <u>4.1 (8</u>)	639,140,070	(17.874.8231		(50.971.688

Current FVd Cumulative Savings As of

04/23/12

87,603,840

Current FV'd Cumulative Savings + PV of Future Savings

37.532.171