Upper Darby Township

Financing Discussion

September 18, 2019

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Director
&
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Senior Analyst

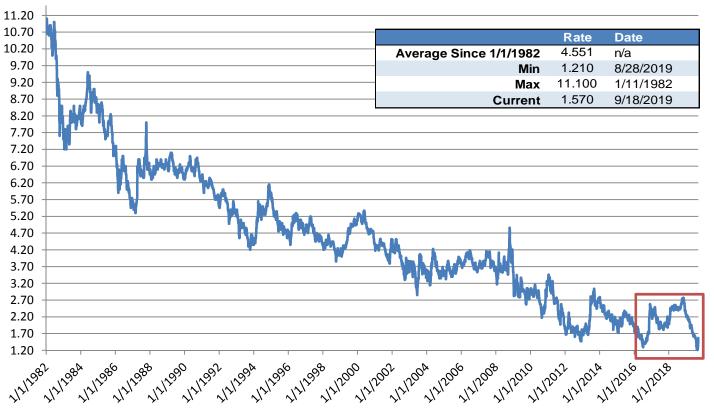


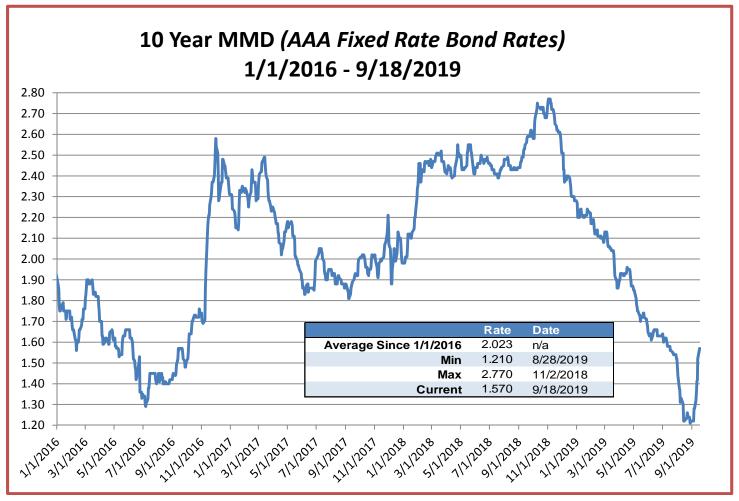
PFM Financial Advisors LLC

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10 Year MMD (AAA Fixed Rate Bond Rates) 1/1/1982 - 9/18/2019









UPPER DARBY TOWNSHIP

Topics for Discussion September 18, 2019



I) New Money Borrowing / Goal of Financing Plan:

- A. The Township has asked PFM to prepare financing schedules for capital projects totaling \$18.1 million
 - i. May be issued in 2 series in order to take advantage of Bank Qualified status

II) Multi Track Financing Discussion:

B. Bond Issue

Rate: Fixed rate for life of issue

Call Feature: 5 year call feature

Other Considerations: Township would need to get a credit rating and will be obligated to post certain financial and other notices to the MSRB's EMMA website

C. Delaware Valley Regional Finance Authority (Bond Pool Financing)

Rates: Fixed rate for life of issue

<u>Call Feature</u>: Typically obtain 5-10 year call feature. Shorter call features may be available, but would result in a higher interest rate

Other Considerations: Use of interest rate swaps in pool to provide fixed rate

(III) Maximum Parameters Ordinance:

- A. Provisions of a maximum parameters ordinance:
 - i. Flexibility in the pricing date so that bonds are priced during favorable market conditions
 - a. Eliminates the need to time the pricing of bonds with a Council meeting date
 - ii. Avoids the need for inconvenient special meetings
- B. The ordinance establishes "parameters", or boundaries, under which the ultimate financing must fall
 - i. Maximum principal amount \$21 million
 - ii. Maximum coupon rate 5.00%
 - iii. Maturity dates May 1, 2021 through and including May 1, 2040
- C. Ultimate approval immediately after the actual pricing will be required from Council President, a Vice President, and Administration (This is similar to how the Township had done its last Bond Issue)

IV) Bank Qualified Bonds Review

- a. Current IRS tax law states that a tax-exempt issuer can issue \$10 million of Bank Qualified ("BQ") bonds per calendar year.
 - ♦ Holders of BQ bonds enjoy certain additional tax benefits, resulting in higher demand.
 - BQ bonds typically have lower interest rates and a shorter call feature than non-BQ bonds.
 - ♦ Depending on market conditions, it can be in the issuers best interest to issue BQ bonds when possible to take advantage of the lower rates and a shorter call feature.

V) Next Steps

- 1. Complete Step 1 of the financing plan by December 31, 2019 (See timeline attached for details)
- 2. January 2020 Resume discussions with Township regarding Step 2 of the borrowing
- 3. Evaluate markets conditions & status of projects
- 4. Effectuate Step 2 of the financing plan, if and when appropriate

UPPER DARBY TOWNSHIP SUMMARY OF OUTSTANDING INDEBTEDNESS

Debt Service Red	quirements			
1	2	3	4	5
	DelVal			
Fiscal	G.O. Note	G.O. Bonds	G.O. Bonds	Total
Year	Series of	Series of	Series of	Debt
Ended	2009 ^{[1] [2]}	2016	2017	Service
12/31/2019	1,771,454	305,300	569,050	2,645,804
12/31/2020	1,799,281	305,100	548,000	2,652,381
12/31/2021		1,206,500	1,195,500	2,402,000
12/31/2022		557,000	527,950	1,084,950
12/31/2023		554,800	530,300	1,085,100
12/31/2024		557,100	525,925	1,083,025
12/31/2025		558,800	524,700	1,083,500
12/31/2026		555,000	531,300	1,086,300
12/31/2027		555,700	532,200	1,087,900
12/31/2028		555,800	527,600	1,083,400
12/31/2029		555,300	532,400	1,087,700
12/31/2030		554,200	531,500	1,085,700
12/31/2031		557,400	530,000	1,087,400
12/31/2032		554,900	532,800	1,087,700
12/31/2033		556,700	529,900	1,086,600
12/31/2034		557,700	526,400	1,084,100
12/31/2035		557,900	414,500	972,400
12/31/2036		557,300	414,200	971,500
12/31/2037		555,900	418,200	974,100
12/31/2038				
12/31/2039				
12/31/2040				
Totals	3,570,735	10,718,400	10,442,425	24,731,560
Principal*:	3,450,000	7,505,000	7,330,000	18,285,000

Call Date: TBD 5/1/2022 5/1/2022

Purpose:New MoneyNew MoneyNew MoneyFund:GeneralGeneral/SewerGeneral/Sewer



Per 2017 Audit:

^{*} Outstanding as of September 12, 2019

^[1] Amortization estimated per information provided by the Township

^[2] DelVal loans are subject to interest rate swap exposure

⁻ The 2009 Note assumes a fixed rate of 2.332%

		1	2	3
		STEP 1	STEP 2	TOTAL
Project F	Fund Deposit	\$9,100,000	\$9,000,000	\$18,100,000
•	•			
	Settlement	December 2019	November 2020	-
	Term	21 Years	20 Years	-
	Structure	Wrap	Wrap	Wrap
4	5	6	7	8
Fiscal	Existing	Proposed	Proposed	Total
Year	Debt	Debt	Debt	Debt
Ending	Service	Service [1]	Service [1]	Service
12/31/2019	2,645,804	222.272		2,645,804
12/31/2020	2,652,381	309,253	0.44.000	2,961,634
12/31/2021	2,402,000	353,900	344,800	3,100,700
12/31/2022	1,084,950	593,800	580,000	2,258,750
12/31/2023 12/31/2024	1,085,100 1,083,025	588,700 588,300	580,200 580,000	2,254,000 2,251,325
12/31/2024	1,083,500	587,500	579,400	2,251,325
12/31/2025	1,086,300	586,300	578,400	2,251,000
12/31/2020	1,087,900	589,600	581,900	2,259,400
12/31/2028	1,083,400	587,400	579,900	2,250,700
12/31/2029	1,087,700	584,800	577,500	2,250,000
12/31/2030	1,085,700	586,700	579,600	2,252,000
12/31/2031	1,087,400	583,100	581,100	2,251,600
12/31/2032	1,087,700	584,000	582,000	2,253,700
12/31/2033	1,086,600	584,300	582,300	2,253,200
12/31/2034	1,084,100	584,000	582,000	2,250,100
12/31/2035	972,400	646,800	635,000	2,254,200
12/31/2036	971,500	647,600	631,300	2,250,400
12/31/2037	974,100	647,600	631,900	2,253,600
12/31/2038		1,127,000	1,121,700	2,248,700
12/31/2039		1,125,400	1,125,200	2,250,600
12/31/2040		1,127,100	1,122,000	2,249,100
TOTAL	24,731,560	13,613,153	13,156,200	51,500,913

^[1] Estimated interest rates assume current AAA MMD + 1.00%. Actual interest rates will vary based on market conditions at the time of pricing.

UPPER DARBY TOWNSHIP

Preliminary 2019 Financing Schedule Series of 2019/Series of 2020

September 2019											
S	M T W T F S										
1	2	3	4	5	6	7					
8	9	10	11	12	13	14					
15	16	17	18	19	20	21					
22	23	24	25	26	27	28					
29	30										

October 2019											
S	M T W T F S										
		1	2	3	4	5					
6	7	8	9	10	11	12					
13	14	15	16	17	18	19					
20	21	22	23	24	25	26					
27	28	29	30	31							

November 2019											
S	М	M T W T F									
					1	2					
3	4	5	6	7	8	9					
10	11	12	13	14	15	16					
17	18	19	20	21	22	23					
24	25	26	27	28	29	30					

December 2019											
S	M T W T F										
1	2	3	4	5	6	7					
8	9	10	11	12	13	14					
15	16	17	18	19	20	21					
22	23	24	25	26	27	28					
29	30	31									

Schedule of Events

<u>DATE</u> <u>OBJECTIVE</u>

Wednesday, September 18, 2019 * Regularly Scheduled Council Meeting*

-Financing Discussion

Late September 2019 - Info Request Due Back to PFM

- PFM to Circulate Draft of Preliminary Official Statement ("POS") to Working Group

- Send Info Packet off to S&P

Wednesday, October 02, 2019 * Regularly Scheduled Council Meeting*

Wednesday, October 16, 2019 * Regulary Scheduled Council Meeting*

- First reading of Parameters Ordinance

Late October /Early November - Credit Rating Interview with Township and S&P

- Credit Rating Due Back to Township

Wednesday, November 06, 2019 * Regularly Scheduled Council Meeting*

- Township to Approve Parameters Ordinance

After November 7th Price Bonds / Lock in Interest Rates

December 12 or later Settlement of Financing



Maximum Parameters Schedule

	BY TOWNSHIP				
SERIES OF 20		A VIMILIM D	ADAMETEDS	Settle	10/10/2010
	IVI	AXIIVIUIVI P	ARAMETERS	Dated	12/12/2019 12/12/2019
				Dated	12/12/2019
1	2	3	4	5	6
					Proposed
	Max	Max		Semi-Annual	Fiscal Year
<u>Date</u>	<u>Principal</u>	Rate[1]	<u>Interest</u>	Debt Service	Debt Service
5/1/2020			405,416.67	405,416.67	
11/1/2020			525,000.00	525,000.00	930,416.67
5/1/2021	55,000	5.000	525,000.00	580,000.00	000, 110.07
11/1/2021	33,333	0.000	523,625.00	523,625.00	1,103,625.00
5/1/2022	680,000	5.000	523,625.00	1,203,625.00	1,100,000
11/1/2022	,		506,625.00	506,625.00	1,710,250.00
5/1/2023	700,000	5.000	506,625.00	1,206,625.00	, ,
11/1/2023	,		489,125.00	489,125.00	1,695,750.00
5/1/2024	720,000	5.000	489,125.00	1,209,125.00	
11/1/2024			471,125.00	471,125.00	1,680,250.00
5/1/2025	735,000	5.000	471,125.00	1,206,125.00	
11/1/2025			452,750.00	452,750.00	1,658,875.00
5/1/2026	750,000	5.000	452,750.00	1,202,750.00	
11/1/2026			434,000.00	434,000.00	1,636,750.00
5/1/2027	765,000	5.000	434,000.00	1,199,000.00	
11/1/2027			414,875.00	414,875.00	1,613,875.00
5/1/2028	795,000	5.000	414,875.00	1,209,875.00	
11/1/2028			395,000.00	395,000.00	1,604,875.00
5/1/2029	810,000	5.000	395,000.00	1,205,000.00	
11/1/2029			374,750.00	374,750.00	1,579,750.00
5/1/2030	835,000	5.000	374,750.00	1,209,750.00	
11/1/2030			353,875.00	353,875.00	1,563,625.00
5/1/2031	855,000	5.000	353,875.00	1,208,875.00	
11/1/2031			332,500.00	332,500.00	1,541,375.00
5/1/2032	880,000	5.000	332,500.00	1,212,500.00	
11/1/2032	005.000	= 000	310,500.00	310,500.00	1,523,000.00
5/1/2033	905,000	5.000	310,500.00	1,215,500.00	4 500 075 00
11/1/2033	0.40,000	F 000	287,875.00	287,875.00	1,503,375.00
5/1/2034	940,000	5.000	287,875.00	1,227,875.00	1 400 050 00
11/1/2034	1 005 000	5.000	264,375.00 264,375.00	264,375.00 1 359 375 00	1,492,250.00
5/1/2035 11/1/2035	1,095,000	5.000	264,375.00 237,000.00	1,359,375.00 237,000.00	1,596,375.00
5/1/2036	1,130,000	5.000	237,000.00	1,367,000.00	1,080,370.00
11/1/2036	1,130,000	5.000	208,750.00	208,750.00	1,575,750.00
5/1/2037	1,160,000	5.000	208,750.00	1,368,750.00	1,070,700.00
3/1/2031	1,100,000	3.000	200,730.00	1,000,700.00	

11/1/2037

5/1/2038

11/1/2038

5/1/2039

11/1/2039

5/1/2040

11/1/2040

TOTALS

2,320,000

2,395,000

2,475,000

21,000,000

5.000

5.000

5.000

179,750.00

179,750.00

121,750.00

121,750.00

61,875.00

61,875.00

14,295,666.67

179,750.00

121,750.00

61,875.00

2,499,750.00

2,516,750.00

2,536,875.00

35,295,666.67

1,548,500.00

2,621,500.00

2,578,625.00

2,536,875.00

35,295,666.67

^[1] Maximum rate.

Types of Indebtedness under the Debt Act

The Debt Act establishes three forms of debt for a local government unit and townships: (i) electoral debt (debt incurred with the approval of the electors for which there is no limitation on the amount that may be so incurred), (ii) nonelectoral debt (debt of a local government unit not being electoral or lease rental debt for which the limitation on all such net debt which may be incurred is 250% of the borrowing base for the Township), and (iii) lease rental debt (the principal amount of municipal authority debt or debt of another local government unit to be repaid by the local government unit pursuant to a lease, subsidy contract guarantee or other form of agreement where such debt is or may be payable out of the tax revenues and other general revenues; the limitation on all such net debt which may be incurred, including any net nonelectoral debt incurred, is 350% of the borrowing base for the Township). Any debt which is approved by the Pennsylvania Department of Community and Economic Development as "subsidized" or "self-liquidating" may be deducted or excluded from the determination of any such debt incurred in determining the net debt of the local governmental unit to which such limitations are applicable. Certain other deductions are allowed in determining net debt.

Debt Limit and Remaining Borrowing Capacity

The statutory borrowing limit of the Township under the Debt Act is computed as a percentage of the Township's "Borrowing Base". The "Borrowing Base" is defined as the annual arithmetic average of Total Revenues (as defined by the Act), for the three full fiscal years ended next preceding the date of incurring debt. The Township calculates its present borrowing base and borrowing capacity as follows:

Total Revenues for 2014	\$75,502,379
Total Revenues for 2015	78,550,994
Total Revenues for 2016 (unaudited)	79,757,855
Total	\$233,811,228
Annual Arithmetic Average (Borrowing Base)	\$77,937,076

Source: Township Auditor & Audited Financial Statements.

Under the Debt Act as presently in effect, (i) new nonelectoral debt may not be incurred if the net amount of such new nonelectoral debt plus all outstanding net nonelectoral debt would cause total net nonelectoral debt to exceed 250% of the Borrowing Base and (ii) new lease rental debt or new nonelectoral debt may not be incurred if the net amount of such new debt plus all outstanding net nonelectoral debt and net lease rental debt would cause the total net nonelectoral plus net lease rental debt to exceed 350% of the Borrowing Base. The application of the aforesaid percentages to the Township's Borrowing Base produces the following products:

Net Nonelectoral Debt Limit: 250% of Borrowing Base	Legal <u>Limit</u> \$194,842,690	Net Debt <u>Outstanding</u> \$23,358,000*	Remaining Borrowing <u>Capacity</u> \$171,484,690
Net Nonelectoral and Lease Rental Debt Lin 350% of Borrowing Base		\$23,358,000*	\$249,421,766
cludes the amount of the Bonds offered through this Of [REMAINDER OF TH	Efficial Statement. IE PAGE INTENTIONALLY LEI	FT BLANK]	

^{*}Includes the amount of the Bonds offered through this Official Statement.



RatingsDirect®

Summary:

Upper Darby Township, Pennsylvania; General Obligation

Primary Credit Analyst:

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Rationale

Outlook

Related Research

Summary:

Upper Darby Township, Pennsylvania; General Obligation

Credit Profile

US\$7.545 mil GO bnds ser 2017 due 05/01/2037

Long Term Rating A+/Stable New

Rationale

S&P Global Ratings assigned its 'A+' rating to Upper Darby Township, Pa.'s series 2017 general obligation (GO) bonds. At the same time, we affirmed our 'A+' underlying rating. The outlook on all the ratings is stable.

The township's full faith and credit and resources pledge and agreement to levy ad valorem property taxes without limitation on the rate or amount secure the bonds. The township will use bond proceeds to finance its remaining capital projects that include certain energy improvements and renovations.

The 'A+' rating reflects our assessment of the following credit factors, including the township's:

- Adequate economy, with projected per capita effective buying income (EBI) at 90.4% and market value per capita of \$41,190, that benefits from access to a broad and diverse metropolitan statistical area (MSA);
- Adequate management, with "standard" financial policies and practices under our Financial Management Assessment (FMA) methodology;
- Adequate budgetary performance, with operating results that we expect could deteriorate in the near term relative
 to fiscal 2015, which closed with an operating surplus in the general fund and break-even operating results at the
 total governmental fund level;
- Adequate budgetary flexibility, with an available fund balance that we expect will decrease in the near term from its fiscal 2015 level of 9.9% of operating expenditures;
- Very strong liquidity, with total government available cash at 11.8% of total governmental fund expenditures and 3.1x governmental debt service, and access to external liquidity we consider strong;
- Adequate debt and contingent liability position, with debt service carrying charges at 3.8% of expenditures and net direct debt that is 27.7% of total governmental fund revenue, but a large pension and other postemployment benefit (OPEB) obligation and the lack of a plan to sufficiently address it; and
- Strong institutional framework score.

Adequate economy

We consider Upper Darby Township's economy adequate. The township, with an estimated population of 83,168, occupies 7.8 square miles in eastern Delaware County immediately west of Philadelphia. It is in the Philadelphia-Camden-Wilmington MSA, which we consider to be broad and diverse. It has a projected per capita EBI of 91.8% of the national level and per capita market value of \$41,190. Overall, market value was stable over the past year at \$3.4 billion in 2015. The county unemployment rate was 4.7% in 2015.

Residents benefit from its employment opportunities both in Philadelphia and throughout the MSA. The township has certain traits of an urban center as well as those of a residential suburb.

Market value has been declining since 2011 at an annual average of 0.5%. According to management, the aging housing market has resulted in consistent reductions in market value. However, management indicated that there have been recent investments in the downtown area that are expected to improve the economy and the tax base.

Adequate management

We view the township's management as adequate, with "standard" financial policies and practices under our FMA methodology, indicating the finance department maintains adequate policies in some, but not all, key areas.

Management looks at historical trends when budgeting and also incorporates economic trends. There is frequent budget monitoring and officials provide the council with monthly budget-to-actual results. The township has a formal fund balance policy in place to maintain its unassigned fund balance at a minimum of 5% to 10% of revenues or one-to-two months of expenditures. It maintains a five-year capital improvement program that it updates and reprioritizes yearly. However, it does not engage in comprehensive multiyear financial planning, and aside from the limitations placed on it by state statutes, there are no debt management policies. The township's governmental fund investments are guided by state statute.

Adequate budgetary performance

Upper Darby Township's budgetary performance is adequate, in our opinion. The township had surplus operating results in the general fund of 2.7% of expenditures, and balanced results across all governmental funds of 0.4% in fiscal 2015. Our assessment accounts for the fact that we expect budgetary results could deteriorate somewhat from 2015 results in the near term. General fund operating results of the township have been stable over the last three years, with results of 1.8% in 2014 and 1.6% in 2013.

Consecutive operating surpluses have been achieved despite certain revenues coming in under budget, such as business taxes and grants and entitlements. However, real estate taxes, which are the largest source of revenues, have been increasing and management has been raising taxes annually and actively collecting delinquent taxes. Also, according to management, the budget is consistently monitored and both overtime costs and new hiring are kept low. The township had experienced prior years of structural imbalances due to its high fixed costs associated with salaries and benefits, pensions, and OPEB costs. However, management was able to achieve structural balance due to controlling expenses, including staff reductions from attrition, reduced overtime expenses, and the elimination of some discretionary programs.

Though in 2016, the general fund assumed an operating deficit of \$1.5 million, based on unaudited results, it will end with a drawdown of \$365,000. Management attributes this to overtime and higher costs due to employee injuries. In addition, management reported it has made efforts to keep the fund balance within its current policy limits.

The 2017 budget totals \$73.5 million, an increase of 3.3% year over year, and includes a \$2 million fund balance appropriation, higher than the amount appropriated in 2016. Two of the township's three labor contracts were settled early in the year. There is, however, one that is still under negotiation. However, we expect that with ongoing revenue stability and management's ability to make the necessary budgetary adjustments, that budgetary performance is likely

to remain adequate.

Adequate budgetary flexibility

Upper Darby Township's budgetary flexibility is adequate, in our view, with an available fund balance that we expect could decrease in the near term from its fiscal 2015 level of 9.9% of operating expenditures, or \$6.8 million.

The township's general fund balance has been increasing annually over the past three years. We have adjusted its fund balance to account for receivables for ash and rubbish that may not be received. We understand that management has been aggressively making efforts to collect these receivables. If they continue to rise, they could have a negative net effect on the available fund balance.

Based on unaudited results for 2016, the general fund will fall to \$6.5 million, net of receivables, or 9.3% of expenditures.

Should the general fund end with the budgeted drawdown of \$2 million, the general fund balance could decline below 8%.

Very strong liquidity

In our opinion, Upper Darby Township's liquidity is very strong, with total government available cash at 11.8% of total governmental fund expenditures and 3.1x governmental debt service in 2015. In our view, the township has strong access to external liquidity if necessary.

We believe the township's strong access to external liquidity is supported by debt issuances, including GO notes within the past 10 years. Though the state allows for what we view as permissive investments, we believe the township does not currently have aggressive ones, with the majority of the general fund cash in Pennsylvania Local Government Investment Trust (PLIGIT). We have adjusted the township's governmental cash to net cash that is restricted capital projects.

The township's series 2006, 2008, and 2009 GO notes totaling \$5.8 million were purchased by Delaware Valley Regional Finance Authority (DelVal; 'A+/Stable') from the proceeds of the series 2002 local government revenue bonds. These bonds include an interest-rate swap agreement between the Bank of America (A/Positive) and DelVal. Based on the loan agreement between the township and the authority, the township may be obligated to pay any termination charge allocable to its loan amount if the swap agreement is terminated. Termination could be trigged if the authority or the bank rating falls below 'BBB'. Given the current ratings for the authority and the bank being two notches above the 'BBB' rating trigger, we believe any risk to the township's liquidity is remote. Furthermore, as of Jan. 31, 2017, the swap transactions related to the authority's notes have a positive market value of \$923,085 so the township would not be assessed a termination charge in the event of a termination.

The loan agreements also include certain events of default that we consider non-standard. However, given the cure period to remedy the events of default is 180 days, we view liquidity risk as being remote. Also, due to the specific nature of DelVal (for more information, please refer to the full analysis on DelVal, published July 3, 2014, on RatingsDirect), active management of the loans, and commonwealth laws preventing the township from violating certain covenants in the loan agreements, we believe these events are unlikely to occur.

From 2013 through 2015, the township issued consecutive tax anticipation notes (TANs) to provide cash flow due to its weakened cash position in prior years. We expect that it is likely to maintain its very strong liquidity.

Adequate debt and contingent liability profile

In our view, Upper Darby Township's debt and contingent liability profile is adequate. Total governmental fund debt service is 3.8% of total governmental fund expenditures, and net direct debt is 27.7% of total governmental fund revenue.

There are no major additional debt plans within the next three years, according to management.

In our opinion, a credit weakness is Upper Darby Township's large pension and OPEB obligation, without a plan in place that we think will sufficiently address it. The township's combined required pension and actual OPEB contributions totaled 12.8% of total governmental fund expenditures in 2015. Of that amount, 8.4% represented required contributions to pension obligations, and 4.4% represented OPEB payments. The township made its full annual required pension contribution in 2015.

The township provides pension benefits for its employees through three single-employer defined-benefit pension plans by the Municipal Pension Plan Funding Standard Recovery Act (Act 205 of 1984): the Police Pension Plan, the Municipal Employees Pension Plan, and the Firefighters Pension Plan.

As of Dec. 31, 2015, the police, firefighters, and municipal employees were underfunded with a net pension liability as a percentage of its plan fiduciary net position at 67.1%, 71.63% and 87%, respectively. The township finances its OPEBs on a pay-as-you-go basis. Based on the 2014 actuarial valuation, the most recent year available, the unfunded actuarial accrued liability is \$244 million. We believe that these costs could pressure future budgets.

Strong institutional framework

The institutional framework score for Pennsylvania home-rule cities, other than Philadelphia, is strong.

Outlook

The outlook reflects our view that the rating is unlikely to change within the two-year outlook period given the township's sizable OPEB liability and fixed costs that could pressure future budgets. Nevertheless, we expect management to continue to make the necessary budgetary adjustments to avoid potential structural imbalance. The outlook also reflects the township's very strong liquidity and adequate budgetary performance and budgetary flexibility.

Downside scenario

If the township can't manage its pension and OPEB costs and maintain structural balance, resulting in deterioration of its budgetary performance, budgetary flexibility and liquidity, we could lower the rating.

Upside scenario

We could raise the rating if the township's economic metrics, primarily its market value per capita, improve to levels that are in line with its higher rated peers, coupled with its ability to manage its fixed costs while maintaining or improving its budgetary performance, budgetary flexibility, and liquidity.

Related Research

- S&P Public Finance Local GO Criteria: How We Adjust Data For Analytic Consistency, Sept. 12, 2013
- Alternative Financing: Disclosure Is Critical To Credit Analysis In Public Finance, Feb. 18, 2014
- Incorporating GASB 67 And 68: Evaluating Pension/OPEB Obligations Under Standard & Poor's U.S. Local Government GO Criteria, Sept. 2, 2015

Ratings Detail (As Of February 23, 2017)		
Upper Darby Twp GO (AGM)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Upper Darby Twp GO (AGM)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed

Many issues are enhanced by bond insurance.

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Series of 2019

UPPER DARB		•						
SERIES OF 20)19						Settle	12/12/2019
							Dated	12/12/2019
4	2	2	4	F	6	7	0	0
1	2	3	4	5	6	Proposed	8	9
					Semi-Annual	Fiscal Year	Existing	Total
<u>Date</u>	<u>Principal</u>	Coupon	<u>Yield</u>	Interest	Debt Service	Debt Service	Debt Service	Debt Service
5/1/2020				134,752.78	134,752.78			
11/1/2020				174,500.00	174,500.00	309,252.78	2,652,381.10	2,961,633.88
5/1/2021	5,000	4.000	2.330	174,500.00	179,500.00	309,232.70	2,032,301.10	2,901,033.00
11/1/2021	3,000	4.000	2.550	174,400.00	174,400.00	353,900.00	2,402,000.00	2,755,900.00
5/1/2022	250,000	4.000	2.340	174,400.00	424,400.00	333,300.00	2,402,000.00	2,733,300.00
11/1/2022	200,000	4.000	2.040	169,400.00	169,400.00	593,800.00	1,084,950.00	1,678,750.00
5/1/2023	255,000	4.000	2.360	169,400.00	424,400.00	330,000.00	1,004,000.00	1,070,700.00
11/1/2023	200,000	4.000	2.000	164,300.00	164,300.00	588,700.00	1,085,100.00	1,673,800.00
5/1/2024	265,000	4.000	2.400	164,300.00	429,300.00	000,700.00	1,000,100.00	1,070,000.00
11/1/2024	200,000	1.000	2.100	159,000.00	159,000.00	588,300.00	1,083,025.00	1,671,325.00
5/1/2025	275,000	4.000	2.460	159,000.00	434,000.00	000,000.00	1,000,020.00	1,071,020.00
11/1/2025	2.0,000	1.000	2.100	153,500.00	153,500.00	587,500.00	1,083,500.00	1,671,000.00
5/1/2026	285,000	4.000	2.520	153,500.00	438,500.00	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1,011,000
11/1/2026	,			147,800.00	147,800.00	586,300.00	1,086,300.00	1,672,600.00
5/1/2027	300,000	4.000	2.590	147,800.00	447,800.00	000,000.00	1,000,000.00	1,012,000.00
11/1/2027	,			141,800.00	141,800.00	589,600.00	1,087,900.00	1,677,500.00
5/1/2028	310,000	4.000	2.660	141,800.00	451,800.00	000,000.00	.,00.,000.00	.,0,000.00
11/1/2028	0.0,000			135,600.00	135,600.00	587,400.00	1,083,400.00	1,670,800.00
5/1/2029	320,000	4.000	2.730	135,600.00	455,600.00	33.,.33.33	.,000,.00.00	.,0.0,000.00
11/1/2029	,			129,200.00	129,200.00	584,800.00	1,087,700.00	1,672,500.00
5/1/2030	335,000	4.000	2.790	129,200.00	464,200.00	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,
11/1/2030	,			122,500.00	122,500.00	586,700.00	1,085,700.00	1,672,400.00
5/1/2031	345,000	4.000	2.850	122,500.00	467,500.00		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,
11/1/2031	,,,,,,			115,600.00	115,600.00	583,100.00	1,087,400.00	1,670,500.00
5/1/2032	360,000	4.000	2.900	115,600.00	475,600.00	,	, ,	,,
11/1/2032	,			108,400.00	108,400.00	584,000.00	1,087,700.00	1,671,700.00
5/1/2033	375,000	4.000	2.950	108,400.00	483,400.00	,	, ,	, ,
11/1/2033	,,,,,,			100,900.00	100,900.00	584,300.00	1,086,600.00	1,670,900.00
5/1/2034	390,000	4.000	2.990	100,900.00	490,900.00	,	, , ,	, ,
11/1/2034	-,			93,100.00	93,100.00	584,000.00	1,084,100.00	1,668,100.00
5/1/2035	470,000	4.000	3.030	93,100.00	563,100.00	,		. ,
11/1/2035	, -			83,700.00	83,700.00	646,800.00	972,400.00	1,619,200.00
5/1/2036	490,000	4.000	3.070	83,700.00	573,700.00	,	,	, ,
11/1/2036	, -			73,900.00	73,900.00	647,600.00	971,500.00	1,619,100.00
				•	•			

5/1/2037

11/1/2037

5/1/2038

11/1/2038

5/1/2039

11/1/2039

5/1/2040

11/1/2040

TOTALS

510,000

1,020,000

1,060,000

1,105,000

8,725,000

4.000

4.000

4.000

4.000

3.110

3.150

3.190

3.230

73,900.00

63,700.00

63,700.00

43,300.00

43,300.00

22,100.00

22,100.00

4,888,152.78

583,900.00

63,700.00

43,300.00

22,100.00

1,083,700.00

1,103,300.00

1,127,100.00

13,613,152.78

647,600.00

1,127,000.00

1,125,400.00

1,127,100.00

13,613,152.78

1,621,700.00

1,127,000.00

1,125,400.00

1,127,100.00

35,698,908.88

974,100.00

22,085,756.10

^[1] Estimated interest rates assume current AAA MMD + 1.00%. Actual interest rates will vary based on market conditions at the time of pricing.



Series of 2020

Date Principal Coupon Yield Interest Debt Service De	1	2	3	4	5	6	7	8	9
Date Principal Coupon Yield Interest Debt Service De							Proposed		
172,400.00						Semi-Annual	Fiscal Year	Existing	Total
11/1/2021	<u>Date</u>	<u>Principal</u>	<u>Coupon</u>	<u>Yield</u>	<u>Interest</u>	<u>Debt Service</u>	Debt Service	Debt Service	<u>Debt Service</u>
11/1/2021	= /4 /000 A				470 400 00	470 400 00			
5/1/2022 240,000 4.000 2.330 172,400.00 412,400.00 580,000.00 1,678,750.00 2,258,750.00 11/1/2023 250,000 4.000 2.340 167,600.00 147,600.00 580,000.00 1,678,750.00 2,254,000.00 11/1/2024 260,000 4.000 2.360 162,600.00 162,600.00 580,200.00 1,673,800.00 2,254,000.00 11/1/2025 270,000 4.000 2.400 157,400.00 157,400.00 580,000.00 1,671,325.00 2,251,325.00 5/1/2026 280,000 4.000 2.460 152,000.00 432,000.00 579,400.00 1,671,000.00 2,250,400.00 5/1/2027 295,000 4.000 2.520 146,400.00 448,400.00 578,400.00 1,672,600.00 2,251,000.00 5/1/2028 305,000 4.000 2.590 140,500.00 140,500.00 581,900.00 1,677,500.00 2,259,400.00 5/1/2028 315,000 4.000 2.660 134,400.00 444,500.00 445,500.00 5/1/2029 315,000 4.000 2.730 128,100.00 444,500.00 577,500.00 1,672,500.00 2,250,700.00 5/1/2030 330,000 4.000 2.790 121,500.00 483,100.00 577,500.00 1,672,400.00 2,250,000.00 5/1/2031 345,000 4.000 2.790 121,500.00 483,100.00 582,000.00 1,672,400.00 2,253,700.00 5/1/2031 345,000 4.000 2.790 121,500.00 482,400.00 582,000.00 1,670,500.00 2,253,700.00 5/1/2033 375,000 4.000 2.990 107,400.00 482,400.00 582,000.00 1,670,900.00 2,253,700.00 5/1/2034 390,000 4.000 2.990 99,900.00 882,900.00 582,000.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 2.990 99,900.00 882,900.00 635,000.00 1,670,900.00 2,253,000.00 5/1/2036 460,000 4.000 3.100 63,500.00 63,500.00 63,500.00 1,619,000.00 2,253,000.00 5/1/2038 1,015,000 4.000 3.100 63,500.00 63,500.00 63,500.00 1,624,700.00 2,253,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 63,500.00 63,500.00 1,125,400.00 2,250,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 63,500.00 63,500.00 1,125,400.00 2,250,600.00 5/1/2038 1,015,000 4.00							0.4.4.000.00		0.400 700 00
11/1/2022 167,600.00 167,600.00 167,600.00 1,678,750.00 2,258,750.00 1/1/2023 162,600.00 162,600.00 162,600.00 162,600.00 162,600.00 1,673,800.00 2,254,000.00 1/1/2024 260,000 4.000 2.360 162,600.00 422,600.00 157,400.00 157,400.00 157,400.00 157,400.00 157,400.00 157,400.00 157,400.00 157,400.00 157,400.00 157,400.00 1671,325.00 2,251,325.00 1/1/2026 280,000 4.000 2.460 152,000.00 432,000.00 1,671,000.00 2,250,400.00 1/1/2026 146,400.00 146,400.00 146,400.00 1,672,600.00 2,251,000.00 1/1/2027 295,000 4.000 2.520 140,600.00 140,500.00 578,400.00 1,677,500.00 2,259,400.00 1/1/2028 305,000 4.000 2.590 140,500.00 144,500.00 579,900.00 1,670,800.00 2,259,400.00 1/1/2029 315,000 4.000 2.660 134,400.00 444,500.00 445,500.00 1,670,800.00 2,250,700.00 1/1/2030 330,000 4.000 2.790 121,500.00 428,100.00 579,600.00 1,672,500.00 2,250,000.00 5/1/2031 345,000 4.000 2.790 121,500.00 428,100.00 579,600.00 1,672,500.00 2,250,000.00 5/1/2032 360,000 4.000 2.850 114,600.00 114,600.00 579,600.00 1,672,400.00 2,252,000.00 1/1/2032 375,000 4.000 2.850 114,600.00 474,600.00 474,600.00 1/1/2033 375,000 4.000 2.850 114,600.00 474,600.00 582,000.00 1,671,700.00 2,253,700.00 1/1/2034 390,000 4.000 2.950 99,900.00 99,900.00 99,900.00 582,000.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 2.950 99,900.00 99,900.00 382,900.00 582,000.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 3.000 32,900.00 32,100.00 582,000.00 1,670,900.00 2,250,000.00 5/1/2034 495,000 4.000 3.000 32,900.00 32,100.00 582,000.00 1,670,900.00 2,253,000.00 5/1/2034 495,000 4.000 3.100 63,500.00 635,000.00 631,900.00 1,621,700.00 2,250,400.00 5/1/2038 495,000 4.000 3.100 63,500.00 635,000.00 631,900.00 1,621,700.00 2,250,60		0.40.000	4.000				344,800.00	2,755,900.00	3,100,700.00
51/2023 250,000 4.000 2.340 167,600.00 117,600.00 162,600.00 580,200.00 1,673,800.00 2,254,000.00 51/2024 260,000 4.000 2.360 162,600.00 422,600.00 422,600.00 422,600.00 422,600.00 422,600.00 427,400.00 157,400.00 579,400.00 1,671,325.00 2,251,325.00 51/2025 280,000 4.000 2.460 152,000.00 152,000.00 579,400.00 1,671,000.00 2,250,400.00 51/2026 280,000 4.000 2.520 146,400.00 146,400.00 578,400.00 1,672,600.00 2,251,000.00 51/2027 295,000 4.000 2.520 146,400.00 414,500.00 578,400.00 1,677,500.00 2,251,000.00 51/2028 305,000 4.000 2.590 140,500.00 445,500.00 445,500.00 1,677,500.00 2,250,700.00 51/2028 315,000 4.000 2.730 128,100.00 128,100.00 577,500.00 1,672,600.00 2,250,700.00 51/2031 345,000 4.000 2.730 128,100.00 488,100.00 577,500.00 1,672,400.00 2,250,000.00 51/2031 345,000 4.000 2.790 121,500.00 121,500.00 581,100.00 582,000.00 1,670,500.00 2,251,600.00 11/1/2033 375,000 4.000 2.950 99,900.00 482,400.00 582,000.00 1,670,900.00 2,251,600.00 11/1/2033 375,000 4.000 2.950 99,900.00 482,900.00 582,000.00 1,670,900.00 2,253,000.00 51/2034 390,000 4.000 2.950 99,900.00 482,900.00 582,000.00 1,670,900.00 2,253,000.00 11/1/2034 460,000 474,600.00 482,400.00 482,400.00 482,400.00 482,400.00 482,400.00 582,000.00 1,670,900.00 2,253,000.00 51/2034 495,000 4.000 2.950 99,900.00 489,900.00 582,000.00 1,670,900.00 2,253,000.00 51/2034 495,000 400,000 573,400.00 582,000.00 1,670,900.00 2,253,000.00 51/2036 475,000 4.000 3.030 82,900.00 582,000.00 1,619,100.00 2,250,400.00 51/2036 475,000 4.000 3.110 63,500.00 635,000.00 631,900.00 1,621,700.00 2,253,600.00 51/2037 495,000 4.000 3.110 63,500.00 635,000.00 631,900.00 1,621,700.00 2,254,800.00 51/2039 1,105,000 43,200.00 43,200.00 4		240,000	4.000	2.330	•		500 000 00	4 070 750 00	0.050.750.00
11/1/2023		050.000	4.000	0.040			580,000.00	1,678,750.00	2,258,750.00
5/1/2024 260,000 4.000 2.360 162,600.00 422,600.00 157,400.00 580,000.00 1,671,325.00 2,251,325.00 11/1/2025 270,000 4.000 2.400 157,400.00 427,400.00 580,000.00 1,671,325.00 2,251,325.00 11/1/2026 152,000.00 152,000.00 579,400.00 1,671,000.00 2,250,400.00 1/1/2026 146,400.00 146,400.00 146,400.00 578,400.00 1,672,600.00 2,251,000.00 1/1/2027 295,000 4.000 2.520 146,400.00 441,400.00 441,400.00 1/1/2028 134,400.00 140,500.00 445,500.00 445,500.00 1/1/2029 315,000 4.000 2.660 134,400.00 134,400.00 579,900.00 1,670,800.00 2,250,700.00 5/1/2029 315,000 4.000 2.730 128,100.00 428,100.00 577,500.00 1,672,500.00 2,250,000.00 5/1/2030 330,000 4.000 2.730 128,100.00 488,100.00 577,500.00 1,672,400.00 2,250,000.00 5/1/2031 345,000 4.000 2.790 121,500.00 488,100.00 581,100.00 1,672,400.00 2,250,000.00 5/1/2031 345,000 4.000 2.850 114,600.00 114,600.00 581,100.00 1,670,500.00 2,251,600.00 5/1/2033 375,000 4.000 2.850 114,600.00 114,600.00 582,000.00 1,671,700.00 2,253,700.00 5/1/2033 375,000 4.000 2.950 99,900.00 99,900.00 582,000.00 1,671,700.00 2,253,700.00 5/1/2034 390,000 4.000 2.950 99,900.00 39,900.00 582,000.00 1,671,700.00 2,253,200.00 5/1/2034 390,000 4.000 2.950 99,900.00 39,900.00 582,000.00 1,671,700.00 2,253,200.00 5/1/2034 495,000 4.000 3.030 82,900.00 552,100.00 582,000.00 1,619,100.00 2,250,400.00 5/1/2036 475,000 4.000 3.030 82,900.00 582,000.00 1,619,000.00 2,250,400.00 5/1/2036 475,000 4.000 3.030 82,900.00 582,000.00 1,619,000.00 2,250,400.00 5/1/2036 475,000 4.000 3.150 43,200.00 43,200.00 43,200.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00		250,000	4.000	2.340			500 000 00	4 070 000 00	0.054.000.00
11/1/2024		000 000	4.000	0.000			580,200.00	1,673,800.00	2,254,000.00
5/1/2025 270,000 4.000 2.400 157,400.00 427,400.00 1.671,000.00 2.250,400.00 1		260,000	4.000	2.360			F00 000 00	4 074 005 00	0.054.005.00
11/1/2025		070 000	4.000	0.400			580,000.00	1,671,325.00	2,251,325.00
5/1/2026 280,000 4.000 2.460 152,000.00 432,000.00 1,672,600.00 2,251,000.00 146,400.00 146,400.00 146,400.00 1,672,600.00 2,251,000.00 1/1/2027 295,000 4.000 2.520 146,400.00 441,400.00 578,400.00 1,677,500.00 2,259,400.00 5/1/2028 305,000 4.000 2.590 140,500.00 445,500.00 581,900.00 1,677,500.00 2,259,400.00 5/1/2029 315,000 4.000 2.660 134,400.00 133,400.00 579,900.00 1,670,800.00 2,250,700.00 5/1/2039 330,000 4.000 2.730 128,100.00 458,100.00 577,500.00 1,672,500.00 2,250,000.00 1/1/2031 345,000 4.000 2.790 121,500.00 121,500.00 579,600.00 1,672,400.00 2,250,000.00 5/1/2032 360,000 4.000 2.850 114,600.00 144,600.00 581,100.00 1,672,400.00 2,251,600.00 1/1/2032 360,000 4.000 2.900 107,400.00 482,400.00 1,671,700.00 2,253,700.00 1/1/2033 375,000 4.000 2.990 107,400.00 482,400.00 1,671,700.00 2,253,700.00 5/1/2034 390,000 4.000 2.950 99,900.00 482,400.00 39,900.00 582,000.00 1,671,700.00 2,253,700.00 1/1/2035 460,000 4.000 2.990 92,100.00 552,100.00 552,100.00 579,600.00 1,679,000.00 2,253,200.00 1/1/2035 460,000 4.000 2.990 92,100.00 552,100.00 582,000.00 1,679,000.00 2,253,200.00 1/1/2036 475,000 4.000 3.030 82,900.00 82,900.00 582,000.00 1,619,200.00 2,250,100.00 5/1/2037 495,000 4.000 3.070 73,400.00 568,400.00 631,300.00 1,619,100.00 2,250,400.00 5/1/2037 495,000 4.000 3.110 63,500.00 1,078,500.00 1,121,700.00 2,250,400.00 5/1/2038 1,015,000 4.000 3.150 43,200.00 1,078,500.00 1,122,000.00 1,127,000.00 2,250,600.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 1,03,200.00 1,122,000.00 1,127,000.00 2,249,100.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.00 1,122,000.		270,000	4.000	2.400			F70 400 00	4 074 000 00	0.050.400.00
11/1/2026 146,400.00 146,400.00 578,400.00 1,672,600.00 2,251,000.00 5/1/2027 295,000 4.000 2.520 146,400.00 441,400.00 578,400.00 1,677,500.00 2,251,000.00 5/1/2028 305,000 4.000 2.590 140,500.00 140,500.00 581,900.00 1,677,500.00 2,259,400.00 5/1/2028 315,000 4.000 2.660 134,400.00 449,400.00 579,900.00 1,670,800.00 2,250,700.00 5/1/2030 330,000 4.000 2.730 128,100.00 128,100.00 577,500.00 1,672,500.00 2,250,000.00 5/1/2031 345,000 4.000 2.790 121,500.00 121,500.00 579,600.00 1,672,400.00 2,252,000.00 5/1/2031 345,000 4.000 2.850 114,600.00 144,600.00 581,100.00 1,670,500.00 2,251,600.00 5/1/2032 360,000 4.000 2.900 107,400.00 107,400.00 582,000.00 1,670,500.00 2,253,700.00 5/1/2033		200,000	4.000	0.400			579,400.00	1,671,000.00	2,250,400.00
5/1/2027 295,000 4.000 2.520 146,400.00 441,400.00 140,500.00 581,900.00 1,677,500.00 2,259,400.00 1/1/1/2028 305,000 4.000 2.590 140,500.00 143,400.00 579,900.00 1,670,800.00 2,250,700.00 1/1/1/2029 315,000 4.000 2.730 128,100.00 128,100.00 577,500.00 1,672,500.00 2,250,000.00 5/1/2030 330,000 4.000 2.730 128,100.00 121,500.00 579,600.00 1,672,500.00 2,250,000.00 1/1/1/2030 121,500.00 121,500.00 121,500.00 579,600.00 1,672,400.00 2,252,000.00 1/1/1/2031 114,600.00 144,600.00 144,600.00 1,670,500.00 2,251,600.00 1/1/1/2032 360,000 4.000 2.850 114,600.00 147,400.00 582,000.00 1,671,700.00 2,253,700.00 1/1/1/2033 375,000 4.000 2.950 99,900.00 482,400.00 1/1/1/2034 99,900.00 99,900.00 582,300.00 1,670,900.00 2,253,700.00 5/1/2035 460,000 4.000 2.950 99,900.00 99,900.00 582,300.00 1,670,900.00 2,253,700.00 5/1/2035 460,000 4.000 2.990 92,100.00 52,100.00 52,100.00 5/1/2036 475,000 4.000 3.030 82,900.00 52,900.00 635,000.00 1,619,200.00 2,250,400.00 5/1/2037 495,000 4.000 3.070 73,400.00 568,400.00 1/1/1/2038 1,015,000 4.000 3.110 63,500.00 63,500.00 631,900.00 1,621,700.00 2,253,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 63,500.00 631,900.00 1,621,700.00 2,250,400.00 5/1/2038 1,015,000 4.000 3.150 43,200.00 43,200.00 1,125,200.00 1,125,400.00 2,256,600.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 1,122,000.00 1,125,000.00 1,125,400.00 2,256,600.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 1,122,000.00 1,125,000.00 1,125,000.00 1,127,100.00 2,249,100.00 5/1/2040 1,100,000 4.000 3.150 43,200.00 1,122,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.0		280,000	4.000	2.460		•	579 400 00	1 672 600 00	2 251 000 00
11/1/2028 305,000 4.000 2.590 140,500.00 445,500.00 445,500.00 1,677,500.00 2,259,400.00 1/1/2028 315,000 4.000 2.660 134,400.00 134,400.00 134,400.00 1,670,800.00 2,250,700.00 1/1/2029 315,000 4.000 2.660 134,400.00 149,400.00 128,100.00 577,500.00 1,672,500.00 2,250,000.00 1/1/2030 330,000 4.000 2.730 128,100.00 128,100.00 579,600.00 1,672,500.00 2,250,000.00 1/1/2031 345,000 4.000 2.790 121,500.00 121,500.00 579,600.00 1,672,400.00 2,251,600.00 1/1/2031 375,000 4.000 2.850 114,600.00 141,600.00 581,100.00 1,670,500.00 2,251,600.00 1/1/2033 375,000 4.000 2.990 107,400.00 482,400.00 11/1/2033 390,000 4.000 2.990 107,400.00 482,400.00 11/1/2034 390,000 4.000 2.990 99,900.00 489,900.00 582,300.00 1,670,900.00 2,253,200.00 1/1/2034 390,000 4.000 2.990 92,100.00 552,100.00 57/1/2036 460,000 4.000 2.990 92,100.00 552,100.00 57/1/2036 475,000 4.000 3.030 82,900.00 557,900.00 1,619,200.00 2,254,200.00 57/1/2038 1,015,000 4.000 3.110 63,500.00 1,078,500.00 1,217,000.00 1,225,000.00 1/1/2038 1,005,000 4.000 3.110 63,500.00 1,078,500.00 1,125,200.00 1,125,400.00 2,253,600.00 57/1/2038 1,005,000 4.000 3.110 63,500.00 1,078,500.00 1,125,200.00 1,125,400.00 2,250,600.00 57/1/2039 1,060,000 4.000 3.150 43,200.00 1,122,000.00 1,125,400.00 2,250,600.00 57/1/2039 1,060,000 4.000 3.150 43,200.00 1,122,000.00 1,125,000.00 1,125,400.00 2,249,100.00 1/1/2040 1,100,000 4.000 3.150 43,200.00 1,122,000.00 1,125,000.00 1,125,400.00 2,249,100.00 1/1/2040 1,100,000 4.000 3.150 43,200.00 1,122,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00 1,125,000.00		205 000	4 000	2 520			576,400.00	1,072,000.00	2,231,000.00
5/1/2028 305,000 4.000 2.590 140,500.00 445,500.00 579,900.00 1,670,800.00 2,250,700.00 5/1/2029 315,000 4.000 2.660 134,400.00 149,400.00 579,900.00 1,670,800.00 2,250,700.00 5/1/2030 330,000 4.000 2.730 128,100.00 458,100.00 577,500.00 1,672,500.00 2,250,000.00 5/1/2031 345,000 4.000 2.790 121,500.00 466,500.00 1,670,500.00 2,251,600.00 5/1/2031 345,000 4.000 2.850 114,600.00 474,600.00 1,670,500.00 2,251,600.00 5/1/2032 360,000 4.000 2.850 114,600.00 474,600.00 1,670,500.00 2,251,600.00 11/1/2032 107,400.00 474,600.00 582,000.00 1,671,700.00 2,253,700.00 5/1/2033 375,000 4.000 2.950 99,900.00 482,400.00 1,670,900.00 2,253,200.00 11/1/2034 99,900.00 99,900.00 582,300.00 1,668,100.00		293,000	4.000	2.520			E91 000 00	1 677 500 00	2.250.400.00
11/1/2028		305,000	4 000	2 500		•	581,900.00	1,677,500.00	2,259,400.00
5/1/2029 315,000 4.000 2.660 134,400.00 128,100.00 128,100.00 577,500.00 1,672,500.00 2,250,000.00 5/1/2030 330,000 4.000 2.730 128,100.00 458,100.00 12,500.00 579,600.00 1,672,400.00 2,252,000.00 5/1/2031 345,000 4.000 2.790 121,500.00 121,500.00 579,600.00 1,672,400.00 2,251,600.00 1/1/2032 360,000 4.000 2.850 114,600.00 114,600.00 581,100.00 1,670,500.00 2,251,600.00 1/1/2033 375,000 4.000 2.900 107,400.00 107,400.00 582,000.00 1,671,700.00 2,253,700.00 1/1/2033 375,000 4.000 2.950 99,900.00 99,900.00 582,300.00 1,670,900.00 2,253,200.00 1/1/2034 390,000 4.000 2.950 99,900.00 99,900.00 582,300.00 1,670,900.00 2,253,200.00 1/1/2034 390,000 4.000 2.990 92,100.00 52,100.00 582,000.00 1,668,100.00 2,250,100.00 5/1/2034 460,000 4.000 2.990 92,100.00 552,100.00 582,000.00 1,619,200.00 2,250,100.00 5/1/2036 475,000 4.000 3.030 82,900.00 82,900.00 635,000.00 1,619,200.00 2,254,200.00 5/1/2036 475,000 4.000 3.030 82,900.00 568,400.00 631,300.00 1,619,100.00 2,250,400.00 5/1/2038 495,000 4.000 3.110 63,500.00 63,500.00 631,900.00 1,621,700.00 2,253,600.00 1/1/2038 43,200.00 43,200.00 43,200.00 1,121,700.00 2,253,600.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 43,200.00 1,121,700.00 2,250,600.00 5/1/2040 1,100,000 4.000 3.150 43,200.00 1,122,000.00 1,125,000.00 1,125,400.00 2,250,600.00 5/1/2040 1,100,000 4.000 3.190 22,000.00 1,122,000.00 1,122,000.00 1,122,000.00 2,249,100.00 1/1/2040 1,100,000 4.000 3.190 22,000.00 1,122,000.00 1		303,000	4.000	2.530			570 000 00	1 670 900 00	2 250 700 00
11/1/2029		215 000	4 000	2 660		•	579,900.00	1,670,600.00	2,250,700.00
5/1/2030 330,000 4.000 2.730 128,100.00 458,100.00 1,672,400.00 2,252,000.00 11/1/2031 345,000 4.000 2.790 121,500.00 466,500.00 1,672,400.00 2,252,000.00 11/1/2031 360,000 4.000 2.850 114,600.00 474,600.00 1,670,500.00 2,251,600.00 5/1/2032 360,000 4.000 2.850 117,400.00 107,400.00 582,000.00 1,671,700.00 2,253,700.00 5/1/2033 375,000 4.000 2.900 107,400.00 482,400.00 1,670,900.00 2,253,700.00 11/1/2033 99,900.00 99,900.00 582,000.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 2.950 99,900.00 92,100.00 582,000.00 1,668,100.00 2,250,100.00 5/1/2035 460,000 4.000 3.030 82,900.00 552,100.00 635,000.00 1,619,200.00 2,254,200.00 5/1/2036 475,000 4.000 3.070 73,400.00 73,4		313,000	4.000	2.000			577 500 00	1 672 500 00	2 250 000 00
11/1/2030 121,500.00 121,500.00 579,600.00 1,672,400.00 2,252,000.00 5/1/2031 345,000 4.000 2.790 121,500.00 466,500.00 1,670,500.00 2,251,600.00 5/1/2032 360,000 4.000 2.850 114,600.00 147,4600.00 581,100.00 1,671,700.00 2,251,600.00 11/1/2033 375,000 4.000 2.900 107,400.00 482,400.00 1,671,700.00 2,253,700.00 5/1/2034 390,000 4.000 2.950 99,900.00 99,900.00 582,000.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 2.950 99,900.00 92,100.00 582,000.00 1,668,100.00 2,250,100.00 5/1/2035 460,000 4.000 2.990 92,100.00 552,100.00 635,000.00 1,619,200.00 2,250,400.00 5/1/2036 475,000 4.000 3.030 82,900.00 557,900.00 631,300.00 1,619,100.00 2,250,400.00 5/1/2037 495,000 4.000 <td< td=""><td></td><td>330,000</td><td>4 000</td><td>2 720</td><td></td><td></td><td>377,300.00</td><td>1,072,300.00</td><td>2,230,000.00</td></td<>		330,000	4 000	2 720			377,300.00	1,072,300.00	2,230,000.00
5/1/2031 345,000 4.000 2.790 121,500.00 466,500.00 11/1/2031 114,600.00 114,600.00 581,100.00 1,670,500.00 2,251,600.00 5/1/2032 360,000 4.000 2.850 114,600.00 474,600.00 1,671,700.00 2,253,700.00 5/1/2033 375,000 4.000 2.990 107,400.00 482,400.00 1,670,900.00 2,253,200.00 1/1/2034 390,000 4.000 2.950 99,900.00 99,900.00 582,000.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 2.950 99,900.00 98,900.00 582,000.00 1,668,100.00 2,250,100.00 5/1/2035 460,000 4.000 2.990 92,100.00 552,100.00 1,619,200.00 2,254,200.00 5/1/2036 475,000 4.000 3.030 82,900.00 557,900.00 1,619,200.00 2,250,400.00 5/1/2037 495,000 4.000 3.070 73,400.00 63,500.00 631,900.00 1,621,700.00 2,253,600.		330,000	4.000	2.730			570 600 00	1 672 400 00	2 252 000 00
11/1/2031 360,000 4.000 2.850 114,600.00 474,600.00 1,670,500.00 2,251,600.00 5/1/2032 360,000 4.000 2.850 114,600.00 474,600.00 1,671,700.00 2,253,700.00 5/1/2033 375,000 4.000 2.900 107,400.00 482,400.00 1,670,900.00 2,253,700.00 5/1/2034 390,000 4.000 2.950 99,900.00 489,900.00 1,668,100.00 2,250,100.00 5/1/2035 460,000 4.000 2.990 92,100.00 552,100.00 635,000.00 1,619,200.00 2,250,100.00 5/1/2036 475,000 4.000 3.030 82,900.00 557,900.00 1,619,100.00 2,250,400.00 5/1/2037 495,000 4.000 3.070 73,400.00 568,400.00 631,300.00 1,619,100.00 2,253,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 63,500.00 631,900.00 1,621,700.00 2,248,700.00 5/1/2039 1,060,000 4.000 3.150		345 000	4 000	2 700			379,000.00	1,072,400.00	2,232,000.00
5/1/2032 360,000 4.000 2.850 114,600.00 474,600.00 107,400.00 582,000.00 1,671,700.00 2,253,700.00 5/1/2033 375,000 4.000 2.900 107,400.00 482,400.00 1,671,700.00 2,253,700.00 11/1/2034 390,000 4.000 2.950 99,900.00 99,900.00 582,300.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 2.950 99,900.00 92,100.00 582,000.00 1,668,100.00 2,250,100.00 5/1/2035 460,000 4.000 2.990 92,100.00 552,100.00 1,619,200.00 2,254,200.00 5/1/2036 475,000 4.000 3.030 82,900.00 557,900.00 1,619,100.00 2,250,400.00 5/1/2037 495,000 4.000 3.070 73,400.00 63,500.00 631,900.00 1,621,700.00 2,253,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 1,78,500.00 1,121,700.00 1,127,000.00 2,248,700.00 5/		343,000	4.000	2.730			581 100 00	1 670 500 00	2 251 600 00
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5/1/2033 375,000 4.000 2.900 107,400.00 482,400.00 11/1/2033 390,000 4.000 2.950 99,900.00 99,900.00 582,300.00 1,670,900.00 2,253,200.00 5/1/2034 390,000 4.000 2.950 99,900.00 489,900.00 1,668,100.00 2,250,100.00 5/1/2035 460,000 4.000 2.990 92,100.00 552,100.00 1,619,200.00 2,254,200.00 5/1/2036 475,000 4.000 3.030 82,900.00 557,900.00 1,619,200.00 2,250,400.00 5/1/2037 495,000 4.000 3.070 73,400.00 568,400.00 1,619,100.00 2,253,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 63,500.00 631,900.00 1,621,700.00 2,253,600.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 1,103,200.00 1,125,200.00 1,125,400.00 2,250,600.00 5/1/2040 1,100,000 4.000 3.190 22,000.00 1,122,000.00		300,000	4.000	2.000			582 000 00	1 671 700 00	2 253 700 00
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5/1/2036 475,000 4.000 3.030 82,900.00 557,900.00 11/1/2036 73,400.00 73,400.00 631,300.00 1,619,100.00 2,250,400.00 5/1/2037 495,000 4.000 3.070 73,400.00 568,400.00 631,900.00 1,621,700.00 2,253,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 1,078,500.00 1,121,700.00 1,127,000.00 2,248,700.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 1,103,200.00 1,125,200.00 1,125,400.00 2,250,600.00 5/1/2040 1,100,000 4.000 3.190 22,000.00 1,122,000.00 1,127,100.00 2,249,100.00		•					635,000.00	1,619,200.00	2,254,200.00
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11/1/2037 63,500.00 63,500.00 631,900.00 1,621,700.00 2,253,600.00 5/1/2038 1,015,000 4.000 3.110 63,500.00 1,078,500.00 1,121,700.00 1,127,000.00 2,248,700.00 11/1/2039 1,060,000 4.000 3.150 43,200.00 1,103,200.00 1,125,200.00 1,125,400.00 2,250,600.00 5/1/2040 1,100,000 4.000 3.190 22,000.00 1,122,000.00 1,127,100.00 2,249,100.00 11/1/2040 1,122,000.00 1,127,100.00 2,249,100.00		495,000	4.000	3.070					
11/1/2038 43,200.00 43,200.00 1,121,700.00 1,127,000.00 2,248,700.00 5/1/2039 1,060,000 4.000 3.150 43,200.00 1,103,200.00 1,125,200.00 1,125,400.00 2,250,600.00 11/1/2039 22,000.00 22,000.00 1,125,200.00 1,125,400.00 2,250,600.00 5/1/2040 1,100,000 4.000 3.190 22,000.00 1,122,000.00 1,127,100.00 2,249,100.00	11/1/2037						631,900.00	1,621,700.00	2,253,600.00
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5/1/2040 1,100,000 4.000 3.190 22,000.00 1,122,000.00 11/1/2040 1,122,000.00 1,127,100.00 2,249,100.00	5/1/2039	1,060,000	4.000	3.150	43,200.00	1,103,200.00			
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		1,100,000	4.000	3.190	22,000.00	1,122,000.00			
TOTALS 8,620,000 4,536,200.00 13,156,200.00 32,737,275.00 45,893,475.00	11/1/2040						1,122,000.00	1,127,100.00	2,249,100.00
TOTALS 8,620,000 4,536,200.00 13,156,200.00 32,737,275.00 45,893,475.00									
	TOTALS	8,620,000			4,536,200.00	13,156,200.00	13,156,200.00	32,737,275.00	45,893,475.00

^[1] Estimated interest rates assume current AAA MMD + 1.00%.

Actual interest rates will vary based on market conditions at the time of pricing.



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