

VILLAGE OF BARRINGTON HILLS

Finance Committee NOTICE OF MEETING



Wednesday, October 14, 2015 ~ 6:30 pm
112 Algonquin Road ~ MacArthur Room

AGENDA

1. Call to Order & Roll Call
2. [Vote] Minutes September 16, 2015
3. Public Comment
4. Police Pension Obligation Bond Report
5. Public Comment PPOB
Specifically seeking public comments, statements or information for the record and Finance Committee.
6. Adjournment

Chairman: Bryan Croll

NOTICE AS POSTED

NOTE:

The purpose of this meeting will be to discuss and evaluate the proposed Pension Board Obligation Bond (PBOB) from a financial perspective using models of various forecasted returns, including negative returns, in order to examine the possible outcomes, weigh their impacts, and judge risk and reward for the Village. To generate a recommendation to the Board of Trustees regarding whether to proceed with the PBOB.

Village of Barrington Hills 10/14/2015 Finance Committee Meeting - 2015 PPF Pension Benefit Obligation Bond Scenario Analysis

Allocation 1 (Current) \$7,295,000 Bond Issued	Stocks 45%	Bonds 52%	Cash 3%	Combined Return before exp.	25-yr Total After 0.3% Expense	No Bond Total Contribution	Bond Issued Total Contribution	Savings from Issuing Bonds
Scenario 1				5.30%	5.00%	\$37,582,702	\$ 36,871,100	\$ 711,602
Scenario 2 - Wall estimate				6.80%	6.50%	\$28,885,526	\$ 24,879,737	\$ 4,005,789
Scenario 3				4.38%	3.98%	\$34,445,814	\$ 35,288,490	\$ (842,676)
2016-2020	0.00%	4.50%	0.00%	2.34%				
2021-2025	0.00%	4.50%	2.50%	2.42%				
2026-2040	10.00%	6.25%	2.50%	7.83%				
Scenario 4				4.40%	4.00%	\$31,913,764	\$ 32,862,931	\$ (949,167)
2016-2017	-29.29%	4.50%	0.00%	-0.61%				
2018-2025	9.05%	4.50%	2.50%	5.90%				
2026-2040	10.00%	6.25%	2.50%	7.71%				
Scenario 5				3.74%	3.32%	\$35,181,389	\$ 36,561,560	\$ (1,380,171)
2016-2017	-29.29%	4.50%	0.00%	-9.29%				
2018-2040				6.50%				

No Bond		Bond Issued		
Normal Cost	Unfunded Payment	Normal Cost	Unfunded Payment	Debt Service
\$10,183,405	\$27,399,297	\$ 10,183,405	\$ 13,756,647	\$ 12,931,048
\$10,183,405	\$18,702,121	\$ 10,183,405	\$ 1,765,284	\$ 12,931,048
\$10,183,405	\$24,262,409	\$ 10,183,405	\$ 12,174,037	\$ 12,931,048
\$10,183,405	\$21,730,359	\$ 10,183,405	\$ 9,748,478	\$ 12,931,048
\$10,183,405	\$24,997,984	\$ 10,183,405	\$ 13,447,107	\$ 12,931,048

Allocation 2 (Proposed) \$6,860,000 Bond Issued	Stocks 55%	Bonds 42%	Cash 3%	Combined Return before exp.	25-yr Total After 0.3% Expense	No Bond Total Contribution	Bond Issued Total Contribution	Savings from Issuing Bonds
Scenario 1				5.30%	5.00%	\$37,669,089	\$ 37,070,376	\$ 598,713
Scenario 2 - IL State est.				7.05%	6.75%	\$27,670,506	\$ 23,387,086	\$ 4,283,420
Scenario 3				4.42%	4.02%	\$34,304,203	\$ 35,383,624	\$ (1,079,421)
2015-2020	0.00%	4.50%	0.00%	1.89%				
2021-2025	0.00%	4.50%	2.50%	1.97%				
2026-2040	10.00%	6.25%	2.50%	8.20%				
Scenario 4				4.44%	4.04%	\$31,398,020	\$ 32,676,579	\$ (1,278,559)
2015-2020	-29.29%	4.50%	0.00%	-1.87%				
2021-2025	9.05%	4.50%	2.50%	6.32%				
2026-2040	10.00%	6.25%	2.50%	8.08%				
Scenario 5				3.30%	3.19%	\$35,371,593	\$ 37,275,417	\$ (1,903,824)
2016-2017	-29.29%	4.50%	0.00%	-12.61%				
2018-2040				6.75%				

No Bond		Bond Issued		
Normal Cost	Unfunded Payment	Normal Cost	Unfunded Payment	Debt Service
\$ 9,445,259	\$28,223,830	\$ 9,445,259	\$ 15,443,907	\$ 12,181,210
\$ 9,445,259	\$18,225,247	\$ 9,445,259	\$ 1,760,619	\$ 12,181,210
\$ 9,445,259	\$24,858,944	\$ 9,445,259	\$ 13,757,155	\$ 12,181,210
\$ 9,445,259	\$21,952,761	\$ 9,445,259	\$ 11,050,110	\$ 12,181,210
\$ 9,445,259	\$25,926,334	\$ 9,445,259	\$ 15,648,948	\$ 12,181,210

Wall & Associates Current Manager	Stocks 43%	Bonds 55%	Cash 2%	Combined After Exp.
2009-2015		2.63%		4.53%
2009-2011	7.67%			
2012-2015	12.15%			

Portfolio (8/31/15)	Value	Allocation
Stocks	\$ 3,511,928	43%
Bonds	\$ 4,475,004	55%
Cash	\$ 173,740	2%
Total	\$ 8,160,672	100%

JPM 2015 LT Forecast	Stocks 55%	Bonds 43%	Cash 2%	Combined After Exp.
Approx. Avg.	6.70%	3.70%	1.70%	5.31%
High	9.45%	6.70%	1.70%	8.11%
Low	4.95%	1.95%	1.70%	3.60%

Notes:

Normal Cost and Unfunded Payment calculated by Lauterbach & Amen, LLP (Steve Earnhardt and Todd Schroeder).

Debt Service and Total Contribution calculated by William Blair & Company (Mike McIntyre).

Lauterbach's actuarial estimate for 6.5% is from Wall (which he says he gets from JPM's LT Forecast) for 45% stocks, and for 6.75% is from State of IL for funds over \$10M for 55% stocks. Returns are after .3% expense.

At current interest rates, to achieve 100% funding in 2040 and repay the PBOB bond, either \$6.86M must be borrowed and earn 6.75% after expense, or \$7.295M must be borrowed and earn 6.5% after expense.

On 10/12/15, William Blair & Co. provided a revised market-based estimate putting the PBOB's True Interest Cost at 4.55%. This is embedded in the Debt Service Numbers.

JPM 2015 LT Forecast refers to the document from J.P. Morgan & Co. entitled "Long-term capital market return assumptions 2015 Edition US".

This summary spreadsheet was prepared on 10/14/15 by Bryan Croll, Village of Barrington Hills Trustee and Finance Committee Chair.

JPM gives no single number for each class. Returns after 0.3% expense.

Average is approximated from the range of assets in each class.

High and Low is the highest and lowest returning asset in each class.

Performance Summary

Net of Fees

Date Range
8/1/2015 - 8/31/2015

Client Name
Barrington Hills Police
Pension Fund

Account Name
Account Aggregate

Account Number

Currency
USD

Portfolio Summary

Beginning Market Value	8,350,751.71
Beginning Accrued Interest	18,783.69
Additions	197,888.85
Withdrawals	-149,496.24
Period Realized Gains/Losses ¹	-658.10
Period Unrealized Gains/Losses ²	-245,974.12
Interest Income	8,159.98
Dividend Income	0.00
Management Fees	0.00
Ending Market Value	8,160,672.09
Ending Accrued Interest	16,198.31
Total Gain after Management Fees	-241,057.61
Time Weighted Return %	-2.87
Benchmark Return %	-2.46
Average Annualized Return %	-
Annualized Benchmark Return %	-

Total Portfolio	1 Mo	3 Mo	YTD	1 Yr	3 Yr	5 Yr	Since Inception 12/31/2008
Time Weighted Return % ³	-2.87	-3.08	-0.47	0.56	4.48	4.40	4.53
40% S&P 500 55% BC Inter Gov Credit 5% TBills % ¹	-2.46	-2.54	-0.44	1.15	6.39	7.66	8.13
+/- Benchmark %	-0.41	-0.55	-0.03	-0.58	-1.91	-3.27	-3.61

1. Returns are annualized for periods greater than 1 year.

2. Period Unrealized Gains/Losses - Unrealized Gains/Losses of all securities held in account(s) based on market values at the end of the day before the first date of the report. For purchases made during the report period, the unrealized gain/loss is based on cost basis of those purchases.

3. Period Realized Gains/Losses - Realized Gains/Losses generated by all closing positions during the report period based on market value at the end of the day before the first date of the report. For purchases made during the report period, the realized gain/loss is based on cost basis of those purchases.

Performance Summary

Net of Fees

Date Range
8/1/2015 - 8/31/2015

Client Name
Barrington Hills Police
Pension Fund

Account Name
ETF Global Equity

Account Number
12257340

Currency
USD

Portfolio Summary

Beginning Market Value	3,747,603.10
Beginning Accrued Interest	0.00
Additions	0.00
Withdrawals	0.00
Period Realized Gains/Losses ¹	0.00
Period Unrealized Gains/Losses ²	-235,674.83
Interest Income	0.00
Dividend Income	0.00
Management Fees	0.00
Ending Market Value	3,511,928.27
Ending Accrued Interest	0.00
Total Gain after Management Fees	-235,674.83
Time Weighted Return %	-6.29
Benchmark Return %	-6.03
Average Annualized Return %	-
Annualized Benchmark Return %	-

Total Portfolio	1 Mo	3 Mo	YTD	1 Yr	3 Yr	5 Yr	Since Inception 1/31/2012
Time Weighted Return % ¹	-6.29	-6.56	-2.24	-0.92	12.79	-	12.15
S&P 500 TR USD % ¹	-6.03	-5.92	-2.88	0.48	14.32	-	14.45
+/- Benchmark %	-0.26	-0.64	0.64	-1.40	-1.53	-	-2.30
65% R3K & 35% EAFE % ¹	-6.50	-6.78	-1.74	-2.38	12.54	-	12.11
+/- Benchmark %	0.21	0.22	0.50	1.47	0.25	-	0.04
80% R3K & 20% EAFE (net) % ¹	-6.30	-6.47	-2.11	-1.21	13.45	-	13.11
+/- Benchmark %	0.01	-0.08	-0.13	0.29	-0.65	-	-0.97

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Performance Summary

Gross of Fees

Date Range
8/1/2015 - 8/31/2015

Client Name
Barrington Hills Police
Pension Fund

Account Name
Fixed Income

Account Number
74098825

Currency
USD

Portfolio Summary

Beginning Market Value	4,362,807.86
Beginning Accrued Interest	18,763.69
Additions	115,000.00
Withdrawals	0.00
Period Realized Gains/Losses ¹	-658.10
Period Unrealized Gains/Losses ²	-10,299.28
Interest Income	8,153.29
Dividend Income	0.00
Management Fees	0.00
Ending Market Value	4,475,003.77
Ending Accrued Interest	10,198.31
Total Gain before Management Fees	-5,389.47
Time Weighted Return %	-0.13
Benchmark Return %	0.07
Average Annualized Return %	
Annualized Benchmark Return %	

Total Portfolio	1 Mo	3 Mo	YTD	1 Yr	3 Yr	5 Yr	Since Inception 12/31/2008
Time Weighted Return % ¹	-0.13	-0.27	0.87	1.68	0.84	1.92	2.63
Barclays US Agency Intern TR USD % ¹	0.07	0.16	1.23	1.77	0.89	1.56	2.14
+/- Benchmark %	-0.20	-0.43	-0.37	-0.09	-0.15	0.36	-0.50
Barclays US Govt/Credit Intern TR USD % ¹	-0.08	-0.33	1.09	1.47	1.30	2.38	3.55
+/- Benchmark %	-0.04	0.05	-0.22	0.21	-0.46	-0.46	-0.92
Barclays US Agg Intern TR USD % ¹	-0.03	-0.24	1.07	1.88	1.51	2.60	3.89
+/- Benchmark %	-0.10	-0.03	-0.20	-0.20	-0.67	-0.68	-1.26

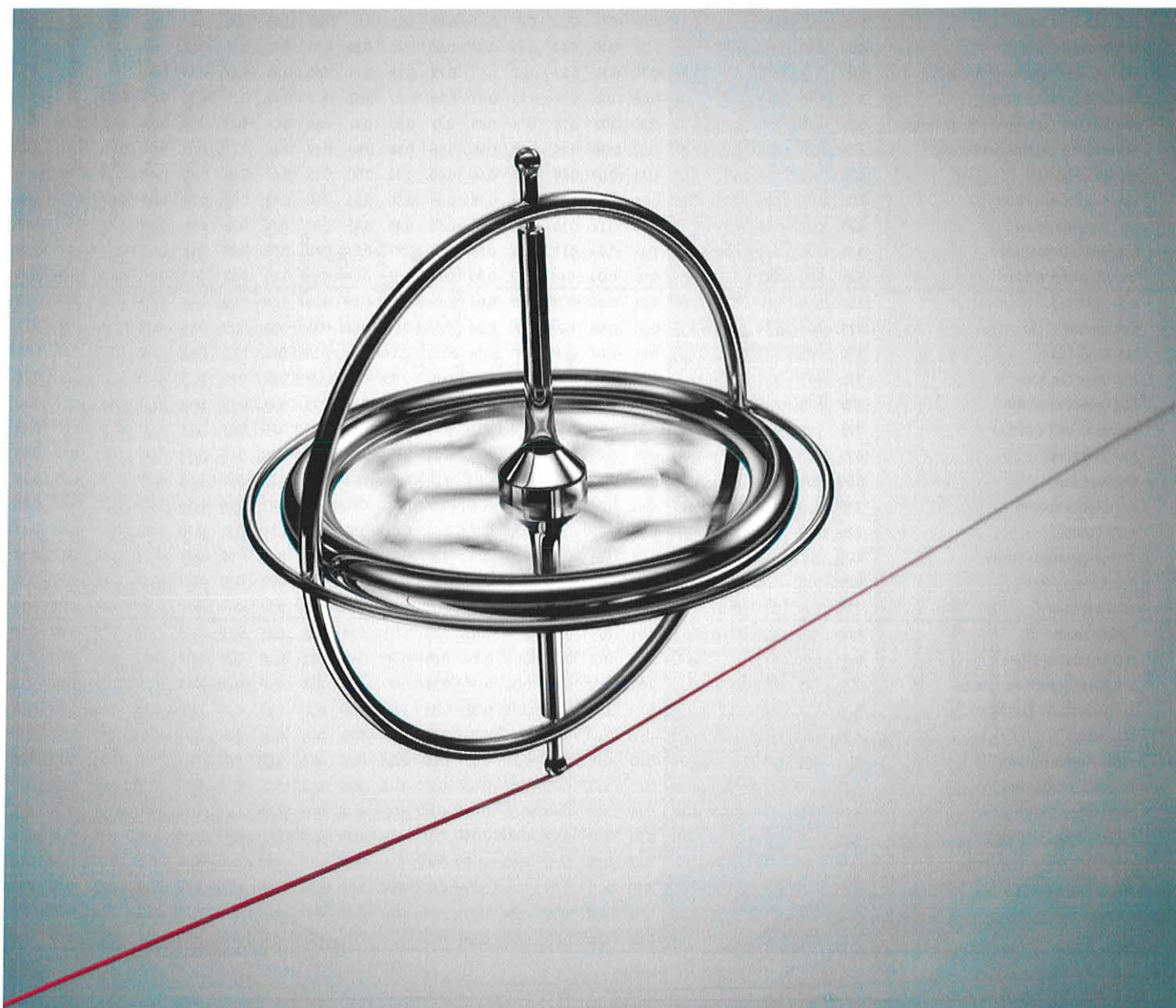
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Long-term capital market return assumptions

2015 Edition | US



J.P. MORGAN ASSET MANAGEMENT LONG-TERM CAPITAL MARKET RETURN

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LV-JPM21158 | 10/14

From: [Steve Earnhardt](#)
To: [Bryan Croll](#)
Subject: Re: Barrington Hills Police - Projections (Market Scenario 2)
Date: Tuesday, October 13, 2015 3:49:40 PM

Bryan,

We don't specifically offer return assumptions. We discuss the investment return assumption with the Fund and the investment professionals engaged by the Fund. So, we don't have documentation to provide to you as you requested.

Regarding the 6.5% and 6.75%:

6.5% is the assumption currently utilized by the Fund based on the investment professional advice and the rate of return used in past valuations.

6.75% is reflective of the Dept. of Insurance's return assumption for all Funds with assets of \$10M or above.

Hopefully this clarifies things for you, but please let me know if you have any other questions.

Thanks,

Stephen Earnhardt

On Oct 13, 2015, at 3:36 PM, Bryan Croll <bryan@croll.org> wrote:

Steve,

A couple of questions.

One, what are the bases of the actuarial assumption of 6.5% and 6.75% returns your firm has offered?

Two, can you provide the actuarial assumptions you have provided to VBH/PPF over the course of your engagement? A table showing these assumptions by year would be helpful.

Our meeting is tomorrow evening so if you could please try to get me this information by then, I would very much appreciate it.

Thank you.

Bryan Croll

From: Steve Earnhardt [<mailto:SEarnhardt@lauterbachamen.com>]

Sent: Tuesday, October 13, 2015 9:35 AM
To: Bryan Croll
Subject: RE: Barrington Hills Police - Projections (Market Scenario 2)

Bryan,

There is no specific breakdown for those investment return assumptions. We just use a total portfolio return assumption for analysis purposes.

Thanks,

Stephen Earnhardt, CPA

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From: Bryan Croll [<mailto:bryan@croll.org>]
Sent: Monday, October 12, 2015 10:40 PM
To: Steve Earnhardt
Subject: RE: Barrington Hills Police - Projections (Market Scenario 2)

Steve,

Can you send me the breakdown of the 5%, 6.5% and 6.75% returns in terms of the stock, bond, and cash positions? Such as, stocks 8%, bonds 4%, cash 2%, or whatever that makes up those overall returns. Thank you.

Bryan

From: Steve Earnhardt [<mailto:SEarnhardt@lauterbachamen.com>]
Sent: Friday, October 09, 2015 6:31 PM
To: McIntyre, Mike (MMcIntyre@williamblair.com); Bryan Croll (bryan@croll.org)
Subject: FW: Barrington Hills Police - Projections (Market Scenario 2)

From: Todd Schroeder
Sent: Friday, October 09, 2015 4:36 PM
To: Steve Earnhardt
Subject: Barrington Hills Police - Projections (Market Scenario 2)

Steve,

Attached are the exhibits. All are run under market scenario 2 provided to us from Bryan. Equities down 50% in 2 years. Fixed income at 4.50% for 2 years. Cash at 0% for 2 years. Please note the 4 worksheets are similar to my prior email, outside of the Market scenario factor.

There are 4 sets of results under this scenario:

1. Assumed actuarial rate is 6.50%, and no additional funding.
2. Assumed actuarial rate is 6.50%, and additional funding (unfunded liability) is contributed 12/31/2015.
3. Assumed actuarial rate is 6.75%, and no additional funding.
4. Assumed actuarial rate is 6.75%, and additional funding (unfunded liability) is contributed 12/31/2015.

For the scenarios at 6.50% assumed return, we use the 45% equity, 52% Fixed, and 3% Cash allocation.

For the scenarios at 6.75% assumed return, we use the 55% equity, 42% Fixed, and 3% Cash allocation.

The detail on the separate market scenarios and annual returns is in the separate file (email 1 of 3 I sent over for this project).

Let me know if you have any questions.

Thank you,

Todd

Todd Schroeder

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From: [Dave Wall](#)
To: ["Bryan Croll"](#)
Subject: RE: Questions
Date: Wednesday, October 14, 2015 2:19:12 PM

The return was 7.67% for the equities and is included in the overall performance. Bonds at 4.50% short term is a challenge given the 10 year treasury is about 2.0%. We may also be in a rising rate environment which not good for the total return on bonds. Currently the plan cannot gain access to high yields or global debt unless they reduce equity holdings because the statute defines bond funds as equities. Thus high yield and global bonds are not currently being used. If the plan had greater than 10 million in assets then equity allocations could go as high as 45%. Does this help?

From: Bryan Croll [<mailto:bryan@croll.org>]
Sent: Wednesday, October 14, 2015 11:05 AM
To: 'Dave Wall' <dave@wallandassociates.org>
Subject: RE: Questions

Dave,

I'm asking these questions because I'm working on the decision whether to go forward with the PBOB. We have a meeting tonight. Does the overall performance since 1/1/2009 include the equity performance using mutual funds? Can you provide me with the equity performance from 1/1/09-12/31/11? What is your view of achieving a 4.5% bond return right now, is the risk acceptable?

Thank you for your answers.

Bryan

From: Dave Wall [<mailto:dave@wallandassociates.org>]
Sent: Wednesday, October 14, 2015 9:26 AM
To: bryan@croll.org
Subject: Questions

1. The 2012 inception date was when the plan surpassed the 5 million mark in assets and was allowed to use ETF's. Prior to that date the plan used mutual funds as required by statute. The pension board decided to monitor performance in a new account when this policy change was made.
2. The expected rates of return are taken from JP Morgan. Each year they prepare an estimate of future returns for each asset class. I have attached supporting documentation.

Dave Wall CIMA, CFP
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Phoenix, AZ 85027
623-242-6332

From: [Dave Wall](#)
To: ["Bryan Croll"](#)
Subject: RE: Questions
Date: Wednesday, October 14, 2015 2:21:09 PM

That return would be a challenge with only 45% in equity. This more probable if plan assets were greater than 10 million.

From: Bryan Croll [<mailto:bryan@croll.org>]
Sent: Wednesday, October 14, 2015 11:31 AM
To: 'Dave Wall' <dave@wallandassociates.org>
Subject: RE: Questions

Dave,

An additional question. How do you take the JPM document and turn it into a 6.5% estimated return? If you apply the 43%-55%-3% allocation, which numbers do you plug in to get there?
Bryan

From: Dave Wall [<mailto:dave@wallandassociates.org>]
Sent: Wednesday, October 14, 2015 9:26 AM
To: bryan@croll.org
Subject: Questions

1. The 2012 inception date was when the plan surpassed the 5 million mark in assets and was allowed to use ETF's. Prior to that date the plan used mutual funds as required by statute. The pension board decided to monitor performance in a new account when this policy change was made.
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Dave Wall CIMA, CFP
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From: McIntyre, Mike
To: Bryan Croll
Subject: Barrington Hills
Date: Wednesday, October 14, 2015 9:22:20 AM
Attachments: [6.8M Scenario 1 Barrington Hills Pension Fund Analysis.pdf](#)
[6.8M Scenario 2 Barrington Hills Pension Fund Analysis.pdf](#)
[6.8M Scenario 3 Barrington Hills Pension Fund Analysis.pdf](#)
[6.8M Scenario 4 Barrington Hills Pension Fund Analysis.pdf](#)
[6.8M Scenario 5 Barrington Hills Pension Fund Analysis.pdf](#)
[7.2M Scenario 1 Barrington Hills Pension Fund Analysis.pdf](#)
[7.2M Scenario 2 Barrington Hills Pension Fund Analysis.pdf](#)
[7.2M Scenario 3 Barrington Hills Pension Fund Analysis.pdf](#)
[7.2M Scenario 4 Barrington Hills Pension Fund Analysis.pdf](#)
[7.2M Scenario 5 Barrington Hills Pension Fund Analysis.pdf](#)

Bryan,

I will be sending a few e-mails because of the amount of information. Attached are revised scenarios to match titles with Lauterbach's actuarial reports.

Next, I will send over Lauterbach's information with matching pdf titles.

Regarding your question about the "Column G" first 10 years difference between Scenarios 3 and 4

- \$6.8M: Scenario 4 contribution is \$1,213,621 more
- \$7.2M: Scenario 4 contribution is \$1,021,368 more

Mike

Michael McIntyre | DCM Investment Banking
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+1 312 364 5452 | mmcintyre@williamblair.com | www.williamblair.com

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From: Bryan Croll [<mailto:bryan@croll.org>]
Sent: Tuesday, October 13, 2015 1:32 PM

To: McIntyre, Mike

Subject: PBOB Analysis 10-12-15.xls

BofA Merrill Lynch US Corporate BBB Effective Yield©

2015-10-13: **4.04** Percent (+ see more)

Daily, Close, Not Seasonally Adjusted, BAMLC0A4CBBBEY, Updated: 2015-10-14 7:32 AM CDT

1yr | 5yr | 10yr | Max

From to



- [Notes ©](#)

Exhibit A
Barrington Hills Police Pension Fund
Pension Funding Bonds Analysis - \$6.8 Million Bond Issuance - Scenario 5

Projected Par Amount	\$6,860,000
Projections Assume Dated Date	12/31/2015
Estimated Market Value of Assets (12/31/2014)	\$7,995,421
Estimated Actuarial Accrued Liability (12/31/2014)	\$14,659,175
Estimated Unfunded Actuarial Accrued Liability (12/31/2014)	\$6,663,754
Estimated Actuarial Value of Assets Percent Funded (12/31/2014)	54.5%
True Interest Cost	4.55%
Assumed Investment Earnings	3.19%

Plan Year	A Normal Cost (Statutory Requirement)	No Bond Proceeds			Bond Proceeds Scenario (\$6.86MM in Proceeds)					C - G = H Savings Generated from Issuance of Funding Bonds	Present Value Savings based 6.50% Investment Earnings
		B Unfunded Payment	A + B = C Normal Cost + Unfunded Payment = Contribution to Pension Fund	Funded %	D Unfunded Payment	A + D = E Normal Cost + Unfunded Payment = Contribution to Pension Fund	F Principal & Interest Due on Bonds (Debt Service)	E + F = G Contribution to Pension Fund + Debt Service	Funded %		
2013	\$288,645	\$473,526	\$762,171	53.5%	\$473,526	762,171	\$ -	\$762,171	53.5%	\$ -	\$ -
2014	301,634	335,962	637,596	56.2%	335,962	637,596	-	637,596	56.2%	-	-
2015	315,208	429,918	745,126	55.7%	\$7,171,292	7,486,500	-	7,486,500	100.0%	-	-
2016	276,519	375,228	651,747	46.8%	375,228	651,747	233,282	885,029	102.1%	(233,282)	(226,978)
2017	283,432	416,649	700,081	39.7%	-	283,432	326,897	610,329	101.8%	89,752	81,805
2018	290,517	547,062	837,579	41.9%	181,390	471,907	321,502	793,409	101.5%	44,171	37,714
2019	297,780	678,280	976,060	44.6%	384,010	681,790	336,007	1,017,797	101.1%	(41,737)	(33,382)
2020	305,225	712,553	1,017,778	47.3%	413,497	718,722	350,125	1,068,847	100.8%	(51,069)	(38,263)
2021	312,855	741,697	1,054,552	49.8%	432,565	745,420	368,649	1,114,069	100.5%	(59,517)	(41,773)
2022	320,677	771,723	1,092,400	52.1%	451,794	772,471	386,601	1,159,072	100.2%	(66,672)	(43,836)
2023	328,694	803,112	1,131,806	54.4%	471,953	800,647	403,751	1,204,398	99.9%	(72,592)	(44,711)
2024	336,911	835,989	1,172,900	56.6%	493,164	830,075	429,971	1,260,046	99.7%	(87,146)	(50,281)
2025	345,334	870,463	1,215,797	58.7%	515,517	860,851	439,766	1,300,617	99.4%	(84,820)	(45,844)
2026	353,967	906,658	1,260,625	60.8%	539,111	893,078	453,875	1,346,953	99.2%	(86,328)	(43,709)
2027	362,816	944,718	1,307,534	62.8%	564,060	926,876	467,086	1,393,962	99.0%	(86,428)	(40,993)
2028	371,887	984,811	1,356,698	64.7%	590,502	962,389	484,255	1,446,644	98.8%	(89,946)	(39,964)
2029	381,184	1,027,139	1,408,323	66.6%	618,598	999,782	495,239	1,495,021	98.7%	(86,698)	(36,085)
2030	390,714	1,071,943	1,462,657	68.6%	648,550	1,039,264	515,189	1,554,453	98.5%	(91,796)	(35,791)
2031	400,481	1,119,528	1,520,009	70.6%	680,605	1,081,086	528,653	1,609,739	98.4%	(89,730)	(32,773)
2032	410,493	1,170,275	1,580,768	72.8%	715,084	1,125,577	545,629	1,671,206	98.2%	(90,438)	(30,943)
2033	420,756	1,224,960	1,645,716	75.1%	752,406	1,173,162	564,918	1,738,080	98.1%	(92,364)	(29,604)
2034	431,275	1,283,459	1,714,734	77.5%	793,149	1,224,424	582,565	1,806,989	98.1%	(92,255)	(27,699)
2035	442,057	1,347,561	1,789,618	80.2%	838,137	1,280,194	598,570	1,878,764	98.1%	(89,146)	(25,073)
2036	453,108	1,418,474	1,871,582	83.2%	888,624	1,341,732	622,934	1,964,666	98.1%	(93,084)	(24,526)
2037	464,436	1,498,616	1,963,052	86.5%	946,660	1,411,096	639,945	2,051,041	98.2%	(87,989)	(21,717)
2038	476,047	1,592,370	2,068,417	90.2%	1,015,975	1,492,022	665,060	2,157,082	98.4%	(88,665)	(20,500)
2039	487,948	1,709,033	2,196,981	94.2%	1,104,487	1,592,435	692,805	2,285,240	98.7%	(88,259)	(19,116)
2040	500,146	1,874,033	2,374,179	98.8%	1,233,882	1,734,028	727,943	2,461,971	99.3%	(87,792)	(17,813)
Totals	9,445,259	\$25,926,334	\$35,371,593		\$15,648,948	\$25,094,207	\$12,181,210	\$37,275,417		(1,903,824)	(851,857)

Exhibit B

Bond Debt Service				
The Village of Barrington Hills, Illinois Proposed 2015 Taxable Pension Funding Bonds				
<u>Maturity Date</u>	<u>Principal</u>	<u>Rate</u>	<u>Interest</u>	<u>Debt Service</u>
1/1/2016	\$160,000	0.77%	\$73,282	\$233,282
1/1/2017	35,000	1.13%	291,897	326,897
1/1/2018	30,000	1.65%	291,502	321,502
1/1/2019	45,000	1.96%	291,007	336,007
1/1/2020	60,000	2.46%	290,125	350,125
1/1/2021	80,000	2.56%	288,649	368,649
1/1/2022	100,000	2.85%	286,601	386,601
1/1/2023	120,000	3.15%	283,751	403,751
1/1/2024	150,000	3.47%	279,971	429,971
1/1/2025	165,000	3.57%	274,766	439,766
1/1/2026	185,000	3.67%	268,875	453,875
1/1/2027	205,000	3.82%	262,086	467,086
1/1/2028	230,000	3.92%	254,255	484,255
1/1/2029	250,000	4.02%	245,239	495,239
1/1/2030	280,000	4.12%	235,189	515,189
1/1/2031	305,000	4.27%	223,653	528,653
1/1/2032	335,000	4.69%	210,629	545,629
1/1/2033	370,000	4.69%	194,918	564,918
1/1/2034	405,000	4.69%	177,565	582,565
1/1/2035	440,000	4.69%	158,570	598,570
1/1/2036	485,000	4.74%	137,934	622,934
1/1/2037	525,000	4.74%	114,945	639,945
1/1/2038	575,000	4.74%	90,060	665,060
1/1/2039	630,000	4.74%	62,805	692,805
1/1/2040	695,000	4.74%	32,943	727,943
	6,860,000		5,321,210	12,181,210

Exhibit A

Barrington Hills Police Pension Fund

Pension Funding Bonds Analysis - \$7.2 Million Bond Issuance - Scenario 5

Projected Par Amount	\$7,295,000
Projections Assume Dated Date	12/31/2015
Estimated Market Value of Assets (12/31/2014)	\$7,995,421
Estimated Actuarial Accrued Liability (12/31/2014)	\$14,659,175
Estimated Unfunded Actuarial Accrued Liability (12/31/2014)	\$6,663,754
Estimated Actuarial Value of Assets Percent Funded (12/31/2014)	54.5%
True Interest Cost	4.55%
Assumed Investment Earnings	3.32%

Plan Year	A Normal Cost (Statutory Requirement)	No Bond Proceeds			Bond Proceeds Scenario (\$7.2MM in Proceeds)					C - G = H Savings Generated from Issuance of Funding Bonds	Present Value Savings based 6.50% Investment Earnings
		B Unfunded Payment	A + B = C Normal Cost + Unfunded Payment = Contribution to Pension Fund	Funded %	D Unfunded Payment	A + D = E Normal Cost + Unfunded Payment = Contribution to Pension Fund	F Principal & Interest Due on Bonds (Debt Service)	E + F = G Contribution to Pension Fund + Debt Service	Funded %		
2013	\$315,954	\$446,217	\$762,171	51.7%	\$446,217	762,171	\$ -	\$762,171	51.7%	\$ -	\$ -
2014	330,172	307,424	637,596	54.5%	307,424	637,596	-	637,596	54.5%	-	-
2015	345,029	400,097	745,126	54.1%	\$7,596,930	7,941,959	-	7,941,959	100.0%	-	-
2016	298,129	401,741	699,870	56.2%	401,741	699,870	237,780	937,650	85.8%	(237,780)	(231,581)
2017	305,582	444,799	750,381	58.3%	-	305,582	349,888	655,470	71.5%	94,911	86,795
2018	313,221	556,187	869,408	60.2%	150,378	463,599	349,436	813,035	71.8%	56,373	48,406
2019	321,052	671,508	992,560	62.1%	329,690	650,742	358,776	1,009,518	73.0%	(16,958)	(13,673)
2020	329,078	702,839	1,031,917	63.8%	355,068	684,146	382,796	1,066,942	74.2%	(35,025)	(26,516)
2021	337,305	729,730	1,067,035	65.6%	371,113	708,418	395,951	1,104,369	75.3%	(37,334)	(26,539)
2022	345,738	757,404	1,103,142	67.2%	387,250	732,988	418,647	1,151,635	76.4%	(48,493)	(32,368)
2023	354,381	786,280	1,140,661	68.7%	404,162	758,543	425,370	1,183,913	77.4%	(43,252)	(27,107)
2024	363,241	816,468	1,179,709	70.1%	421,960	785,201	461,432	1,246,633	78.4%	(66,924)	(39,383)
2025	372,322	848,064	1,220,386	71.6%	440,720	813,042	465,707	1,278,749	79.4%	(58,363)	(32,249)
2026	381,630	881,179	1,262,809	73.0%	460,530	842,160	484,459	1,326,619	80.3%	(63,810)	(33,107)
2027	391,170	915,942	1,307,112	74.3%	481,492	872,662	492,119	1,364,781	81.3%	(57,669)	(28,095)
2028	400,950	952,502	1,353,452	75.7%	503,726	904,676	513,906	1,418,582	82.1%	(65,130)	(29,793)
2029	410,973	991,041	1,402,014	77.0%	527,379	938,352	534,302	1,472,654	83.0%	(70,640)	(30,341)
2030	421,248	1,031,779	1,453,027	78.3%	552,629	973,877	548,247	1,522,124	84.0%	(69,097)	(27,867)
2031	431,779	1,074,989	1,506,768	79.7%	579,702	1,011,481	550,887	1,562,368	84.9%	(55,600)	(21,055)
2032	442,573	1,121,021	1,563,594	81.1%	608,888	1,051,461	572,437	1,623,898	85.9%	(60,304)	(21,443)
2033	453,638	1,170,337	1,623,975	82.7%	640,569	1,094,207	591,022	1,685,229	87.0%	(61,254)	(20,451)
2034	464,979	1,223,567	1,688,546	84.4%	675,275	1,140,254	612,965	1,753,219	88.2%	(64,673)	(20,275)
2035	476,603	1,281,612	1,758,215	86.2%	713,763	1,190,366	643,033	1,833,399	89.5%	(75,184)	(22,131)
2036	488,518	1,345,842	1,834,360	88.2%	757,190	1,245,708	645,755	1,891,463	91.0%	(57,103)	(15,783)
2037	500,731	1,418,495	1,919,226	90.5%	807,451	1,308,182	672,055	1,980,237	92.6%	(61,011)	(15,834)
2038	513,250	1,503,645	2,016,895	93.0%	868,006	1,381,256	695,985	2,077,241	94.5%	(60,346)	(14,706)
2039	526,081	1,609,941	2,136,022	95.8%	946,208	1,472,289	742,545	2,214,834	96.6%	(78,812)	(18,033)
2040	539,233	1,761,072	2,300,305	99.0%	1,062,217	1,601,450	785,550	2,387,000	99.1%	(86,695)	(18,627)
Totals	10,183,405	\$24,997,984	\$35,181,389		\$13,447,107	\$23,630,512	\$12,931,048	\$36,561,560		(1,380,171)	(631,756)

Exhibit B

Bond Debt Service				
The Village of Barrington Hills, Illinois Proposed 2015 Taxable Pension Funding Bonds				
<u>Maturity Date</u>	<u>Principal</u>	<u>Rate</u>	<u>Interest</u>	<u>Debt Service</u>
1/1/2016	\$160,000	0.77%	\$77,780	\$237,780
1/1/2017	40,000	1.13%	309,888	349,888
1/1/2018	40,000	1.65%	309,436	349,436
1/1/2019	50,000	1.96%	308,776	358,776
1/1/2020	75,000	2.46%	307,796	382,796
1/1/2021	90,000	2.56%	305,951	395,951
1/1/2022	115,000	2.85%	303,647	418,647
1/1/2023	125,000	3.15%	300,370	425,370
1/1/2024	165,000	3.47%	296,432	461,432
1/1/2025	175,000	3.57%	290,707	465,707
1/1/2026	200,000	3.67%	284,459	484,459
1/1/2027	215,000	3.82%	277,119	492,119
1/1/2028	245,000	3.92%	268,906	513,906
1/1/2029	275,000	4.02%	259,302	534,302
1/1/2030	300,000	4.12%	248,247	548,247
1/1/2031	315,000	4.27%	235,887	550,887
1/1/2032	350,000	4.69%	222,437	572,437
1/1/2033	385,000	4.69%	206,022	591,022
1/1/2034	425,000	4.69%	187,965	612,965
1/1/2035	475,000	4.69%	168,033	643,033
1/1/2036	500,000	4.74%	145,755	645,755
1/1/2037	550,000	4.74%	122,055	672,055
1/1/2038	600,000	4.74%	95,985	695,985
1/1/2039	675,000	4.74%	67,545	742,545
1/1/2040	750,000	4.74%	35,550	785,550
	7,295,000		5,636,048	12,931,048

PUBLIC COMMENTS

Public Comments are submitted by the public and are not reviewed or endorsed by the Village.



Village Clerk <clerk@barringtonhills-il.gov>

Re: Public Input Requested! PBOB - Autoforwarded

Lorin M. Spak <dr.lmspak@gmail.com>
To: village@barringtonhills-il.gov

Mon, Oct 12, 2015 at 8:04 PM

The Village will not achieve the estimated return of 6+%. . Get rid of the Police Dept. Join in with several other Villages for a regional, non-union, police dept. or request the Sheriffs dept to police Barrington Hills. Our taxes are already extremely excessive.

Lorin M. Spak, JD, PhD
59 Hawthorne Road, Barrington Hills, IL 60010-5321
[REDACTED]

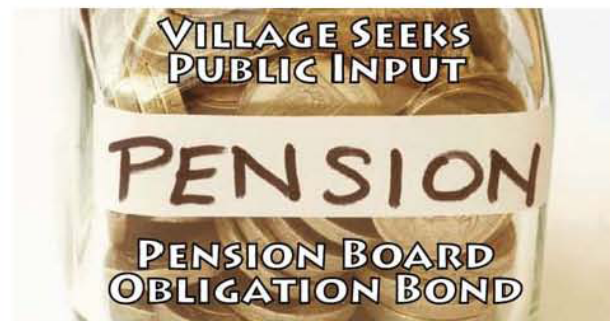
On Oct 12, 2015, at 6:25 PM, The Village of Barrington Hills <The_Village_of_Barrington_Hills@mail.vresp.com> wrote:



Barrington Hills Express

Your 3 minute update on what's happening in
Barrington Hills

Public Input Requested: Pension Board Obligation Bond



The purpose of this meeting will be to discuss and evaluate the proposed Pension Board Obligation Bond (PBOB) from a financial perspective using models of various forecasted returns, including negative returns, in order to examine the possible outcomes, weigh their impacts, and judge risk and reward for the Village.

The goal of this Finance Committee meeting is to generate a recommendation to the Board of Trustees regarding whether to proceed with the PBOB.

Please see the links in the [meeting packet](#) for more details.

Upcoming Meetings & Events

Monday, October 12	
	Columbus Day (regional holiday)
Tuesday, October 13	
	BACOG Level 1 Water Testing Event
7:30pm	Board of Health Meeting
Wednesday, October 14	
6:30pm	Finance Committee Meeting
7:30pm	Canceled - Plan Commission Meeting
Saturday, October 17	
10:00am	Clothing Drive
Monday, October 19	
7:30pm	Zoning Board of Appeals Meeting
Tuesday, October 20	
10:00am	Heritage & Environs Committee Meeting
3:00pm	Roads & Bridges Committee Meeting
Monday, October 26	
7:30am	Police Pension Board Meeting
6:30pm	Village Board of Trustees Meeting
Saturday, October 31	
	Halloween



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Barrington Hills, Illinois 60010
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Leslie Coolidge Remarks
Finance Committee
10/14/15

I oppose the proposed issuance of a Police Pension Obligation Bond. I have not had the opportunity to review the underlying actuarial report and other documentation, but I did carefully consider the discussion at the September 28th Board of Trustees' meeting and have the following concerns which are by no means comprehensive:

- The notion that the pension plan investments will earn sufficiently to cover the bond interest expense is pure speculation. While such speculation might be appropriate for a business entity, I believe it is inappropriate for a governmental entity. The Board should be exercising fiscal prudence and minimizing risk rather than increasing our risk profile.
- William Blair indicated that this type of transaction doesn't happen very often and that these are taxable bonds both of which are red flags to me. I also interpreted their statements to mean that these bonds are issued by government entities that can't meet their obligations as a financing of last resort. Barrington Hills is by no means in this dire financial situation.
- I believe that the essence of this transaction is to gamble with residents' property taxes. To the extent investment returns are not what you assume, you will be forced to raise property taxes to cover the bond interest payments.
- I was surprised to find that no minutes of Finance Committee meetings from 2015 have been posted on the Village website. There is a paucity of readily available information on this issue and I don't believe most residents are even aware of it.

In summary, I believe it would be a breach of your fiduciary duty to move forward with this speculative transaction, but if you believe it is wise, I would encourage you to hold a referendum to ensure the residents support you gambling with their money.