EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: May 21, 2015

MEMO TO: Members of the Retirement Board

THROUGH: Delores Turner, Manager of Human Resources

FROM: Lisa Sorani, Manager of HR Employee Services L.S.

SUBJECT: Retirement Board Regular Meeting – May 21, 2015

A regular meeting of the Retirement Board will convene at 8:30 a.m. on Thursday, May 21, 2015 in the Training Resource Center (TRC1) of the Administration Building.

Enclosed are the agenda for the May 21, 2015 meeting and the minutes for the March 19, 2015 regular meeting. The package also includes the following: **(1) ACTION** items: Adopt Resolution No. 6822 thanking William Patterson for his service, Adopt Actuarial Funding Policy, Authorize IRS Determination Letter Review and Filing, Review Opus One performance and vote on status; **(2) INFORMATION** items: 1st Quarter Performance Review as of March 31, 2015, Training Module – Capital Markets , EBMUD Capital Markets Assumptions, Investment Manager Presentation - WAMCO; **(3) REPORTS FROM THE RETIREMENT BOARD**.

LS:eg

Enclosures

AGENDA
EBMUD EMPLOYEES' RETIREMENT SYSTEM
May 21, 2015
Training Resource Center (TRC1) 8:30 a.m.

ROLL CALL:

PUBLIC COMMENT: The Retirement Board is limited by State Law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

CONSENT CALENDAR:

1. Approval of Minutes – Regular meeting of March 19, 2015
2. Ratifying and Approving Investment Transactions by Counselors for February 2015 and March 2015 (R.B. Resolution No. 6820)
3. Ratifying and Approving Short-Term Investment Transactions by Treasurer for February 2015 and March 2015 (R.B. Resolution No. 6821)
4. Treasurer's Statement of Receipts and Disbursements for February 2015 and March 2015

ACTION:

5. Adopt Resolution No. 6822 thanking William Patterson for his service on the Retirement Board - D. Higashi
6. Adopt the Actuarial Funding Policy– Acting Finance Director
7. Authorize IRS Determination Letter Review and Filing – L. Matthew
8. Review Opus One performance and vote on status – Acting Finance Director

INFORMATION:

9. 1st Quarter Performance Review as of March 31, 2015 – Acting Finance Director
10. Training Module – Capital Markets - Acting Finance Director
11. EBMUD Capital Markets Assumptions – Acting Finance Director
12. Investment Manager Presentation - WAMCO – Acting Finance Director

REPORTS FROM THE RETIREMENT BOARD:

13. Brief report on any course, workshop, or conference attended since the last Retirement Board meeting.

ITEMS TO BE CALENDARED:

- HIB Information
- CEM Benchmarking

MEETING ADJOURNMENT:

The next regular meeting of the Retirement Board will be held at 8:30 a.m. on Thursday, July 16, 2015.

2015 Retirement Board Meetings

July 16, 2015	September 17, 2015	November 19, 2015

MINUTES OF THE RETIREMENT BOARD
March 19, 2015

A regular meeting of the Retirement Board convened on Thursday, March 19, 2015 at 8:32 a.m. in the Large Training Resource Center (TRC) Room. The meeting was called to order by President Doug Higashi.

> **Roll Call** – The following Retirement Board Members were present: Alex Coate, Doug Higashi, Tim McGowan, Frank Mellon, Marguerite Young, and Lisa Ricketts.

The following staff members were present: Rod Deiter, Elizabeth Grassetti, Eric Sandler, Sophia Skoda, Lisa Sorani, and Lourdes Matthew.

PUBLIC COMMENT

There was none.

1 - 4. **Consent Calendar** – A motion was made by Frank Mellon and seconded by Tim McGowan to approve the Consent Calendar. The motion carried (5-0) by the following voice vote: AYES (Coate, Higashi, McGowan, Mellon, Young), NOES (none), ABSTAIN (none), ABSENT (none).

ACTION

5. **Determination of the annual retiree Cost Of Living Adjustment (COLA) to be effective July 1, 2015 – (R.B. Resolution No. 6818)** – Staff requested that a retiree COLA of 2.7% be adopted in accordance with the Ordinance and based on the CPI-U all urban for the Bay Area from December to December. Tim McGowan moved to accept the recommendation and Alex Coate seconded the motion. The motion carried (5-0) by the following voice vote: AYES (Coate, Higashi, McGowan, Mellon, Young), NOES (none), ABSTAIN (none), ABSENT (none).

6. **Adopt Retirement Board Rule C-23 Retirement Board Training Policy (R.B. Resolution No. 6819)** –Staff brought back the the proposed Retirement Board Training Policy for review and adoption. Board Members were pleased with the policy and Tim McGowan made a motion to adopt it. Frank Mellon seconded the motion. The motion carried (5-0) by the following voice vote: AYES (Coate, Higashi, McGowan, Mellon, Young), NOES (none), ABSTAIN (none) ABSENT (none).

INFORMATION

7. **Retirement Board Training -** Elizabeth Grassetti reviewed the overall expenses of operating the retirement system, the results from polling other retirement systems regarding what they set aside for training expenses, and a recommendation for setting aside $2,500 a year per a Board Member, for a total of $15,000 per a fiscal year in training expenses. Board Members thought that the amount set aside would be the minimum needed for the training required. Staff will track training and if needed, the amount set aside can be adjusted based on experience.

8. **4th Quarter Performance Review as of December 21, 2014** – Eric White from PCA presented the 4th Quarter Report. The fund returned 2.9% for the quarter and 8.0% for the year, outperforming for all time-periods. Mr. White said that PCA expects lower returns in the future because the fixed income portfolio is not expected to produce much in the future. The US economy is doing well, but the international markets are troubled. Japan, China and Europe have depressed currencies against the dollar to boost their economies. Markets are expected to be more volatile over the next five years. EBMUD's portfolio is doing well - with Fixed income and International Equity under-performing, but domestic equities, covered calls, and real estate out-performing.

9. **Actuarial Funding Policy Update** - A draft actuarial funding policy was presented and reviewed by Andy Yeung from Segal. The Actuarial funding policy documents the changes to the assumptions made to the amortization schedule that were adopted by the retirement Board in 2012. The goals of the changes were to equalize gains and losses so that there were no jolts to the fund and to adopt language required due to CalPEPRA legislation.

10. **Review of Proposed Board of Directors Vesting Change** – Staff presented the memo reviewing the implementation challenges and potential benefits of extending the vesting schedule from five years to ten years. Frank Mellon thanked staff for their work and said that there was no reason to move ahead with the proposal. The memo will be transmitted to the Board of Directors.

11. **Training Module – Domestic Equities** - Eric White from PCA presented a training module on Small Cap Domestic Equities. Mr. White reviewed market capitalization, investment rationale, two common styles, and the role of small cap equities in a portfolio. He then reviewed EBMUD's small cap equity allocation.

12. **Investment Manager Presentation – Opus Capital Management** - Jackie Haussler, Adam Eagleston, and Len Haussler presented an update on Opus Capital Management, discussing their investment philosophy and process. They discussed their recent performance and how they have outperformed over the long term.

13. **Review of HIB and COLA** – Elizabeth Grassetti provided a review of retiree COLAs over the past 20 years and a review of Health Insurance Benefits (HIB) since inception. Doug Higashi proposed indexing the HIB to inflation to provide retirees with a measure of medical inflation protection.

14. **Retirement Board Member Election Schedule** – Staff provided a schedule for the Employee Member to the Retirement Board seat held by Doug Higashi. His term expires of June 23, 2015.

REPORTS FROM THE RETIREMENT BOARD:

15. Doug Higashi reported on his attendance at the CALAPRS General Assembly in Monterey. He talked about the lowered investment returns expected in the next decade and de-risking strategies.

Tim McGowan reported on his attendance at the CALAPRS Trustees Round Table on February 8, 2015 where Paul Angelo from Segal discussed setting the interest rate assumptions.

ITEMS TO BE CALENDERED

- Look into CEM Benchmarking
- Bring Actuarial Funding Policy back as an action item
- Recognition of Director William Patterson's Retirement Board Service
- Reporting on performance Net of Fees
- Study proposal to index HIB to inflation

ADJOURNMENT – Frank Mellon moved to adjourn the meeting at 11:45 a.m. and Doug Higashi seconded the motion; the motion carried (5-0) by the following voice vote: AYES (Coate, Higashi, McGowan, Mellon, Young), NOES (none), ABSTAIN (none), ABSENT (none).

____
President

ATTEST: ___________________________
Secretary

5/21/2015

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: April 27, 2015

MEMO TO: Members of the Retirement Board

FROM: Eric L. Sandler, Director of Finance

SUBJECT: Investment Transactions by Retirement Fund Managers for February 2015 and March 2015

The attached Investment Transactions by Retirement Fund Managers report for the months of February 2015 and March 2015 is hereby submitted for Retirement Board approval.

Attachment

ES:SS:PL

INVESTMENT TRANSACTIONS BY RETIREMENT FUND MANAGERS

February 2015

	PURCHASES	SALES	PORTFOLIO VALUE
FIXED INCOME			
Western Asset Management Co.-IG	$2,246,271	$256,443	$64,802,492
Western Asset Management Co.-HI	$0	$0	$31,918,790
Western Asset Management Co.-HY	$0	$0	$30,806,699
C.S. McKee	$11,819,290	$11,164,947	$133,241,326
TOTAL	**$14,065,561**	**$11,421,390**	**$260,769,308**
DOMESTIC EQUITY			
Barrow, Hanley, Mewhinney	$3,826,230	$1,843,107	$156,925,229
Opus Capital	$23,918	$228,451	$30,278,533
Russell 1000 Growth Index Fund	$0	$0	$235,534,592
Russell 2000 Growth Index Fund	$0	$0	$25,466,465
INTECH	$5,460,055	$5,496,997	$69,500,651
T. Rowe Price	$1,243,408	$1,556,327	$66,592,020
Total Domestic Equity	**$10,553,611**	**$9,124,883**	**$584,297,490**
COVERED CALLS			
Parametric (BXM)	$1,694,222	$2,967,891	$94,010,363
Parametric (Delta-Shift)	$333,319	$150,344	$98,190,680
Van Hulzen	$23,376,679	$20,239,094	$92,656,045
Total Covered Calls	**$25,404,221**	**$23,357,329**	**$284,857,088**
INTERNATIONAL EQUITY			
Franklin/Templeton	$2,643,275	$1,899,852	$91,799,835
Fisher Investments	$0	$0	$98,002,937
Total International Equity	**$2,643,275**	**$1,899,852**	**$189,802,772**
REAL ESTATE EQUITY			
RREEF America II	$0	$0	$26,688,828
CenterSquare	$2,875,628	$2,377,526	$49,502,677
Total Real Estate	**$2,875,628**	**$2,377,526**	**$76,191,505**
TOTAL ALL FUND MANAGERS	**$55,542,295**	**$48,180,981**	**$1,395,918,163**

March 2015

	PURCHASES	SALES	PORTFOLIO VALUE
FIXED INCOME			
Western Asset Management Co.-IG	$3,066,367	$3,068,298	$64,963,487
Western Asset Management Co.-HI	$0	$35,681	$31,989,803
Western Asset Management Co.-HY	$0	$30,958	$30,713,709
C.S. McKee	$14,634,249	$9,245,320	$133,852,225
TOTAL	**$17,700,617**	**$12,380,258**	**$261,519,225**
DOMESTIC EQUITY			
Barrow, Hanley, Mewhinney	$2,159,873	$2,230,483	$154,993,968
Opus Capital	$2,072,191	$1,827,641	$31,258,492
Russell 1000 Growth Index Fund	$0	$0	$232,576,737
Russell 2000 Growth Index Fund	$0	$0	$25,928,903
INTECH	$2,567,409	$2,312,866	$69,223,218
T. Rowe Price	$1,488,723	$1,439,970	$66,373,176
Total Domestic Equity	**$8,288,196**	**$7,810,960**	**$580,354,494**
COVERED CALLS			
Parametric (BXM)	$2,914,428	$1,460,906	$93,750,184
Parametric (Delta-Shift)	$957,746	$587,230	$97,067,740
Van Hulzen	$9,374,717	$10,745,344	$91,340,831
Total Covered Calls	**$13,246,891**	**$12,793,480**	**$282,158,756**
INTERNATIONAL EQUITY			
Franklin/Templeton	$7,000,797	$2,090,388	$96,353,578
Fisher Investments	$5,347,479	$0	$102,466,860
Total International Equity	**$12,348,276**	**$2,090,388**	**$198,820,438**
REAL ESTATE EQUITY			
RREEF America II	$256,857	$0	$27,395,910
CenterSquare	$3,305,927	$3,546,929	$50,381,085
Total Real Estate	**$3,562,784**	**$3,546,929**	**$77,776,995**
TOTAL ALL FUND MANAGERS	**$55,146,763**	**$38,622,015**	**$1,400,629,908**

Prepared By: Sophia D. Shu

Date: April 27, 2015

R.B. RESOLUTION NO. 6820

RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY THE COUNSELORS FOR MONTHS OF FEBRUARY, 2015 AND MARCH, 2015

Introduced by: ; Seconded by:

WHEREAS, Retirement Board Rule No. B-5 provides for investment transactions without prior specific approval by the Retirement Board; and

WHEREAS, investment transactions have been consummated during February, 2015 and March, 2015, in accordance with the provisions of said rule and in securities designated as acceptable by Retirement Board Resolution No. 4975, as amended;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions appearing on the following exhibits are hereby ratified and approved.

President

ATTEST:

Secretary

5/21/15

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 24, 2015

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Short Term Investment Transactions for February 2015

The attached Short Term Investment Transactions report for the month of February 2015 is hereby submitted for Retirement Board approval.

ES/sk

EBMUD EMPLOYEES' RETIREMENT SYSTEM
SHORT TERM INVESTMENT TRANSACTIONS
CONSUMMATED BY THE TREASURER
MONTH OF FEBRUARY 2015

COST/ FACE VALUE	DESCRIPTION	DATE OF PURCHASE	DATE OF SALE/MAT	YIELD (%)
3,300,000.00	Local Agency Investment Fund	13-Feb-15		0.266
(7,200,000.00)	Local Agency Investment Fund		26-Feb-15	0.266
3,300,000.00	Local Agency Investment Fund	27-Feb-15		0.266
$ (600,000.00)	Net Activity for Month			

SUBMITTED BY ____________________ DATE 3-24-15

D. Scott Klein
Controller

S. Skoda, Treasury Mgr

S. Lindley, Acctg Sys Supvr

prepared by vwong

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: April 22, 2015

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Short Term Investment Transactions for March 2015

The attached Short Term Investment Transactions report for the month of March 2015 is hereby submitted for Retirement Board approval.

ES/sk

EBMUD EMPLOYEES' RETIREMENT SYSTEM
SHORT TERM INVESTMENT TRANSACTIONS
CONSUMMATED BY THE TREASURER
MONTH OF MARCH 2015

COST/ FACE VALUE	DESCRIPTION	DATE OF PURCHASE	DATE OF SALE/MATURITY	YIELD (%)
$ (10,000,000.00)	Local Agency Investment Fund		5-Mar-15	0.278
3,300,000.00	Local Agency Investment Fund	13-Mar-15		0.278
3,300,000.00	Local Agency Investment Fund	27-Mar-15		0.278
(7,200,000.00)	Local Agency Investment Fund		30-Mar-15	0.278
$ (10,600,000.00)	Net Activity for Month			

SUBMITTED BY [signature] DATE 4-23-15

D. Scott Klein
Controller

[signature]
S. Skoda, Treasury Mgr

S. Lindley
S. Lindley, Acctg Sys Supvr

prepared by vwong

R.B. RESOLUTION NO. 6821

RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY THE TREASURER FOR FEBRUARY, 2015 AND MARCH, 2015

Introduced by: ; Seconded by:

WHEREAS, Retirement Board Rule No. B-7 provides for the temporary investment of retirement system funds by the Treasurer or Assistant Treasurer in securities authorized by Sections 1350 through 1366 of the Financial Code or holding funds in inactive time deposits in accordance with Section 12364 of the Municipal Utility District Act; and

WHEREAS, investment transactions during February 2015, and March, 2015 have been made in accordance with the provisions of the said rule;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions consummated by the Treasurer and included on the attached Exhibit A for February 2015, and March, 2015 are hereby ratified and approved.

President

ATTEST:

Secretary

5/21/2015

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE:	March 24, 2015
MEMO TO:	Members of the Retirement Board
THROUGH:	Eric L. Sandler, Director of Finance
FROM:	D. Scott Klein, Controller
SUBJECT:	Statement of Receipts and Disbursements for February 2015

The attached Statement of Receipts and Disbursements report for the month of February 2015 is hereby submitted for Retirement Board approval.

ES/sk

STATEMENT OF RECEIPTS AND DISBURSEMENTS
EMPLOYEES' RETIREMENT FUND
MONTH OF FEBRUARY 2015

CASH BALANCE January 31, 2015			$	544,009.58
RECEIPTS				
Employees' Contributions	$	1,021,999.53		
District Contributions		5,617,958.23		
LAIF Redemptions		7,200,000.00		
Refunds and Commission Recapture		33.32		
TOTAL Receipts				13,839,991.08
DISBURSEMENTS				
Checks/Wires Issued:				
Service Retirement Allowances	$	6,229,722.06		
Disability Retirement Allowances		143,943.42		
Health Insurance Benefit		765,356.05		
LAIF Deposits		6,600,000.00		
Administrative Cost		249,045.79		
TOTAL Disbursements				(13,988,067.32)
CASH BALANCE FEBRUARY 28, 2015			$	395,933.34
LAIF				16,286,846.70
LAIF and Cash Balance FEBRUARY 28, 2015			$	16,682,780.04
Domestic Equity				
Barrow Hanley	$	156,925,229.23		
Russell 1000 Index Fund		235,534,592.13		
Russell 2000 Growth Index Fund		25,466,464.63		
Opus		30,278,532.75		
Intech		69,500,651.39		
T. Rowe Price		66,592,020.04		
Subtotal Domestic Equity		584,297,490.17		
Covered Calls				
Parametric (BXM)	$	94,010,362.88		
Parametric (Delta-Shift)		98,190,680.08		
Van Hulzen		92,656,045.15		
Subtotal Covered Calls		284,857,088.11		
International Equity				
Franklin/Templeton	$	91,799,834.74		
Fisher Investments		98,002,937.36		
Subtotal International Equity		189,802,772.10		
Real Estate				
RREEF America REIT II	$	26,688,828.00		
Center Square		49,502,677.17		
Subtotal Real Estate		76,191,505.17		
Fixed Income				
CS Mckee	$	133,241,325.95		
Western Asset Mgt Co-Short Term Inv Grade		64,802,492.49		
Western Asset Mgt Co-Short Term High Income		31,918,789.81		
Western Asset Mgt Co-Short Term High Yield		30,806,699.37		
Subtotal Fixed Income		260,769,307.62		
Total for Domestic & International Equities				1,395,918,163.17
MARKET VALUE OF ASSETS at FEBRUARY 28, 2015			$	1,412,600,943.21

Respectfully submitted,

D. Scott Klein
Controller

S. Skoda
Treasury Mgr

S. Lindley
Acctg Sys Supvr
prepared by vwong

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: April 22, 2015

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Statement of Receipts and Disbursements for March 2015

SUMMARY

The attached Statement of Receipts and Disbursements report for the month of March 2015 is hereby submitted for Retirement Board approval.

DISCUSSION

An amount of $5 million was transferred to each of our non-US equity managers, Franklin Templeton and Fisher Investments, from the invested balance at LAIF on March 5, 2015. This was done after consulting with PCA and pursuant to the investment policy, as part of the Director of Finance's authority to partially rebalance the Retirement Investment portfolio. The $10 million from LAIF was allocated to non-US equities to bring this asset class closer to the target policy balance of 15%. Non-US equities were approximately 13.60% and 14.21% of the portfolio before and after the transfer, respectively.

ES/sk

STATEMENT OF RECEIPTS AND DISBURSEMENTS
EMPLOYEES' RETIREMENT FUND
MONTH OF MARCH 2015

CASH BALANCE February 28, 2015			$	395,933.34
RECEIPTS				
Employees' Contributions	$	1,019,762.55		
District Contributions		5,602,292.19		
LAIF Redemptions		17,200,000.00		
TOTAL Receipts				23,822,054.74
DISBURSEMENTS				
Checks/Wires Issued:				
Service Retirement Allowances	$	6,272,534.35		
Disability Retirement Allowances		143,943.42		
Health Insurance Benefit		820,904.37		
Payments to Retiree's Resigned/Deceased		1,803.01		
Northern Trust - Fund Fisher Investments		5,000,000.00		
Northern Trust - Fund Franklin Templeton		5,000,000.00		
LAIF Deposits		6,600,000.00		
Administrative Cost		158,436.89		
TOTAL Disbursements				(23,997,622.04)
CASH BALANCE MARCH 31, 2015			$	220,366.04
LAIF				5,686,846.70 *
LAIF and Cash Balance MARCH 31, 2015			$	5,907,212.74
Domestic Equity				
Barrow Hanley	$	154,993,967.55		
Russell 1000 Index Fund		232,576,737.00		
Russell 2000 Growth Index Fund		25,928,903.17		
Opus		31,258,491.79		
Intech		69,223,218.35		
T. Rowe Price		66,373,176.47		
Subtotal Domestic Equity		580,354,494.33		
Covered Calls				
Parametric (BXM)	$	93,750,184.45		
Parametric (Delta-Shift)		97,067,740.39		
Van Hulzen		91,340,831.18		
Subtotal Covered Calls		282,158,756.02		
International Equity				
Franklin Templeton	$	96,353,577.80 *		
Fisher Investments		102,466,859.77 *		
Subtotal International Equity		198,820,437.57		
Real Estate				
RREEF America REIT II	$	27,395,910.00		
Center Square		50,381,085.37		
Subtotal Real Estate		77,776,995.37		
Fixed Income				
CS Mckee	$	133,852,225.35		
Western Asset Mgt Co-Short Term Inv Grade		64,963,487.24		
Western Asset Mgt Co-Short Term High Income		31,989,802.89		
Western Asset Mgt Co-Short Term High Yield		30,713,709.33		
Subtotal Fixed Income		261,519,224.81		
Total for Domestic & International Equities				1,400,629,908.10
MARKET VALUE OF ASSETS at MARCH 31, 2015			$	1,406,537,120.84

Respectfully submitted,

D. Scott Klein
Controller

S. Skoda
Treasury Mgr

S. Lindley
Acctg Sys Supvr
prepared by wwong

* $10 million withdrawn from LAIF to fund Franklin Templeton and Fisher Investments each at $5 million

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: May 21, 2015

MEMO TO: Members of the Retirement Board

FROM: Elizabeth Grassetti, Senior Human Resource Analyst - Retirement

THROUGH: Lisa Sorani, Manager of Employee Services

SUBJECT: Resolution Commending the Retirement Board Service of William Patterson

RECOMENDATION

Approve Resolution No. 6822.

BACKGROUND

Director William Patterson served on the Retirement Board from September 1997 to January 2015. During Director Patterson's term of office, he demonstrated his commitment to the financial well-being of current and future retirees by attending bi-monthly Board meetings. During Bill's term on the Retirement Board, the Retirement Systems' assets grew from $415.2 million to $1.4 Billion in January 2015.

The Retirement Board and staff would like to express their appreciation to Bill for his outstanding service and leadership as a member of the retirement board.

R.B. RESOLUTION NO. 6822
EXPRESSING APPRECIATION TO WILLIAM PATTERSON FOR HIS SERVICE TO THE EAST BAY MUNICIPAL UTILITY DISTRICT RETIREMENT BOARD

WHEREAS, William Patterson has served as Board of Director representative to the East Bay Municipal Utility District Retirement Board from September 1997 to January 2015; and

WHEREAS, during his nearly 20 years of service on the Retirement Board member, **William Patterson** executed his duties with diligence, prudence, dedication, and always with the motivation to act in the best interest of the Retirement System; and

WHEREAS, during **William Patterson's** term of office, the Retirement System's assets grew from $415.2 million to $1.4 billion; and

WHEREAS, **William Patterson** has earned the respect of his fellow Retirement Board members, the Board of Directors, the Retirement System staff, employees and retired members of the East Bay Municipal Utility District Employees' Retirement System for his commitment to the welfare of the Retirement System and its membership;

NOW, THEREFORE, BE IT RESOLVED that the members of the Retirement Board express their appreciation to **William Patterson** for his outstanding service as a member of the Retirement Board.

______________________	______________________
Douglas Higashi, Board Member	Tim McGowan, Board Member
______________________	______________________
Frank Mellon, Board Member	Marguerite Young, Board Member
______________________	______________________
Alexander R. Coate, Board Member	Lisa Ricketts, Board Member

ATTEST: ____________________
Secretary

5/21/2015

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 19, 2015

MEMO TO: Members of the Retirement Board

FROM: Eric L. Sandler, Director of Finance

SUBJECT: Actuarial Funding Policy Update

RECOMMENDATION

Approve the attached draft Actuarial Funding Policy.

SUMMARY

Attached is a recommended draft Actuarial Funding Policy for the Retirement Board's discussion and consideration. The policy covers both the Pension plan and the Health Insurance Benefit plan. The purpose of the policy is to record the funding objectives and policies set by the Board, which in turn are designed to ensure future benefit payments for members of the retirement system. The policy also provides guidelines which assist in administering the retirement system in a consistent and efficient manner. Adoption of a comprehensive policy also simplifies compliance with GASB Statements 67 and 68.

The draft policy was prepared by Segal Consulting to incorporate previous Board decisions, and was reviewed by staff. Mr. Andy Yeung from Segal will be at the Board meeting to discuss the draft policy.

BACKGROUND

In 2012 the Board undertook a comprehensive review of the individual elements which comprise a funding policy. As a result of that review the Board approved more conservative elements than those in effect at that time. The Board did not, however, incorporate the new elements into a single, written adopted policy. The attached draft policy accomplishes that objective.

Adoption of a formal funding policy is emerging as a best practice following implementation of GASB Statements 67 and 68. GASB requires plan sponsors to identify the "actuarially determined (employer) contributions" using the funding policy adopted by the governing body. Adoption of elements individually is not inconsistent with GASB, but adoption of a comprehensive funding policy simplifies compliance with those statements.

DISCUSSION

The proposed policy consists primarily of elements previously approved by the Board. In conjunction with its quadrennial study in 2012 the Board undertook a review of the key factors in actuarial analysis: the Actuarial Cost Method, the Asset Smoothing Method, and the Amortization Policy.

The proposed policy establishes the Entry Age Cost Method as the Actuarial Cost Method. This is the industry standard for governmental defined benefit plans and is consistent with the Board's decision in 2012. The Board also approved, and the policy incorporates, 5 years as the Asset Smoothing period for purposes of determining the Actuarial Value of Assets. In addition the policy includes language allowing for Board approved adjustments to the Asset Smoothing method under specified circumstances. The intent is to capture the need for ad hoc adjustments to address unforeseen circumstances.

The Amortization Policy was discussed over the course of two meetings in 2012, with the Board ultimately approving a more conservative policy than had been the case in the past:

Amortization Policy (years)	Prior Policy	Adopted Nov. 2012
Actuarial Gains or Losses	30	20
Assumption or Method Changes	30	25
Plan Amendments	30	15
Early Retirement Incentive Programs	30	5
Actuarial Surplus	30	30

The draft policy incorporates the elements adopted in 2012. It also includes new language that has been added to ensure consistency with the requirements of CalPEPRA.

The draft policy also contains a section entitled Other Policy Considerations. This section is intended to capture practical implementation issues and to clarify the need for forward-looking analyses in development of actuarial assumptions.

Attachment

ESL: SS: DB

East Bay Municipal Utility District Employees' Retirement System

Actuarial Funding Policy

Introduction

The purpose of this Actuarial Funding Policy is to record the funding objectives and policies set by the Retirement Board (Board) for the East Bay Municipal Utility District Employees' Retirement System (EBMUDERS) including both the Pension plan and Health Insurance Benefit (HIB) plan. The Board establishes this Actuarial Funding Policy to help ensure future benefit payments for members of EBMUDERS. In addition, this document records certain policy guidelines established by the Board to assist in administering EBMUDERS in a consistent and efficient manner. It is a working document and may be modified as the Board deems necessary.

Goals of Actuarial Funding Policy

1. To achieve long-term full funding of the cost of benefits provided by EBMUDERS;

2. To seek reasonable and equitable allocation of the cost of benefits over time; and,

3. To minimize volatility of the plan sponsor's contribution to the extent reasonably possible, consistent with other policy goals.

Funding Policy Components

EBMUDERS' annual funding requirement is comprised of a payment of the Normal Cost[1] and a payment on the Unfunded Actuarial Accrued Liability (UAAL). The Normal Cost and the amount of payment on the UAAL are determined based upon the following three components of this funding policy:

I. Actuarial Cost Method: the technique used to allocate the cost/liability of the retirement benefit to a given period;

II. Asset Smoothing Method: the technique used to spread the recognition of investment gains or losses over a period of time for purposes of determining the Actuarial Value of Assets used in the actuarial valuation process; and

III. Amortization Policy: the decisions on how, in terms of duration and pattern, to reduce the difference between the Actuarial Accrued Liability and the Valuation Value of Assets in a systematic manner.

I. Actuarial Cost Method:

The Entry Age Actuarial Cost Method (individual basis) shall be applied to the projected retirement benefits in determining the Normal Cost and the Actuarial Accrued Liability.

[1] Capitalized terms are defined in the Glossary of Terms at the end of this policy.

II. Asset Smoothing Method:

The investment gains or losses of each valuation period, resulting from comparison of the actual market return and the expected return on Market Value of Assets, shall be recognized in level amount over 5 years in calculating the Actuarial Value of Assets. Deferred investment gains or losses cannot exceed 30% of the Market Value of Assets.

This policy anticipates that future circumstances may warrant adjustments to change the pattern of recognition of the net deferred investment gains or losses after a period of significant market change followed by a period of market correction. Such adjustments would be considered by the Board upon receiving an appropriate analysis from EBMUDERS' actuary. Such adjustments would be appropriate for consideration when the net deferred investment gains or losses are relatively small (i.e., the actuarial and market values are very close together), but the recognition of that net deferred amount is markedly non-level. Any such adjustment would be made subject to the following conditions:

- The net deferred investment gains or losses are unchanged as of the date of the adjustment; and,
- The period over which the net deferred investment gains and losses are fully recognized is unchanged as of the date of the adjustment.

III. Amortization Policy:

- The UAAL, (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2011 shall continue to be amortized over its current multiple layers schedule;
- Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of June 30 will be amortized over a period of 20 years;
- Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of 25 years;
- For the Health Insurance Benefit (HIB) plan, any new UAAL with respect to changes in assumptions and plan elements (such as medical trend rate and annual premium rates) will be considered similar to actuarial gains or losses and amortized accordingly.
- Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis:

    a. with the exception noted in b. below, the increase in UAAL as a result of any plan amendments will be amortized over a period of 15 years;

    b. the increase in UAAL resulting from a temporary retirement incentive will be funded over 5 years;

- UAAL shall be amortized over Closed Amortization Periods so that the amortization period for each layer decreases by one year with each actuarial valuation;

- UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase; and

- If EBMUD becomes overfunded (i.e., the total of all UAAL becomes negative so that EBMUD has a "surplus"), such surplus and any subsequent surpluses will be amortized over an Open Amortization Period of 30 years. However, due to the passage of the California Public Employees' Pension Reform Act of 2013 (CalPEPRA), if the surplus exceeds 20% of the Actuarial Accrued Liability (AAL) per Section 7522.52 of the Government Code, then the amount of surplus in excess of 20% of the AAL (and any subsequent surpluses in excess of that amount) will be amortized over an Open Amortization Period of 30 years, but only if the other conditions of Section 7522.52 have also been met. If those conditions are not met, then the surplus will not be amortized and the full Normal Cost will be contributed.

  If an overfunding or surplus exists, so that the total of all UAAL amortization layers becomes negative, any prior UAAL amortization layers will be considered fully amortized. Any subsequent UAAL will be amortized over 20 years as the first of a new series of amortization layers.

Other Policy Considerations

A. Lag between Date of Actuarial Valuation and Date of Contribution Rate Implementation

In order to allow the employer to more accurately budget for pension contributions and other practical considerations, the contribution rates determined in each valuation (as of June 30) will apply to the fiscal year beginning 12 months after the valuation date. Any shortfall or excess contributions as a result of the implementation lag will be amortized as part of EBMUDERS' UAAL in the following valuation.

Any change in contribution rate requirement that results from plan amendment will generally be implemented as of the effective date of the plan amendment or as soon as administratively feasible.

B. Actuarial Assumptions Guidelines

The actuarial assumptions directly affect only the timing of contributions; the ultimate contribution level is determined by the benefits and the expenses actually paid offset by actual investment returns. To the extent that actual experience deviates from the assumptions, experience gains and losses will occur. These gains (or losses) then serve to reduce (or increase) the future contribution requirements.

Actuarial assumptions are generally grouped into two major categories:

- Demographic assumptions – including rates of withdrawal, service retirement, disability retirement, mortality, etc.

- Economic assumptions – including price inflation, wage inflation, investment return, salary increase, etc.

The actuarial assumptions represent the Board's best estimate of anticipated experience under EBMUDERS and are intended to be long term in nature. Therefore, in developing the actuarial assumptions, the Board considers not only past experience but also trends, external forces and future expectations.

Glossary of Terms

Actuarial Accrued Liability – The portion of the present value of projected benefits that is attributed to past service by the actuarial funding method.

Actuarial Funding Method – A technique to allocate present value of projected benefits among past and future periods of service.

Actuarial Value of Assets – The market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.

Closed Amortization Period – An amortization period that decreases by one year with each annual actuarial valuation.

Entry Age Actuarial Cost Method – A funding method that calculates EBMUDERS' Normal Cost based on a level percentage of pay over the working lifetime of the plan's members.

Non-valuation Reserves – At the adoption date of this policy, in the case of the EBMUDERS Pension plan the non-valuation reserves are the HIB plan reserves, and in the case of the EBMUDERS HIB plan the non-valuation reserves are the Pension plan reserves.

Normal Cost – The portion of the present value of projected benefits that is attributed to current service by the actuarial funding method.

Open Amortization Period – An amortization period that remains unchanged with each annual actuarial valuation.

Unfunded Actuarial Accrued Liability – The portion of the Actuarial Accrued Liability that is not currently covered by plan assets. It is calculated by subtracting the Actuarial Accrued Liability from the Valuation Value of Assets.

Valuation Date – June 30 of every year.

Valuation Value of Assets – The value of assets used in the actuarial valuation to determine contribution rate requirements. It is equal to the Actuarial Value of Assets reduced by the value of any non-valuation reserves.

EAST BAY MUNICIPAL UTILITY DISTRICT
Office of General Counsel

DATE: May 15, 2015

MEMO TO: Retirement Board

FROM: Lourdes Matthew, Attorney Lourdes Matthew

SUBJECT: Authorization to Renew IRS Determination of Qualified Plan Status

RECOMMENDED ACTION

Authorize counsel to seek renewal of the IRS's favorable determination that the plan constituting the East Bay Municipal Utility District Retirement Ordinance is a tax-qualified plan.

DISCUSSION

Prior to 2008, the governmental pension plans remained largely outside of the IRS's focus for audits and compliance determinations. However, with the enactment of the Pension Protection Act, which expanded the IRS's authority to improve pension plan compliance, and with more focus on the burgeoning pension obligations of cash-strapped public agencies, the IRS increased its scrutiny of governmental plans. In 2008, the Internal Revenue Service provided an opportunity to public retirement systems to submit their plans for review for tax compliance and the opportunity to voluntarily make corrections where the plan was non-compliant with tax laws.

The Retirement System elected to take advantage of the program offered by the IRS as a way to safeguard the plan against negative findings resulting from an IRS audit, which could result in the plan's disqualification.[1] The Retirement System employed special tax counsel to conduct a thorough and exhaustive review of the Retirement Ordinance to identify areas of non-compliance and to advise on proposed correction methods that were presented to the IRS. The Retirement System submitted its application for a determination letter in August 2010.

On May 21, 2013, the IRS issued a favorable determination letter declaring the Retirement System a tax-qualified plan. However, the determination was subject to an expiration date of January 31, 2014. Because there have not been significant changes in tax laws pertaining to pension systems since January 2014, or to the Retirement Ordinance, the Retirement System likely continues to be in compliance. Additionally, the deadline for filing for a renewal is January 31, 2016. Nonetheless, counsel highly recommends that the Retirement Board seek a

[1] A disqualified plan loses its tax exempt status. This means: (1) employer contributions on behalf of employees are subject to income tax; (2) plan trust would owe taxes on the trust's earnings; (3) rollovers would not be allowed and would be subject to taxation; and (4) employer contributions on behalf of an employee would be subject to Social Security, Medicare and Federal Unemployment tax. (IRS Rev. Ruling 74-299; IRS Rev. Ruling 2007-48).

renewal of the determination letter to further minimize risk of a negative finding in the event of an IRS audit.

The renewal process will include review by tax counsel of the Retirement Ordinance for any uncovered deficiencies in the plan, preparation of the application documents, and review by the IRS. Staff does not anticipate that the renewal process will be as labor intensive, or as costly, as the initial application due to the previously laid groundwork.

CONCLUSION

While the Retirement Board can be fairly confident that the Retirement Ordinance, in its present form, is still in compliance with applicable tax laws, seeking a renewal would provide the added assurance of an official IRS statement of the Retirement System's tax qualified status. Doing so would not only safeguard against risk of disqualification of the plan, but would also be consistent with the Retirement Board's fiduciary duty to administer the plan with due diligence and prudence.

LM:rj

\\450.05 Retirement\BOARD\BOARD MEMOS\2015 Board Memos\IRS Determination Letter.5-21-15.docx

PCA | PENSION CONSULTING ALLIANCE

MEMORANDUM

Date: May 1, 2015

To: East Bay Municipal Utility District (EBMUD)

From: Pension Consulting Alliance, Inc. (PCA)

CC: Eric White, CFA; Neil Rue, CFA

RE: **Opus Capital Group (Opus) Watch Status Update**

Summary

PCA recommends that EBMUD maintain the Opus Capital Group Small Cap Value (Opus) account on Watch status to be closely monitored over the next 6 to 12 months. The Board approved placing the Opus account on Watch in November 2012 upon the portfolio breaching the short-term[1] Manager Probation Criteria in the third quarter of 2012. As of March 31, 2015, Opus' gross of fees trailing 12-month performance outperformed their benchmark, the Russell 2000 Value Index, by 4.9%. To determine whether the trend of the portfolio's recent performance improvements persist, PCA recommends Watch status be extended.

Discussion

EBMUD retained Opus to manage approximately $17.8 million for the small cap value portion of its investment portfolio during the fourth quarter of 2005. EBMUD's total exposure to the Opus Small Cap Value account was approximately $31.3 million as of March 31, 2015. Over the latest 1-year period Opus has outperformed their benchmark, the Russell 2000 Value Index, by 4.9%. The portfolio underperformed the benchmark by (1.5%) per annum over the trailing 3-year period, but has matched the benchmark over the longer 5-year and since inception periods.

Opus consistently exhibits a high quality bias which leads to cyclical relative performance wherein Opus outperforms during flat and bear markets but tends to lag in bull markets. Over time, this quality bias should lead to outperformance.

---

[1] Short-term criteria: Underperformance greater than (3.5%) in a trailing 12-month period gross of fees.

PCA PENSION CONSULTING ALLIANCE

Opus Small Cap Value: Watch Status Recommendation

Product and Organization Review Summary

Reason for Update		Areas of Potential Impact			
☐ Failed Performance Criteria ☐ Organizational Changes ☒ Scheduled Watch Update	Level of Concern^	Investment process (client portfolio)	Investment Team	Performance Track Record	Team/ Firm Culture
Product					
Key people changes	None				
Changes to team structure/individuals roles	None				
Product client gain/losses	None				
Changes to the investment process	None				
Personnel turnover	None				
Organization					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				

^None, low or high

Review and Recommendation History

Date	PCA Findings and Recommendation	Board
05/2015	PCA recommends continuing Watch status to determine whether the improved performance trend continues Next review in 6 to 12 months	Pending
03/2014	PCA recommended continuing Watch status to determine whether performance improves Next review in 6 to 12 months	Approved
11/2012	PCA recommended placing on Watch status due to performance Next review in 12 to 18 months	Approved
08/2009	PCA recommended removing from Watch status due to improved performance trends	Approved
03/2009	PCA recommended continuing Watch status to determine whether the improved performance trend continues Next review in 4 to 6 months	Approved
09/2008	PCA recommended continuing Watch status due to performance Next review in 4 to 6 months	Approved
05/2007	PCA recommended placing Opus on Watch status due to performance Next review in 12 to 18 months	Approved

Annualized Performance Results
As of 3/31/2015

Performance	QTR	1 Yr	3 Yrs	5 Yrs	Inception (12/31/05)	Watch (11/2012)
Opus (Gross of Fees)	4.2	9.3	13.3	12.5	7.2	18.3
Russell 2000 Value Index	*2.0*	*4.4*	*14.8*	*12.5*	*7.2*	*18.6*
Difference	2.2	4.9	-1.5	0.0	0.0	-0.3
Peer Ranking^						
Opus (Gross of Fees)	23	27	82	83	89	74
Russell 2000 Value Index	71	68	69	83	89	72

Source: MPI
^Peer rankings are based on gross of fee performance. Rankings: 1 = best and 100= worst

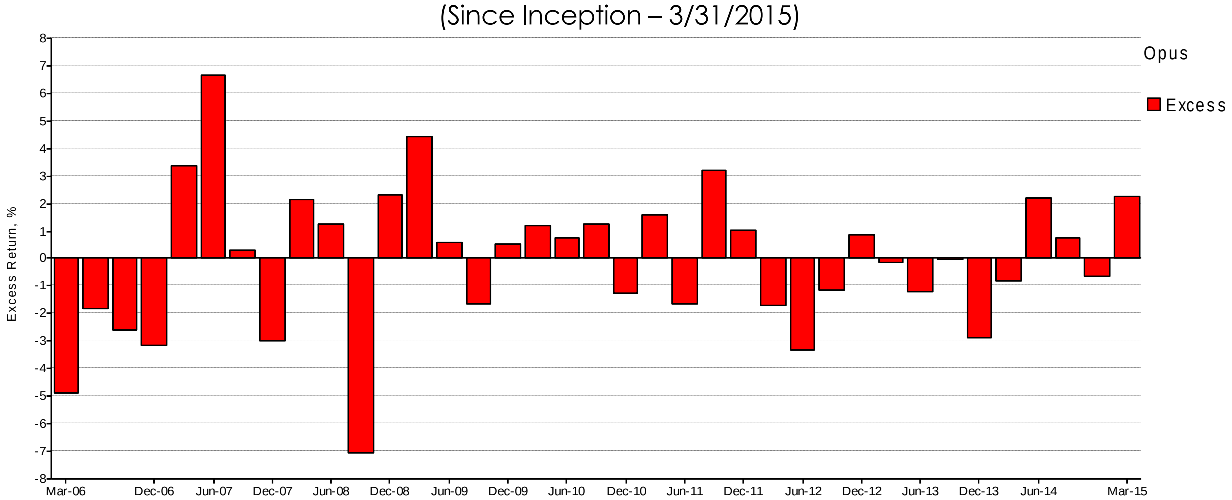
Recent Investment Performance

Over the last 12-months ending March 31, 2015, Opus has exceeded its benchmark, the Russell 2000 Value Index, by 4.9%, gross of fees. Opus underperformed the benchmark over the 3-year period by (1.5%) and matched the benchmark over the 5-year and since inception periods.

Opus exhibits a consistently higher quality portfolio (high returns on equity, low leverage, sustained earnings) than the benchmark. This quality bias leads to cyclical relative performance wherein Opus performs well during periods of volatility and market decline but tends to lag in strong up markets. Over time, this quality bias should lead to outperformance as a number of studies have shown higher quality stocks outperform lower quality stocks over the long term. Lower quality stock characteristics which were recently in favor in 2012 and 2013 have served as a headwind to Opus' higher quality bias.

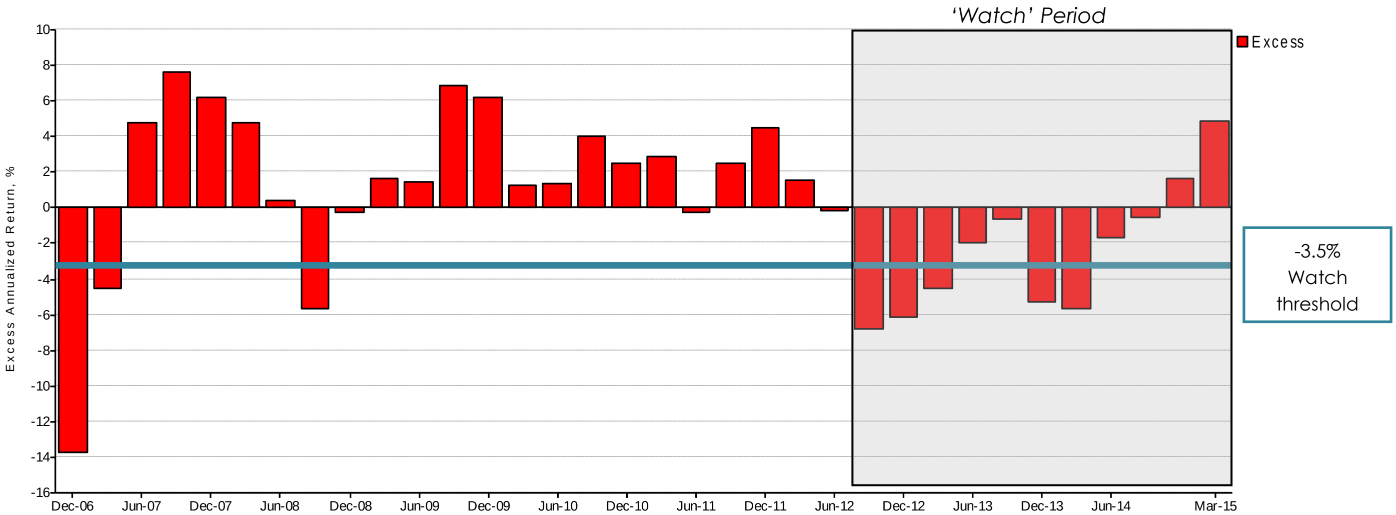
When looking at quarterly excess performance relative to the Russell 2000 Value Index (see graph below), it is evident the portfolio's excess returns have proven to be volatile. Since inception, Opus has produced positive excess results relative to the Index in 19 of the 37 quarters (51% of the time). Strong excess performance in periods of market decline has helped Opus over longer time periods.

Quarterly Excess Performance
(Since Inception – 3/31/2015)



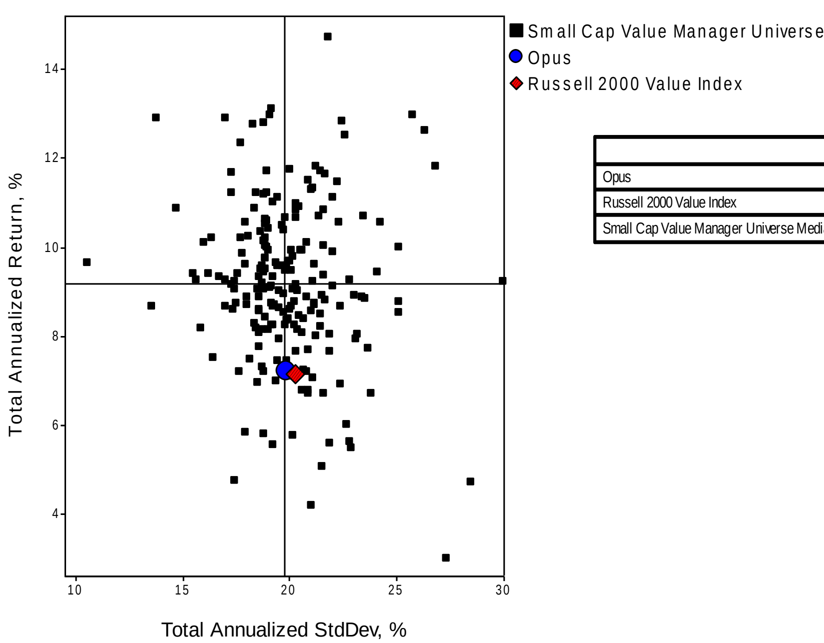
Over the last four quarter end periods, the Opus portfolio has posted excess performance results above the short-term Manager Probation Criteria threshold, including positive excess results relative to the benchmark over the two most recent quarter end periods.

12-Month Excess Performance
(Since Inception – 3/31/2015)



On a risk-adjusted basis, since inception returns ending March 31, 2015, fall below those of the strategy's median peer fund (see following graph). Over this 111-month period, the strategy produced an average annual return of 7.2%, while incurring a 19.8% annualized standard deviation. These results produced a 0.4 Sharpe ratio (a measure of return per unit of risk).

Risk / Return Performance Comparison
(Since Inception Ending 3/31/2015)

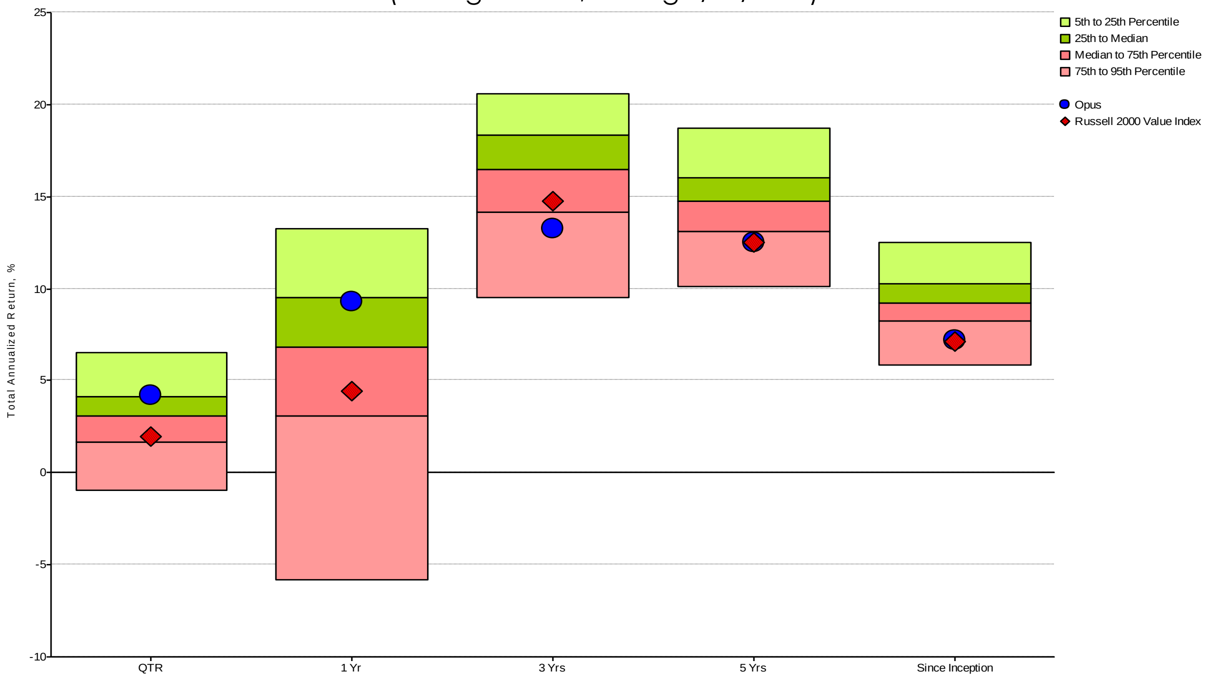


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
Opus	7.22	19.80	0.39
Russell 2000 Value Index	7.16	20.22	0.38
Small Cap Value Manager Universe Median	9.19	19.72	0.49

PCA also considered Opus' performance relative to its peers (see chart below). Opus' peer relative performance places above median over the shorter time periods, but places in the bottom quartile over the 3-year, 5-year, and since inception periods. However, Opus' performance placed in-line relative to its benchmark over extended time periods.

Peer Group Performance Comparison

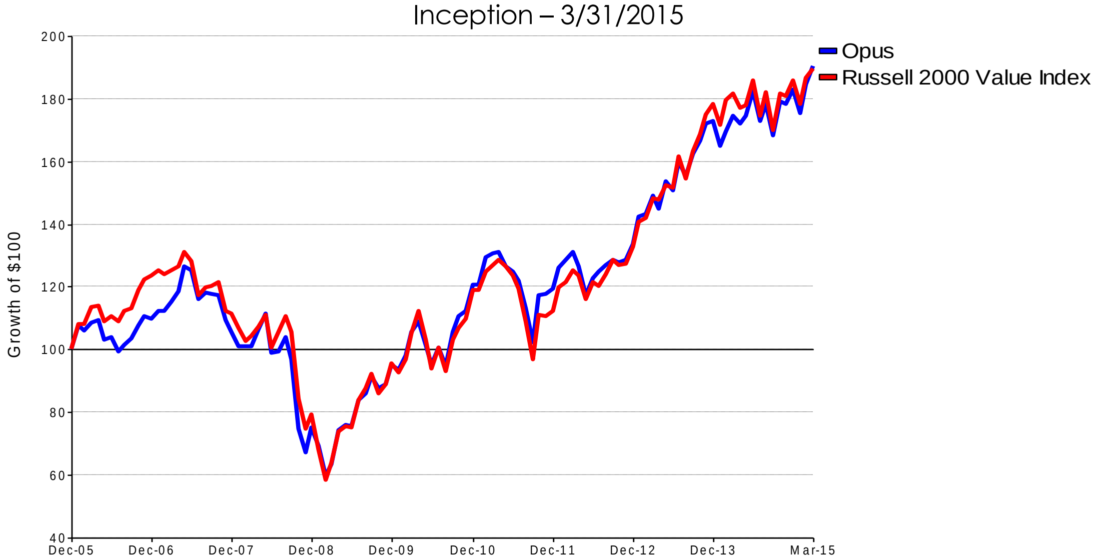
(Trailing Periods, Ending 3/31/2015)



The following exhibit shows Opus' cumulative performance versus the Russell 2000 Value Index since inception. Since inception, the cumulative performance of Opus has been in-line with its benchmark despite rough relative first year performance and the turmoil surrounding the credit crisis.

Cumulative Performance

Inception – 3/31/2015



Additional Considerations

Opus is an independent, 100% employee-owned investment adviser located in Cincinnati, Ohio. Opus Capital Management, Inc. is organized as an Ohio subchapter S corporation.

Opus' investment philosophy is rooted in five key beliefs:

- There are inherent inefficiencies in the smaller capitalization arena resulting in numerous high quality companies trading at significant discounts to their fundamental values.
- High quality stocks exhibiting the combination of low valuation and attractive growth prospects outperform over long periods of time.
- Deep fundamental research and independent thinking allow Opus to take a different view than the market by uncovering catalysts that drive stock price outperformance.
- A team-based decision making process produces better results than any one portfolio manager.
- A consistent, disciplined, and repeatable process ensuring style integrity.

Opus' strategy is based on a three-part investment process:

Proprietary Screening isolates stocks with characteristics that have led to long-term outperformance, including low valuations (P/E, P/B, P/CF), low P/E to growth plus yield (cheap stocks with good growth and/or dividends), high EPS surprises and revisions, and financial strength (lower debt to cap levels). Stocks that meet these time tested criteria form Opus' buyable universe.

Fundamental Analysis constitutes the vast majority of the investment team's research efforts; portfolio managers review every stock for consideration in the portfolio, while research analysts are sector-specific. The objective, which is achieved through rigorous analysis and spirited debate, is to identify the key fundamental and contrarian catalysts that will drive stock price appreciation.

Portfolio Construction is a function of the composition of the existing portfolio, the identification of compelling buy candidates, and the determination of sell candidates that either have met or exceeded their price targets (the success stories) or that have diverged from their investment theses. After thorough independent analysis, the portfolio managers engage in detailed and collegial discussions that form final consensus-based decisions. Opus believes its unique, team-based decision making process produces better results for clients than any one portfolio manager can deliver. The result of this investment process is a fully invested, diversified portfolio of 65-85 high quality securities with low valuations, attractive growth prospects, lower leverage, and strong cash flow.

There have been no significant changes to the investment process or portfolio management team for the small cap value product during Opus' tenure with EBMUD.

Over the last five years, and most notably in 2014, both product and firm assets under management have markedly decreased. The recent decline in product assets was primarily due to Opus being replaced as sub-advisor on the American Beacon Small Cap Value fund which resulted in an outflow of approximately $850 million; the sub-advised account was not included in the small cap value composite due to restrictions for the account. Other clients lost during the latest year mostly included retail accounts.

Capital Assets / Clients

	Firm-wide		Small Cap Value Equity	
	Assets ($ millions)	Clients	Assets ($ millions)	Clients
2014-12	920.7	297	468.9	64
2013-12	2,084.9	271	1,687.7	86
2012-12	1,826.3	240	1,433.1	95
2011-12	1,743.3	238	1,386.7	92
2010-12	1,788.6	243	1,355.6	95

Source: eVestment Alliance

DISCLOSURES: This document is provided for informational purposes only. It does not constitute an offer of securities of any of the issuers that may be described herein. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the investment in question will achieve comparable results or that the Firm will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments (if any) will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which any current unrealized valuations are based.

Neither PCA nor PCA's officers, employees or agents, make any representation or warranty, express or implied, in relation to the accuracy or completeness of the information contained in this document or any oral information provided in connection herewith, or any data subsequently generated herefrom, and accept no responsibility, obligation or liability (whether direct or indirect, in contract, tort or otherwise) in relation to any of such information. PCA and PCA's officers, employees and agents expressly disclaim any and all liability that may be based on this document and any errors therein or omissions therefrom. Neither PCA nor any of PCA's officers, employees or agents, make any representation of warranty, express or implied, that any transaction has been or may be effected on the terms or in the manner stated in this document, or as to the achievement or reasonableness of future projections, management targets, estimates, prospects or returns, if any. Any views or terms contained herein are preliminary only, and are based on financial, economic, market and other conditions prevailing as of the date of this document and are therefore subject to change.

The information contained in this report may include forward-looking statements. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the Firm, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect PCA's current judgment, which may change in the future.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate investment performance for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

All trademarks or product names mentioned herein are the property of their respective owners. Indices are unmanaged and one cannot invest directly in an index. The index data provided is on an "as is" basis. In no event shall the index providers or its affiliates have any liability of any kind in connection with the index data or the portfolio described herein. Copying or redistributing the index data is strictly prohibited.

The Russell indices are either registered trademarks or tradenames of Frank Russell Company in the U.S. and/or other countries.

The MSCI indices are trademarks and service marks of MSCI or its subsidiaries.

Standard and Poor's (S&P) is a division of The McGraw-Hill Companies, Inc. S&P indices, including the S&P 500, are a registered trademark of The McGraw-Hill Companies, Inc.

CBOE, not S&P, calculates and disseminates the BXM Index. The CBOE has a business relationship with Standard & Poor's on the BXM. CBOE and Chicago Board Options Exchange are registered trademarks of the CBOE, and SPX, and CBOE S&P 500 BuyWrite Index BXM are servicemarks of the CBOE. The methodology of the CBOE S&P 500 BuyWrite Index is owned by CBOE and may be covered by one or more patents or pending patent applications.

The Barclays Capital indices (formerly known as the Lehman indices) are trademarks of Barclays Capital, Inc.

The Citigroup indices are trademarks of Citicorp or its affiliates.

The Merrill Lynch indices are trademarks of Merrill Lynch & Co. or its affiliates.

Recent Investment Performance

	Quarter	1 Year	3 Year	5 Year	10 Year	20 Year
Total Portfolio	2.5	8.5	12.0	11.2	7.6	8.8
Policy Benchmark	*2.1*	*7.4*	*10.8*	*10.3*	*7.3*	*8.4*
Excess Return	**0.4**	**1.1**	**1.2**	**0.9**	**0.3**	**0.4**

*Gross of Fees

Portfolio Valuation as of March 31, 2015
(in millions $)

	March 31, 2015	Dec. 31, 2014	Quarterly Change	Percentage Change*	March 31, 2014	Annual Change	Percentage Change*
EBMUD	$1,406.3	$1,370.5	$35.8	2.6%	$1,298.7	$107.6	8.3%

*Percentage change in value due to both investment results and cash flows.

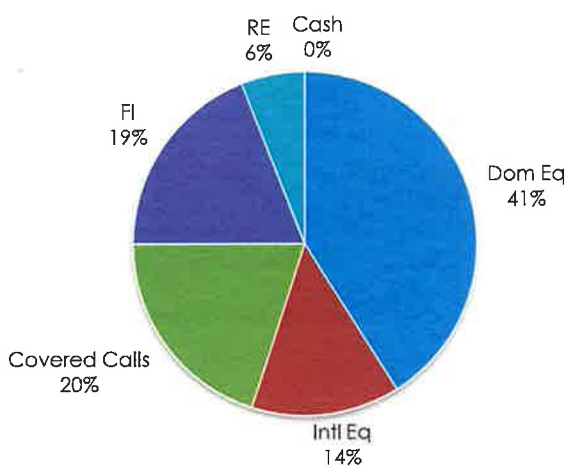
Actual vs. Target Allocations
As of March 31, 2015

Segment	Actual $(000)	Actual %	Target %*	Variance
Total Portfolio	1,406,326	100%	100%	---
Domestic Equity	580,354	41.3%	40.0%	1.3%
International Equity	198,820	14.1%	15.0%	-0.9%
Covered Calls	282,168	20.1%	20.0%	0.1%
Total Fixed Income	261,519	18.6%	20.0%	-1.4%
Real Estate**	77,777	5.5%	5.0%	0.5%
Cash	5,687	0.4%	0.0%	0.4%

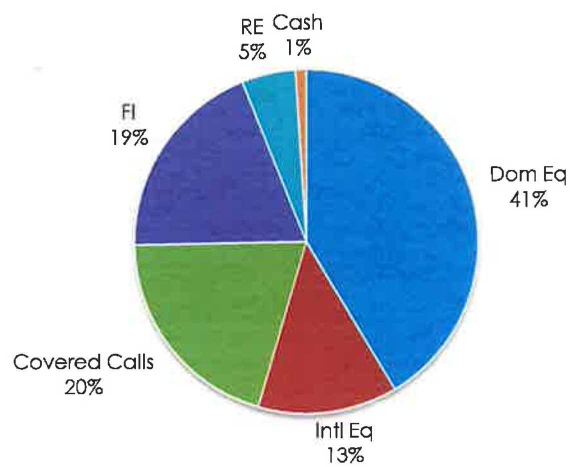
*Policy target allocations elected by the Board in September 2013 which took effect March 2014 upon the funding of the new Covered Calls asset class and Non-Core Bonds allocation within Total Fixed Income.
**RREEF performance results and allocation are lagged one-quarter.

Actual Asset Allocation Comparison

March 31, 2015



December 31, 2014



Asset Class Performance (Gross of Fees)
Periods ending March 31, 2015

Asset Class	Quarter	1 Year	3 Year	5 Year	10 Year	20 Year
Total Portfolio	2.5	8.5	12.0	11.2	7.6	8.8
*Policy Benchmark^*	*2.1*	*7.4*	*10.8*	*10.3*	*7.3*	*8.4*
Domestic Equity	2.6	12.6	16.3	14.8	8.3	9.4
*Russell 3000 (blend)**	*1.8*	*12.4*	*16.4*	*14.7*	*8.4*	*10.1*
International Equity	5.9	-0.1	8.6	7.3	6.6	---
*MSCI ACWI x U.S.(blend)***	*3.6*	*-0.6*	*6.9*	*5.3*	*5.6*	---
Covered Calls	1.1	9.3	---	---	---	---
CBOE BXM	*1.7*	*4.9*	---	---	---	---
Total Fixed Income	1.4	3.0	3.3	5.1	5.1	6.4
*Fixed Income benchmark (blend)****	*1.5*	*3.6*	*2.9*	*4.4*	*4.9*	*6.0*
Real Estate	4.3	21.4	14.5	16.5	---	---
*50/50 NCREIF/FTSE NAREIT All Equity*****	*3.6*	*16.9*	*12.8*	*13.8*	---	---
Cash	0.1	0.2	0.3	0.3	2.1	---
Citigroup T-bills	*0.0*	*0.0*	*0.1*	*0.1*	*1.4*	---

^Total Portfolio Benchmark consists of 40% Russell 3000 (blend), 15% MSCI ACWIxU.S. (blend), 20% CBOE BXM, 10% BC Aggregate, 5% BC US 1-3 Year Government/Credit, 2.5% BC 1-5 Year U.S. High Yield Cash Pay, 2.5% S&P/LSTA Performing Loans, 2.5% NCREIF (lagged), and 2.5% FTSE NAREIT All Equity REITs index 4/1/14-present; 40% Russell 3000 (blend), 15% MSCI ACWIxU.S. (blend), 20% CBOE BXM, 15% BC Aggregate, 2.5% BC 1-5 Year U.S. High Yield Cash Pay, 2.5% S&P/LSTA Performing Loans, 2.5% NCREIF (lagged), and 2.5% FTSE NAREIT All Equity REITs index 3/1/14-3/31/14; 50% Russell 3000 (blend), 20% MSCI ACWIxU.S. (blend), 25% BC Universal (blend), 2.5% NCREIF (lagged), 2.5% FTSE NAREIT All Equity REITs index 11/1/11-2/28/14

*Russell 3000 as of 10/1/05. Prior: 30% S&P500, 10% S&P400, 10% Russell 2000 (4/1/05-9/30/05); 33% S&P500, 10% S&P400, 10% Russell 2000 (9/1/98-3/31/05); 30% S&P500, 15% Wilshire 5000 (4/1/96-8/31/98)

**MSCI ACWIxU.S. as of 1/1/07; MSCI EAFE ND thru 12/31/06

***50% BC Aggregate, 25% BC US 1-3 Year Government/Credit, 12.5% BC 1-5 Year U.S. High Yield Cash Pay, and 12.5% S&P/LSTA Performing Loans index 4/1/14-present; 75% BC Aggregate, 12.5% BC 1-5 Year U.S. High Yield Cash Pay, and 12.5% S&P/LSTA Performing Loans index 3/1/14-3/31/14; BC Universal 1/1/08-2/28/14; BC Aggregate thru 12/31/07

****50% NCREIF (lagged), 50% FTSE NAREIT All Equity REITs Index as of 11/1/11; NCREIF (lagged) thru 10/31/11

Manager Performance (Gross of Fees)

Domestic Equity – Periods ending March 31, 2015

Manager	Mkt Value ($000)	Asset Class	Management Style	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[1]	Current Monitoring Status
Northern Trust Co.	232,577	Large Cap Core	Passive	1.6	12.8	16.4	14.8	3	---
Russell 1000 Index	---	---	---	*1.6*	*12.7*	*16.4*	*14.7*	---	---
Intech	69,223	Large Cap Growth	Active	5.5	17.8	17.7	17.0	5 bps + 12.5% on excess returns	Watch 12/2014
T. Rowe Price	66,373	Large Cap Growth	Active	6.2	17.7	17.8	16.9	49	---
Russell 1000 Growth Index	---	---	---	*3.8*	*16.1*	*16.3*	*15.6*	---	---
Barrow Hanley	154,994	Large Cap Value	Active	0.4	8.9	15.3	13.1	32	Watch 6/2013
Russell 1000 Value Index	---	---	---	*-0.7*	*9.3*	*16.4*	*13.8*	---	---
Northern Trust Co.	25,929	Small Cap Growth	Passive	6.7	12.4	18.1	16.9	5	---
Russell 2000 Growth Index	---	---	---	*6.6*	*12.1*	*17.7*	*16.6*	---	---
Opus	31,258	Small Cap Value	Active	4.2	9.3	13.3	12.5	5 bps + 25% on excess returns	Watch 12/2012
Russell 2000 Value Index	---	---	---	*2.0*	*4.4*	*14.8*	*12.5*	---	---

International Equity – Periods ending March 31, 2015

Manager	Mkt Value ($000)	Asset Class	Management Style	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[1]	Current Monitoring Status
Franklin Templeton[2]	96,354	ACWI x U.S.	Active	5.0	-4.8	9.3	6.6	57	---
Fisher Investments	102,467	ACWI x U.S.	Active	6.8	4.8	7.9	7.7	66	---
*MSCI ACWI x U.S. (blend)**	---	---	---	*3.6*	*-0.6*	*6.9*	*5.3*	---	---

*As of January 1, 2007, the benchmark changed from MSCI EAFE to MSCI ACWI x U.S.

[1] Reviewed annually. Last reviewed June 30, 2014.
[2] Franklin Templeton's historical returns are reported net of fees (inception – 6/30/2011). The Franklin Templeton institutional mutual fund account was liquidated in June 2011 and moved to a transition account which later funded the Franklin Templeton new separate account in the same month. The Q2-2011 return is an aggregate of the institutional mutual fund account, Franklin transition account, and new separate account.

Covered Calls – Periods ending March 31, 2015

Manager	Mkt Value ($000)	Asset Class	Management Style	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[3]	Current Monitoring Status
Parametric – BXM	93,871	Covered Calls	Replication	2.2	9.2	---	---	24	---
Parametric – Delta Shift	97,068	Covered Calls	Semi-Active	1.7	13.1	---	---	31	---
Van Hulzen	91,229	Covered Calls	Fully Active	-0.8	5.6	---	---	25	---
CBOE BXM	---	---	---	*1.7*	*4.9*	*6.8*	*7.2*	---	---

Total Fixed Income – Periods ending March 31, 2015

Manager	Mkt Value ($000)	Asset Class	Management Style	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[4]	Current Monitoring Status
CORE FIXED INCOME									
CS McKee	133,852	Core	Active	1.8	5.6	3.4	---	20	---
BC Aggregate	---	---	---	*1.6*	*5.7*	*3.1*	*4.4*	---	---
NON-CORE FIXED INCOME									
WAMCO – Short Duration	64,963	Non-Core	Active	0.7	1.5	---	---	15[5]	---
BC U.S. 1-3 Yr Govt/Credit	---	---	---	*0.6*	*1.1*	*1.0*	*1.4*	---	---
WAMCO – Short-Term HY	30,714	Non-Core	Active	1.3	-2.7	---	---	40	---
BC 1-5 Yr U.S. HY Cash Pay	---	---	---	*1.7*	*0.5*	*6.6*	*7.4*	---	---
WAMCO – Bank Loans	31,990	Non-Core	Active	1.8	1.6	---	---	45	---
S&P/LSTA Performing Loans	---	---	---	*2.3*	*3.0*	*5.1*	*5.2*	---	---

Real Estate – Periods ending March 31, 2015

Manager	Mkt Value ($000)	Asset Class	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[4]	Current Monitoring Status
RREEF II*	27,396	Real Estate	2.9	13.0	13.5	15.0	30[6]	---
*NCREIF**	---	---	*3.0*	*11.8*	*11.1*	*12.1*	---	---
CenterSquare (formerly Urdang)	50,381	Real Estate	5.1	26.4	15.2	---	27.5 bps + 15% on excess returns	---
FTSE NAREIT All Equity REITs	---	---	*4.1*	*21.9*	*14.1*	*15.4*	---	---

*Results are lagged one quarter.

[3] Estimated annual fee based on a $75 million mandate.
[4] Reviewed annually. Last reviewed June 30, 2014.
[5] Assumes $65 million in other WAMCO assets.
[6] Fees paid from July 1, 2013 – June 30, 2014, included an incentive fee accrual credit received in 3Q2013.

DISCLOSURES: This document is provided for informational purposes only. It does not constitute an offer of securities of any of the issuers that may be described herein. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the investment in question will achieve comparable results or that the Firm will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments (if any) will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which any current unrealized valuations are based.

Neither PCA nor PCA's officers, employees or agents, make any representation or warranty, express or implied, in relation to the accuracy or completeness of the information contained in this document or any oral information provided in connection herewith, or any data subsequently generated herefrom, and accept no responsibility, obligation or liability (whether direct or indirect, in contract, tort or otherwise) in relation to any of such information. PCA and PCA's officers, employees and agents expressly disclaim any and all liability that may be based on this document and any errors therein or omissions therefrom. Neither PCA nor any of PCA's officers, employees or agents, make any representation of warranty, express or implied, that any transaction has been or may be effected on the terms or in the manner stated in this document, or as to the achievement or reasonableness of future projections, management targets, estimates, prospects or returns, if any. Any views or terms contained herein are preliminary only, and are based on financial, economic, market and other conditions prevailing as of the date of this document and are therefore subject to change.

The information contained in this report may include forward-looking statements. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the Firm, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect PCA's current judgment, which may change in the future.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate investment performance for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

All trademarks or product names mentioned herein are the property of their respective owners. Indices are unmanaged and one cannot invest directly in an index. The index data provided is on an "as is" basis. In no event shall the index providers or its affiliates have any liability of any kind in connection with the index data or the portfolio described herein. Copying or redistributing the index data is strictly prohibited.

The Russell indices are either registered trademarks or tradenames of Frank Russell Company in the U.S. and/or other countries.

The MSCI indices are trademarks and service marks of MSCI or its subsidiaries.

Standard and Poor's (S&P) is a division of The McGraw-Hill Companies, Inc. S&P indices, including the S&P 500, are a registered trademark of The McGraw-Hill Companies, Inc. CBOE, not S&P, calculates and disseminates the BXM Index. The CBOE has a business relationship with Standard & Poor's on the BXM. CBOE and Chicago Board Options Exchange are registered trademarks of the CBOE, and SPX, and CBOE S&P 500 BuyWrite Index BXM are servicemarks of the CBOE. The methodology of the CBOE S&P 500 BuyWrite Index is owned by CBOE and may be covered by one or more patents or pending patent applications.

The Barclays Capital indices (formerly known as the Lehman indices) are trademarks of Barclays Capital, Inc.

The Citigroup indices are trademarks of Citicorp or its affiliates.

The Merrill Lynch indices are trademarks of Merrill Lynch & Co. or its affiliates.

FTSE is a trademark of the London Stock Exchange Group companies and is used by FTSE under license. All rights in the FTSE indices and/or FTSE ratings vest in FTSE and/or its licensors. No further distribution of FTSE data is permitted with FTSE's express written consent.

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: May 21, 2015

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Acting Director of Finance SDS

SUBJECT: 2015 Capital Market Assumptions Review Memo

SUMMARY

Attached is a memo from Pension Consulting Alliance (PCA) which outlines PCA's capital market assumptions for 2015 and their impact on the Retirement System's portfolio. Based on PCA's updated assumptions, they project that the Retirement System's expected portfolio compound return will be approximately 6.4% over the next ten years. The Retirement System's investment return assumption is 7.50%. PCA projects a 42% probability that earnings will exceed 7.25% over that period. PCA points out that these projections can vary from actuarial earnings assumptions, in large part because the actuary's investment horizon is significantly longer than ten years.

DISCUSSION

PCA has updated its earning assumptions for various investment classes. The updated assumptions show stable or modestly increased returns on equity-related investment classes and reduced return expectations for interest rate sensitive classes. Volatility estimates decreased slightly for international equity and remained unchanged for all other investment classes.

Based on these new assumptions, PCA projects that the Retirement System's expected portfolio compound return will be approximately 6.4% over ten years. This projection assumes net-of-fee costs, and does not incorporate any potential benefit to be derived from active management. PCA also projects an approximately 50% probability that the portfolio earnings will exceed 7.25% over 1 year, 44% that it will exceed that level over 5 years, and 42% that it will exceed 7.25% over 10 years. Probabilities of outperformance increase somewhat as the earnings threshold is lowered. For example, the probability that the Retirement System's portfolio will earn more than 6.50% over 1 year, 5 years and 10 years is 52%, 49% and 49% respectively.

District and employee contributions into the retirement system are based in part on investment earnings assumptions. PCA points out that the investment assumptions used by actuaries to calculate required payments may differ from the assumptions discussed in the attached memo. This is due in large part to the fact that the actuary's investment horizon is significantly longer than ten years.

Staff from PCA will be available at the Board meeting to discuss the 2015 Capital Market Assumptions Review memo.

Attachment

PCA PENSION CONSULTING ALLIANCE

MEMORANDUM

Date: May 1, 2015

To: East Bay Municipal Utility District (EBMUD)

From: Pension Consulting Alliance, Inc. (PCA)

CC: Eric White, CFA; Neil Rue, CFA

RE: 2015 Capital Market Assumptions Review Memo

Summary

PCA has conducted a review of EBMUD's current strategic investment allocation, applying PCA's latest 2015 capital market assumptions (see below). The following is a synopsis of changes in PCA's capital market assumptions over the last year.

Comparison of PCA 10-Year Capital Market Assumptions

	2014 Assumptions		2015 Assumptions			
Investment Class	Exp. Return	Expected Std. Dev.	Exp. Return	Expected Std. Dev.	Return Change	Volatility Change
Cash	2.25%	1.00%	2.00%	1.00%	-0.25%	0.00%
Fixed Income	3.00%	4.50%	2.65%	4.50%	-0.35%	0.00%
Real Estate	5.70%	9.00%	5.20%	9.00%	-0.50%	0.00%
U.S. Equity	6.90%	18.50%	6.90%	18.50%	0.00%	0.00%
International Equity	6.90%	21.50%	7.20%	21.0%	+0.30%	-0.50%
Real Return	5.70%	8.00%	5.20%	8.00%	0.00%	0.00%
Covered Calls	6.21%	12.33%	6.21%	12.33%	0.00%	0.00%

As the table above highlights, PCA has maintained or slightly lifted the 10-year expected returns on the equity-related classes while reducing return expectations for interest rate sensitive classes (diversified fixed income and real estate). Fixed income yields (the primary driver of fixed income returns) have continued to remain near all-time lows, causing forward-looking expectations to decline. PCA's upward adjustments in international equity return expectations reflect better valuations and the anticipation of continued monetary easing which should boost asset prices and potentially economic activity. The US Equity expected return remained constant given the increasingly improving economy offset by high valuations and potential Fed rate hikes.

Applying PCA's 2015 capital market assumptions to the EBMUD policy portfolio, PCA estimates that EBMUD's expected long-term compound return to be close to 6.4% over the next 10 years.

PCA PENSION CONSULTING ALLIANCE

EBMUD's Current Policy Portfolio Expectations Based on 2015 PCA Capital Market Assumptions

EBMUD Investment Class	Target*
Cash	0%
Fixed Income	20%
Real Estate	5%
U.S. Equity	40%
Private Equity	0%
Real Return	0%
International Equity	15%
Covered Calls	20%

*Reflects Long-term Target Allocation

Expected 10-Year Mean-Variance Outcomes

Expected Portfolio Arith. Annual Return	7.2%
Expected Portfolio Annual Risk	13.1%
Expected Portfolio Compound Return	6.4%

The long-term 10-Year expected compound return assumes net-of-fee costs, but with no attempt to seek added value through active management. Based on this analysis, PCA is able to compute basic probabilistic outcomes versus certain levels of long-term required returns (see table below).

Probability of EBMUD Policy Portfolio Outperforming Threshold Return Level, by Horizon

Threshold Level	1 Year	5 Years	10 Years
7.25%	50%	44%	42%
7.00%	51%	46%	44%
6.75%	51%	48%	47%
6.50%	52%	49%	49%

We note that these assumptions can vary from actuarial assumptions utilized by decision makers to determine overall plan contributions. Typically, the horizon utilized for such decisions is significantly longer (typically 20+ years). As a result, reasonable actuarial assumptions may differ from the 10-year figures discussed above. In addition, there may be a difference between other actuary/investment consultant economic assumptions (such as inflation) due to the unique environment faced by a specific retirement system or plan.

Background

The asset allocation process is built on a foundation of assumptions about future investment returns, volatility, and correlations among asset classes. Since no one can perfectly foretell future returns, we must look to history of financial markets and to the expectations of experts in order to build reasonable expectations about the future.

Historical Perspective

Often the first step in developing a strategic asset allocation and capital market expectations is to look at how different asset classes have performed over time. While returns can vary widely and unpredictably year to year, longer term average returns tend to wash out the short term noise created by the business cycle and revert to a mean level of average return. Complicating this is the fact that capital market cycles can last much longer than typical business cycles. For example, the 30 year bull market for bonds and the two decade long bull market for equities of the 80s and 90s followed by the stagnant returns of the 2000s. Despite this, long term returns still tend to coalesce around a central tendency of historical average returns.

The following table highlights major studies of the long term returns of different asset classes over extended time periods. From this table, we can see confirmation of the risk/return tradeoff as higher risk asset classes have outperformed less risky asset classes. We can also see that over the combined study period equities have returned slightly greater than 8% while bonds have produced a 5% annual rate of return. While for the period from 1926 to 2011 (Post-Industrial and Post-2000 combined) equities produced returns of approximately 10% annually while bonds returned just shy of 6% annually. Return assumptions between 7-10% for equities and 4-6% for bonds should represent a good starting place for the development of capital market assumptions. The next step is to look at the current economic and capital market environment and to determine if the current conditions should lead one to bias upward or downward any of the variables.

Major Capital Market Return Studies

	I	II	III	IV	
	Emerging	**Industrial**	**Post-Industrial**	**Post-2000**	**Combined Studies**
	Schwert & Siegel	Clowes & Siegel	Ibbotson & Sinquefield	PCA	
	1802-1870	1871-1925	1926-1999	2000-2014	1802-2014
Total Returns					
Stocks	7.1%	7.2%	11.3%	4.2%	8.3%
Bonds	4.9%	4.3%	5.6%	5.7%	5.0%
T-bills	5.2%	3.8%	3.9%	1.9%	4.1%
Inflation	0.1%	0.6%	3.1%	2.3%	1.4%

Current Capital Market Environment

The current capital markets environment is challenging for long term investors. Factors that provided a tailwind in the past represent headwinds going forward. These factors include the waning of a 30 year bull market for bonds, the explosion of global debt, and the integration of global capital markets. Each factor drove economic growth and capital market returns in the preceding decades and each look to dampen economic growth and capital market returns going forward. The bull market in bonds drove the BC Aggregate index to return 9.0% annually as the 10-year Treasury fell from a high of 15.3% in September 1981 to a low of 1.4% in August 2012. With the 10-year Treasury currently at 1.9%, interest rates are still near all time lows. As a result, expected returns from fixed income are largely muted given the mathematical realities of bond returns (over the full life of the bond an investor's return is simply the interest rate on the bond).

Concurrent with the decline in interest rates has been an explosion of debt globally. While sovereign debt has garnered much of the attention of late, the explosion in global debt has not been isolated to the profligacy of federal governments but was universal across households, financial institutions, corporations, local governments, and government-related businesses. Excessive debt creation is a boon for the economy as it allows individuals, corporations, and government to consume in excess of their income. This process artificially inflates economic growth and subsequently capital market returns. Problems arises when the debt cycle reverses and all three major economic components, households, corporations, and government all attempt to deleverage at the same time. The deleveraging process can take place through three methods: paying off the debt, inflation, or default. The first method, of paying off debt, is only possible over extended time periods and can lead to long periods of protracted economic activity. The other two methods of inflation and outright default can have cataclysmic economic ramifications, but are often shorter in duration. The fact is that the global economy is over leveraged and that (at least) one of the methods for deleveraging must take place. Currently global deleveraging has not begun in a meaningful sense as some sectors have effectively deleveraged, such as U.S. corporations (and to a certain degree the U.S. financial system), which in turn has been offset by leveraging of other sectors, mainly sovereign debt. The method used for deleveraging and the speed of the deleveraging process will determine the impact on the global economy. Given this, global growth will likely be depressed over the coming decade with a substantial downside probability if the deleveraging process happens rapidly and disorderly. As such, asset classes reliant on global growth for return (global equities, commodities, real estate) will likely have muted returns relative to historical averages.

The final factor moving from tailwind to headwind is the increase in capital market integration and capital mobility. The integration of capital markets over the past few decades has been a windfall to the global economy and capital market returns as capital became more mobile and international boarders decreased in importance. The explosion in capital mobility allowed businesses and investors to diversify globally and allowed them to seek out the greatest profit opportunities. The growth of global finance and trade have had revolutionary affects on the global economy. But despite the innumerous benefits of this process there is one major drawback, increased volatility. As capital markets become increasingly integrated and capital mobility increases economies become greatly intertwined - thus allowing shocks in one country to reverberate around the world (think Greece). This integration reduces the shock absorber effect of diversification, greatly increasing the potential for global capital market volatility.

<u>Consulting Industry Expectations</u>

Since there is no consensus of the future of global capital market returns it is important to cross-reference assumptions with those of other experts in the field. Since economic forecasting (and subsequently capital market forecasting) is more of an art than a science, different perspectives and biases play a large part in the analysis. As the data on the following page highlights, PCA's assumptions are slightly more optimistic than the average consultant assumption. That being said much commonality can be discerned across the group, such as the subdued expectations for fixed income which range from a low of 2.60% to a high of 3.35%. However, the important take away is that EBMUD's expected geometric return is slightly lower at 6.1% using the group average estimate opposed to the PCA assumptions.

	Average		PCA		Russell		Callan		Wilshire		Mercer		Aon Hewitt	
	Return	Risk	Return	Risk	Return	Risk	Return	Risk	Return	Risk	Return	Risk	Return	Risk
US Equity	6.36	18.03	6.90	18.50	5.52	18.30	7.48	19.00	6.25	17.00	5.50	18.40	6.50	17.00
Intl Equity	7.01	20.49	7.20	21.00	5.72	19.50	7.68	21.45	6.45	18.70	7.90	22.30	7.10	20.00
Fixed Income	2.89	4.03	2.65	4.50	2.68	2.10	2.98	3.75	3.35	5.00	3.10	5.30	2.60	3.50
Real Estate	6.09	13.23	5.60	9.00	5.04	11.80	6.07	16.50	5.70	14.00	7.30	15.60	6.80	12.50
Cash	2.09	1.59	2.00	1.00	2.74	3.40	2.25	0.90	1.45	1.25	2.30	2.00	1.80	1.00
Inflation	2.25	1.78	2.50	1.25	2.44	3.50	2.24	1.50	1.70	1.75	2.50	1.70	2.10	1.00

Additional Considerations

To conduct any forward-looking analysis, decision makers must rely upon expectations for the future. For investment practitioners, one very important set of expectations are capital market assumptions that attempt to provide a reasonable estimate of (i) the future investment return, (ii) the volatility for each major type of investment category (or "class"), as well as (iii) how each investment class interrelates with the other investment classes. Utilizing these three inputs, investors can quantify (to some degree) the return-and-risk tradeoffs of a wide array of investment portfolios. Investors then assess these tradeoffs to select an investment portfolio that most appropriately meets their preferences and addresses their concerns.

Analytical Framework

To determine how these capital market assumptions would impact EBMUD's investment portfolio, PCA conducted traditional mean-variance analysis. Underpinning the traditional mean-variance analytics are several simplifying assumptions:

- Investment returns behave in a stable, random fashion (i.e., no mean-reversion, no herding behavior, no trending behavior, etc.);
- All investments' returns exhibit a normal bell curve shape (i.e., no overly erratic return behavior, outlying events should occur only rarely); and
- The interrelationships among investments never change (i.e., at best, there is limited recognition that many investments behave similarly during significant market events).

While these assumptions are not terribly realistic, the mean-variance analytical model is a useful beginning point for discussion because it requires only a minimal amount of data, is relatively intuitive and straightforward to calculate, and is useful for coming to relatively rapid and understandable conclusions about important tradeoffs associated with undertaking a certain investment strategy. Therefore, practitioners and decision-makers should view mean-variance analytics as a reasonable *initial indication* of potential outcomes.

DISCLOSURES: This document is provided for informational purposes only. It does not constitute an offer of securities of any of the issuers that may be described herein. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the investment in question will achieve comparable results or that the Firm will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments (if any) will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which any current unrealized valuations are based.

Neither PCA nor PCA's officers, employees or agents, make any representation or warranty, express or implied, in relation to the accuracy or completeness of the information contained in this document or any oral information provided in connection herewith, or any data subsequently generated herefrom, and accept no responsibility, obligation or liability (whether direct or indirect, in contract, tort or otherwise) in relation to any of such information. PCA and PCA's officers, employees and agents expressly disclaim any and all liability that may be based on this document and any errors therein or omissions therefrom. Neither PCA nor any of PCA's officers, employees or agents, make any representation of warranty, express or implied, that any transaction has been or may be effected on the terms or in the manner stated in this document, or as to the achievement or reasonableness of future projections, management targets, estimates, prospects or returns, if any. Any views or terms contained herein are preliminary only, and are based on financial, economic, market and other conditions prevailing as of the date of this document and are therefore subject to change.

The information contained in this report may include forward-looking statements. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the Firm, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect PCA's current judgment, which may change in the future.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate investment performance for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

All trademarks or product names mentioned herein are the property of their respective owners. Indices are unmanaged and one cannot invest directly in an index. The index data provided is on an "as is" basis. In no event shall the index providers or its affiliates have any liability of any kind in connection with the index data or the portfolio described herein. Copying or redistributing the index data is strictly prohibited.

The Russell indices are either registered trademarks or tradenames of Frank Russell Company in the U.S. and/or other countries.

The MSCI indices are trademarks and service marks of MSCI or its subsidiaries.

Standard and Poor's (S&P) is a division of The McGraw-Hill Companies, Inc. S&P indices, including the S&P 500, are a registered trademark of The McGraw-Hill Companies, Inc.

CBOE, not S&P, calculates and disseminates the BXM Index. The CBOE has a business relationship with Standard & Poor's on the BXM. CBOE and Chicago Board Options Exchange are registered trademarks of the CBOE, and SPX, and CBOE S&P 500 BuyWrite Index BXM are servicemarks of the CBOE. The methodology of the CBOE S&P 500 BuyWrite Index is owned by CBOE and may be covered by one or more patents or pending patent applications.

The Barclays Capital indices (formerly known as the Lehman indices) are trademarks of Barclays Capital, Inc.

The Citigroup indices are trademarks of Citicorp or its affiliates.

The Merrill Lynch indices are trademarks of Merrill Lynch & Co. or its affiliates.