Pennsylvania Municipal Retirement Board Policy Statement 12 – 2 Adopted November 15, 2012	Investment Guidelines

Purpose: To establish a clear set of investment guidelines to be followed by the Pennsylvania Municipal Retirement Board (the Board), the Board's staff and investment consultant and the various investment advisors or managers hired to assist the Board in meeting its fiduciary duty in regards to the Pennsylvania Municipal Retirement Fund (the Fund).

Authority: Act 15 of 1974, "Pennsylvania Municipal Retirement Law": Section 110.

Policy: INTRODUCTION

The Board adopts the following guidelines in an effort to set forth the expectations, restrictions, and policy decisions that the Board utilizes to fulfill its fiduciary responsibility. These guidelines were developed to assist the staff of the Pennsylvania Municipal Retirement System (the System) and the investment advisors hired by the Board in the day-to-day management of the System's assets. This document is to be read in conjunction with each individual investment advisor's contract. The two documents shall be considered the sole source for directing investment policy decisions in the absence of direct Board action to the contrary.

BACKGROUND

The System is an independent state agency created by an act of the General Assembly. Its purpose is to administer public pension plans for municipalities and political subdivisions. The State Treasurer is custodian of the Fund.

The System has responsibility for approximately 900 individual pension plans with a variety of benefit structures. The total number of employees and retirees covered under these plans exceeds 14,000. The System is currently experiencing a slight negative cash flow and does expect this trend to gradually increase in the future. The System currently meets routine benefit payments from incoming revenue as opposed to any depletion of invested assets.

The System's Board is required to establish the regular interest it will credit the accounts on an annual basis in advance of the fiscal year. Excess investment earnings are allocated to plan members on an equalized basis after netting administrative expenses. The Board believes it practical and possible to have a five and five tenths percent (5.5%) annual rate of return net of all expenses over a typical market cycle (five-year period) and adopted this figure on November 15, 2012, as the regular rate of interest to be credited by the System starting January 1, 2013.

INVESTMENT OBJECTIVE

The Board's investment objective is to benefit our member municipalities by adding value to their assets. Recognizing that inflation can erode value, the Board's goal is to have the fund earn at least two percent (2%) more annually than the average annual inflation rate over a long period of time. While this is the System-wide goal, individual investment advisors will have their performance measured based upon standards which are specifically spelled out both in this document and in their individual contractual service agreement.

INVESTMENT PHILOSOPHY

The Board considers itself a conservative fiduciary, placing greatest emphasis on quality of investments and consistency in return. Despite this conservative posture, the Board still believes that actively managed investments should perform in such a manner that the rate of return over a five-year period, net of management fees, should exceed the recognized market indices for the various asset vehicles. Those investments placed with passive managers shall match the appropriate indices. Specifically:

> Managers of portfolios assigned to invest in fixed income securities are expected to exceed the Barclays Aggregate Bond Index;
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> Equity managers of portfolios assigned to invest primarily in domestic large capitalized firms are expected to exceed the Standard and Poor's 500 Stock Composite Index over the long-term and a style specific index over the short and intermediate time periods;
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> Equity managers of portfolios assigned to invest primarily in domestic small capitalized firms are expected to exceed the Russell 2000 Index over the long-term and a style specific index over the short and intermediate time periods,
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> Equity managers of portfolios assigned to invest in non-domestic firms headquartered in the Broad Developed Markets are expected to exceed the S&P/Citigroup BMI World Ex-U.S. Equity Index over the long-term and a style specific index over the short and intermediate time periods;
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> Equity managers of portfolios assigned to invest in non-domestic firms headquartered in International Emerging Markets are expected to exceed the S&P/Citigroup BMI Emerging Markets over the long-term and a style specific index over the short and intermediate time periods, and;

Returns on cash on average are expected to exceed the 90-Day Treasury Bill Offering.

The benchmark return for the Timber portfolio is a real rate of return of no less than six percent (6%) over ten-year time periods. Over shorter periods of time, it is expected to exceed the National Council of Real Estate Investment Fiduciaries (NCREIF) Timberland Index.

Real estate returns shall be divided into two components: the core portfolio benchmark return and the non-core portfolio benchmark return. The benchmark return for the core real estate portfolio investments is a real rate of return of five percent (5%) over ten-year time periods. Over shorter periods of time, it is expected to exceed the NCREIF Classic Property Index. The benchmark return for the non-core portfolio is a real rate of return of no less than six percent (6%) over ten-year time periods. In achieving the core benchmark return, emphasis shall be placed on the income component of the total return. A minimum income return requirement does not apply to non-core investments.

The Board believes that active management should add more value than passive management to the portfolio. The Board, however, recognizes that passive management does have merit for diversification, ease of participation, and cost of administration purposes. It shall draw upon both styles for investment management purposes.

The Board believes that one of the most important responsibilities it has as a fiduciary is to determine the appropriate total asset allocation for the System. Individual investment advisors are specifically restrained by their individualized contracts or guidelines as to the asset classifications in which they may invest. The investment vehicles which the Board believes appropriate for the System include equities (both domestic and international), a fixed income portfolio of corporate and government bonds (both domestic and international), real estate, timber, and cash or cash equivalents. The Board has established the allocation goals as follows:

Equities (large capitalized firms)	Twenty-five percent (25%)
Equities (small capitalized firms)	Fifteen percent (15%)
Equities (non-domestic firms headquartered in the Broad Developed Markets)	Fifteen percent (15%)
Equities (non-domestic firms headquartered in International Emerging Markets)	Ten percent (10%)
Fixed Income	Twenty percent (20%)
Timberland	Five percent (5%)

Real Estate	Ten percent (10%)
Direct Real Estate Equity	No more than four and five tenths percent (4.5%)
Commingled Real Estate Funds with Equity Participation	The remainder of the ten percent (10%) allocated to real estate

The allocations are to be based upon market value rather than cost. Managers hired to invest in small capitalized firms shall only be allowed to purchase the securities of firms whose value is between the total value of the highest capitalized firm and the smallest capitalized firm listed in the most recently constituted Russell 2000 Index as of the date of purchase for the portfolio.

The Board believes that over a long period of time most value results from how the portfolio is allocated among the approved asset classes. For that reason the Board shall retain exclusive control of the entire System's portfolio allocation. Specific steps have been designed for the Secretary of the System to allocate and reallocate new monies and existing assets on a monthly basis to meet the overall asset allocation objectives.

The Board believes that its relationship with the investment advisors and staff should be an open one in which constant communication occurs between the parties. However, only those understandings and expectations that have been adopted by the Board and memorialized in the individual contract employing each investment advisor shall be considered when managing the account. Appropriate action for any breach of contract shall be instituted when, in the judgment of the Board, further action is necessary.

PORTFOLIO CONSTRUCTION

To assist the Board in obtaining its investment objectives for the fund, investment advisors shall be retained after a search conducted with proper due diligence. Each investment advisor shall be individually reviewed by the Board periodically but no less than annually. In addition to the overall investment guidelines for the System, each investment advisor shall have an individualized contract and, if necessary, a more specific set of guidelines reflecting the Board's expectations and restrictions. Any individual investment advisor's specific guidelines are to be incorporated into the overall guidelines of the System and are to be treated as appendices to this public document. All investments shall be made in compliance with applicable federal and state law.

Within all individual specific investment guidelines, the investment advisors shall have the discretion to buy and sell securities when, in their judgment, the investment outlook warrants such transactions.

The Board's expectation is that all assets in the Fund shall be invested daily to the fullest extent possible. Idle cash is to be avoided.

SPECIFIC SHORT-TERM CONSIDERATIONS

Assets shall be invested only in those vehicles specifically authorized for use by the investment advisor. Synthetic securities replicating a manager's authorized investments, such as iShares or other ETF, will not be treated as a security but instead will be considered part of the manager's cash balance. All other transactions shall be prohibited. All investment advisors shall have discretion to weight the commitment of their resources to the authorized investment vehicle(s).

It is the desire of the Board for each manager to remain as fully invested as possible. Any advisor who wishes to be postured in a cash or cash equivalent position shall invest in the vehicles authorized by the System. The manager shall utilize the System's depository relationship with the State Treasurer who, as custodian of the Fund, will invest all cash on a daily basis in a short-term fund.

The impact of the return of that portion of the portfolio invested in cash by the custodian shall be calculated by the System's consultant and the manager and be a component of the investment manager's overall performance. A weighted daily balance crediting investment earnings from the short-term fund at Treasury shall be monitored and reported to both the manager and the investment consultant monthly. No management fee shall be paid by the System to any manager for that portion of average assets in excess of five percent (5%) remaining in cash equivalents at Treasury or invested in synthetic securities. The calculation of the advisor's average cash position shall be based on the daily cash balance in a quarter compared to the total assets at market value at the close of the previous calendar quarter.

SPECIFIC FIXED INCOME CONSIDERATIONS

The Board seeks to bring income and stability to the overall portfolio through fixed income vehicles. The bond portfolio is expected to be diversified from a geographic and industrial standpoint. Price appreciation is a consideration in the purchase of bonds. Reflecting the conservative tenor of the Board, the bond portfolio shall be invested in quality vehicles. Only those bonds issued by the federal government and its agencies or foreign government bonds denominated in U.S. dollars rated "AA" or higher, and only those corporate bonds which are rated and which ratings are no lower than "A" or better by at least two of the following three rating services: Fitch Inc., Moody's Investment Service, and Standard and Poor's shall be purchased. Should any bond drop below investment quality (BA or lower), the manager shall divest the holding or report in writing to the System's Secretary within thirty (30) days from the day the security's rating has fallen below the acceptable rating as to why the security remains a safe investment for the portfolio. As marketability is an important factor, all bonds purchased shall be of an issue that has an outstanding par value of at least fifty million dollars ($50,000,000) except for 144A securities. When an index is utilized to meet the System's commitment to the fixed income allocation, the underlying securities of the index shall not have to comply with the specific requirements of this paragraph.

The Board also permits the following specific fixed income investment securities:

(1) 144A securities rated "A" or better and accompanied by registration rights;
(2) Collateralized mortgaged-backed securities (CMO) and commercial mortgaged-backed securities (CMBS) rated "AAA";
(3) Asset-backed securities rated "A" or better; and
(4) To be announced (TBA) issues (Fannie Mae and Freddie Mac) but only when the System intends to take delivery.

Preferred stock is considered a fixed income surrogate.

No single holding of an investment advisor other than a U.S. government bond is to account for more than five percent (5%) of the market value of that investment advisor's bond portfolio. The System shall not hold as assets more than ten percent (10%) of any one bond issue nor more than five percent (5%) of the bonds of any one issuing agent. Corporate bonds of any given sector of an industry are not to account for more than twenty-five percent (25%) of the market value of the bond portfolio. To insure these restrictions are valid, no investment advisor shall exceed these limits when applied to their individual portfolio.

SPECIFIC EQUITY INVESTMENT POLICY

The System's equity portfolio reflects the Board's desire not only to add value by income but also to include growth through market appreciation. Considerations of market appreciation shall be reviewed on a three-to-five year time horizon.

The System seeks to have an equity portfolio with diversification, quality issuance, growth potential and underlying value. No single equity holding shall account for more than seven and five-tenths percent (7.5%) of the market value of the System's equity portfolio, nor generally should the securities of any single sector account for more than twenty percent (20%) of the value of a particular manager's portfolio. The industry grouping shall be as defined by the board's investment consultant. If a single sector accounts for more than twenty percent (20%) of the value of a manager's portfolio, the manager shall include written justification for maintaining the portfolio outside the authorized limitation with its quarterly report. No more than one percent (1%) of the capitalization of any company is to be held by the System. The cumulative holdings of a manager for all of that manager’s clients shall account for no more than five percent (5%) of the outstanding voting common stock of a company. If a manager’s cumulative holdings exceed five percent (5%) of the outstanding voting common stock of a company, the manager shall liquidate the holding from the System’s portfolio within thirty (30) days.

The Board prohibits investment managers who have discretionary authority over the purchase of securities for their PMRS portfolio from investing any PMRS assets in any security issued by a corporation that has also retained the advisor, including where the advisor serves the corporation’s 401(k) plan(s). Investment advisors that hold, as of the date of adoption of this Policy Statement, such securities as part of their PMRS portfolio shall divest said securities from the PMRS portfolio within sixty days of the effective date of this Policy Statement or within sixty days of discovering and reporting such holding to the PMRS Secretary.

The purchase of convertible securities shall be permitted in equity portfolios provided the underlying equity is approved. Convertible bonds are considered to be equity surrogates and are permitted provided the underlying equity, if considered, would otherwise meet the guidelines.

SPECIFIC TIMBER POLICY

Investment in real estate shall be by direct equity participation. Consideration shall be given to the types of timber and to the geographic locations. Specific limitations as well as the specific investment process shall be detailed in individual timber advisors’ contracts. The asset class of timber is recognized as a long term investment (ten-to-fifteen years).

All timber shall be managed by and disposed of (if necessary) by a qualified timber investment management organization (timo). A manager’s acquisition, management, and disposition of real estate investments shall be guided by the prudent expert standard. All timber properties shall be valued by an independent third-party appraiser at least once every three years. The firm/appraiser selected must be a state certified general real estate appraiser for the state in which the timber to be appraised is located. For purposes of tracking value and performance, an annual update appraisal in each of the two interim years shall also be conducted. The same independent appraiser who performs the comprehensive appraisal may also perform the update appraisals. The same firm/appraiser may not perform successive comprehensive (non-update) appraisals.

SPECIFIC REAL ESTATE POLICY

The Board underscores its belief in the principle that diversification in investment vehicles should enhance the potential return on the investments by decreasing the overall risk of the portfolio. Investment decisions regarding the real estate portfolio shall be guided by the objectives to preserve capital, maximize cash distributions and income, achieve a total return competitive with the other asset classes, and maintain a broad diversification of assets and managers. Controlling risk within the real estate portfolio is as important as seeking higher returns.

The vehicles utilized for investment in real estate may be both direct equity participation and participation in commingled funds that involve equity participation. Consideration shall be given to the types of properties and to the geographic locations. Specific limitations as well as the specific investment process shall be detailed in individual real estate advisors' contracts. The asset class of equity real estate is recognized as a long term investment (seven-to-ten years).

Equity real estate investments provide for benefits derived directly from property operations and subsequent cash flows. Equity-oriented investments in income producing commercial and residential properties shall be emphasized.

An investment risk associated with real estate is that the actual income and total return may vary from the expected or projected return targets. The Fund shall manage this investment risk by implementing the following policies:

> A proposed investment shall exhibit institutional quality which is defined as similar to investments made by comparable pension funds and insurance companies.
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> All investments shall be underwritten, managed by, and disposed of (if necessary) by a qualified real estate investment manager.
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> The equity real estate portfolio shall be diversified by property type, economic/geographic location, and manager in order to reduce risk.
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> A manager's acquisition, management, and disposition of real estate investments shall be guided by the prudent expert standard.
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> All real estate investments shall be valued by a qualified independent appraiser(s) (MAI) at regular intervals, but no less often than every three years. Managers shall estimate the market value of each core property investment in those years independent appraisals are not performed. The

manager’s valuation shall be used for performance measurement purposes. The firm/appraiser must be a state certified general real estate appraiser for the state in which the property to be appraised is located. For purposes of tracking value and performance, an annual update appraisal in each of the two interim years shall also be conducted. The same independent appraiser who performs the comprehensive appraisal may also perform the update appraisals. The same firm/appraiser may not perform successive comprehensive (non-update) appraisals.

The real estate investments shall be made by means of any legally permissible investment vehicle including individually managed accounts, co-investments, group trusts, private institutional Real Estate Investment Trusts (REITs), partnerships, and securities. The System shall seek investments through said investment vehicles in both formal and informal secondary markets

The property type classification components are as follows: (1) Office; (2) Retail; (3) Industrial; (4) Residential; and (5) Other. No more than forty percent (40%) of the real estate portfolio maybe in any one classification.

PROHIBITED TRANSACTIONS

The Board prohibits (1) purchasing of commodities, mineral rights except those mineral rights that come with the purchase of timber lands, and warrants except those previously authorized, (2) short selling and the purchasing of securities on margin, and (3) selling or buying options or futures contracts on either fixed income or equity instruments. Unleveraged derivatives used to dampen risk, execute an unleveraged strategy, or reallocate assets within a portfolio quickly may be used by a manager provided the exposure to derivatives does not exceed five percent (5%) of the manager’s portfolio at market value. Leveraged derivatives of any nature or the use of derivatives to create leverage are strictly prohibited. Notwithstanding the above, warrants received in corporate restructuring may be retained at the manager’s discretion.

EXECUTION AND OPERATION

The System is required by law to utilize the Pennsylvania State Treasury as the depository. Consistent with the authority of the Treasury Department, a Master Custodian may be appointed by the Treasurer. The System shall require the Master Custodian to be responsible for the security lending program utilized by the System. The security lending operation is not expected to have any impact on the investment manager’s discretion. Investment advisors are expected to be able to work within this arrangement.

Investment advisors shall execute orders on the best net execution/price basis. Transactional costs and the costs associated with execution of trades as well as the rate of turnover shall be monitored by the System’s staff and reported upon annually to the Board. The best execution rule shall be observed by all advisors. Active equity advisors are expected to execute trades on the auction markets (NYSE and AMEX) at a rate close to the execution only cost (currently averaging three cents ($.03) per share or less). Investment advisors executing trades on the dealer markets (NASDAQ) are expected to act solely in the best interest of the plan when executing a trade. Deviation from these requirements shall be justified by the investment manager in writing.

Investment advisors may participate in a recapture program with an institutional broker(s) of their choice so that the average execution cost of trades in a calendar year does not exceed the average costs of trades executed at the execution only price. The Fund shall not enter into an exclusive use clause with any institutional broker. Advisors may work with any firm that offers the same level of service at the same level of net cost to the Fund.

The Board takes full responsibility for exercising the voting privilege contained in proxy solicitations generated by companies domiciled in the United States. Proxy solicitations by non-United States domiciled companies shall be handled by the investment manager that holds the security of that company in their portfolio. The Board may enter into contracts with third party providers of research relating to the issues for which the Board’s vote is being solicited. The System staff shall report annually to the Board on the proxies voted. The Board shall adopt specific guidelines for staff guidance. The proxy guidelines as adopted and hereafter amended shall be considered an integral part of these investment guidelines.

COMMUNICATIONS

The Board expects an open and constant line of communication between the System’s staff and the investment consultant and advisors. The frequency of the communication among the parties is key to the appropriate management of the Fund. The Board assumes the responsibility of reporting to individual investment advisors any significant changes in the assessment of the income requirement, risk-taking capabilities, or other vital characteristics concerning the management of the Fund.

Recognizing the dynamic nature of the underlying markets and the securities in which the Fund is investing, it shall be the responsibility of the investment advisor to report to the Board any suggestions or alterations in these guidelines or specific contract considerations which may be desirable for the achievement of greater satisfactory investment results. Revisions shall be considered from time to time.

Reports required of the investment advisors to the System's Board and staff shall include:

1. A timely confirmation of all transactions;

2. A monthly summary of transactions;

3. A quarterly statement of asset values at cost and at market;

4. Any explanation of contemplated major shifts in investment strategy or manager style before implementation in the System's portfolio; and

5. An explanation of major changes in organization or the personnel responsible for the development/management of the advisor's investment policy and/or associated with the System's account.

6. Active equity managers shall also report on a calendar quarter basis the average commission price per share traded in the quarter and either the percentage, if any, of the average commission price the manager receives as credit for purchase of soft dollar services or the actual dollar value of any soft dollar credits granted the manager based on the commissions paid that quarter. Small cap managers who directly or indirectly receive credits for trades placed on a dealer basis shall report the estimated dollar value of such credits and the name of dealers who provide the credits.

In addition to these written reports, the investment advisor is obligated to make periodic personal appearances before the Board as specifically detailed in the investment advisor's contract. Investment advisors' fees shall be paid in hard dollars. The cost of the investment advisors' management of any of the System's assets shall be a factor considered during the performance review of the managers' portfolios.

MONITORING

The System shall monitor the performance of its investment advisors through direct involvement of the Board, the System's staff, and any consultant hired for this purpose by the Board. The investment advisors are expected to work with these parties in a reasonable and cooperative fashion.

CERTIFICATION

These investment guidelines were re-adopted and amended by the Pennsylvania Municipal Retirement Board on November 15, 2012, and are meant to replace the previously adopted Investment Guidelines (Policy Statement 10 - 1) dated

January 21, 2010. This document is the official Investment Guidelines of the Pennsylvania Municipal Retirement System.

Attachment: Policy Statement 08-3 "Proxy Voting Policy" Adopted May 15, 2008.

Effective Date: This policy is to be implemented effective immediately and shared with all current PMRS investment consultants, advisors and managers as well as the System's staff.

Adoption Date: Adopted at the November 15, 2012 meeting of the Pennsylvania Municipal Retirement Board.

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James B. Allen, Secretary

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11/15/2012