Commonwealth of Pennsylvania Public School Employees' Retirement System

DATE: April 4, 2011

SUBJECT: Mariner Investment Group, LLC Recommendation

TO: Members of the Board

FROM: Mark E. Heppenstall, CFA Managing Director of Fixed Income

At the April Finance Committee meeting, staff and Wilshire will recommend the retention of Mariner Investment Group, LLC (the Galton Capital Group team), to manage a \$300 million short duration non-agency residential mortgage-backed securities (RMBS) portfolio. We hired Mariner/Galton in 2010 to manage a non-agency RMBS portfolio that was previously managed by TCW. I have been working with the Galton team in reviewing RMBS positions in my U.S. core fixed income portfolio since we hired them. Galton's team is very experienced, and their proprietary technological platform for evaluating RMBS securities is very robust compared to other systems we have seen. We view their technology platform as a clear differentiator for them in managing RMBS. In addition, the portfolio management team has experience in originating, servicing, securitization, portfolio management, and trading RMBS. We believe that Mariner/Galton represents an important strategic relationship in managing a RMBS portfolio for PSERS as well as assisting internal fixed income staff with their robust RMBS analytics.

The opportunity we recommend to the Board is for Galton to create a portfolio of liquid, short duration, zero expected principal loss, non-agency RMBS that provide attractive relative value and yield pick-up to comparable investments in our internally managed LIBOR-Plus portfolio. We are targeting 200 – 500 basis points of outperformance vs. LIBOR which would be an enhancement to the internally managed equity index portfolios through the internal alpha generation program. The genesis of this idea came through discussions with Galton and internal discussions among the equity, fixed income, and external public markets divisions of the Investment Office. Galton believes that this opportunity should last between two and three years, at which time we anticipate selling any remaining assets and closing the account.

Included for your review are Wilshire's recommendation, a brief synopsis prepared by staff, and the resolution.

If you have any questions or comments prior to the meeting, please contact me at 717-720-4726.



Memorandum

Date: April 4, 2011

- To: James H. Grossman, Jr. Managing Director of External Public Markets, Risk and Compliance Pennsylvania Public School Employees Retirement System
- From: William G. Bensur, Jr., CFA Managing Director Wilshire Associates Incorporated

Marlin D. Pease, CFA Managing Director Wilshire Associates Incorporated

Re: Mariner Investment Group, LLC

The purpose of this memorandum is to provide background analysis and recommend Mariner Investment Group, LLC to manage a short-duration non-agency Residential Mortgage-Backed Securities ("RMBS") portfolio that will serve a strategic role in the PSERS investment program. Wilshire believes that Mariner is an institutional firm with deep resources, unique / proprietary systems and a qualified investment team.

Organization

Mariner Investment Group, LLC ("Mariner") is an SEC Registered Investment Advisor founded by William J. Michaelcheck in 1992. Mariner has \$11.5 billion in total assets under management and the firm employs 159 staff globally. Effective December 16, 2010, ORIX USA Corporation ("ORIX") acquired a non-controlling majority ownership interest in MIG Holdings, LLC ("MIG") (Mariner's parent company). Operational control of MIG rests with a management committee appointed by Mariner Partners, which consists of nine voting members (all of whom are Mariner Partners) and two non-voting observers designated by ORIX. The ORIX observers do not have decision-making authority with respect to Marineradvised hedge funds or other client accounts. All investment decision-making authority and activity rests with Mariner as a separate subsidiary of MIG. Mariner is associated with other investment advisors and provides substantive support services to these "Associated Advisors" in exchange for a percentage of the advisor's revenues. The Associated Advisors have approximately \$4.9 billion in assets under management. Galton Capital Group is one of the Associated Advisors and the Galton team will be responsible for this strategy. RMBS are the sole focus of the Galton team.

Investment Approach

Mariner consists of seasoned mortgage professionals with experience spanning the entire mortgage process (origination to securitization to servicing). The key competitive advantage of this team is their unique technology platform that integrates a variety of sources of publicly available information (First American Housing Services, Moody's Economy.com, Loan Performance and Intex) to facilitate the quick decisions that are required when investing in seasoned mortgages. The integration of structuring tools and models along with the comprehensive data enables a consistent relative value analysis of all bonds processed.

Mariner believes there is a significant opportunity to create a portfolio of liquid, short duration, zero expected principal loss bonds that provide relative value and yield advantages (200+ bps) to comparable or longer duration fixed income securities. Due to the rapid amortizing and time-tranched nature of this sector of the market, the opportunity to capture this relative value will have a limited window as the securities will pay down principal each month and trend tighter toward shorter duration comparable bonds.

Wilshire recommends that PSERS invest up to \$300 million, sourced from the internally managed LIBOR-plus portfolio, in a short-duration RMBS portfolio managed by Mariner within the LIBOR-plus allocation of the PSERS investment program. The proposed fee structure is 35 bps fixed plus a 10% performance fee for returns in excess of LIBOR plus 200 bps.

Please let us know if you have any questions about this recommendation.



Short Duration Non-Agency RMBS Portfolio

Mariner Investment Group, LLC (Galton Capital Group)

April 4, 2011

Mark E. Heppenstall, CFA Managing Director of Fixed Income

See Page 8 for Disclaimer

Overview of Mariner Investment Group, LLC

- Founded in 1992
 - Orix USA purchased a non-controlling majority ownership stake (59.2%) effective December 16, 2010
- Extensive Wall Street proprietary trading and risk management expertise
- Deep fixed income and credit experience
- \$11.5 billion in assets under management
- Mariner operates as a platform for various "boutiques"
 - Galton Capital Group is the residential mortgage-backed group
 - Caspian Capital Partners is the distressed and L/S corporate credit group in process of becoming an independent Registered Investment Advisor
- Clients are approximately 90%+ institutional and include public and corporate pensions, endowments/foundations, hospital operating pools, family offices, and fund of funds
- Based in Harrison, NY with additional offices in New York City, Boston, Tokyo, and London
- Mariner employs 159 professionals as of March 1, 2011

Investment Philosophy

- Seek strong absolute, risk-adjusted net returns
- Seek to implement strategies with "long option" mentality whereby downside risk is limited and upside reward can be multiples of downside risk
- Seek to preserve capital in stressful markets by being long "senior" securities outright or long "senior" securities and short "junior" securities
- Specialized portfolio managers that have deep experience in their respective fixed income sectors have an edge

Investment Team

- 4 senior investment professionals have approximately 90 years collective experience
- 10 investment professionals led by co-portfolio managers, Matt Whalen and Kevin Finnerty are fully supported by Mariner infrastructure
- Deep experience in RMBS analysis and securitization, managing mortgage originators and servicers, and trading and managing mortgage portfolios

Value Proposition

- Strong portfolio management team with deep backgrounds in RMBS across the entire business (origination, servicing, securitization, portfolio management, trading, etc.)
- Proprietary Technology
 - Platform is unique and has numerous proprietary analysis statistics
 - 100% developed in-house
 - Data is parsed, scrubbed, and housed on-site
 - Deep analysis (loan level information) combined with efficient technology enables team to narrow investable universe in \$1.0 trillion+ RMBS market and spend time on value added credit analysis
 - Integrated framework for analysis, portfolio management, risk management, and trading
- Focused
 - Portfolio management team focused on managing portfolio the back office, compliance, legal and other operational support is provided by Mariner
 - No outside focus on CDOs or other legacy RMBS issues

Performance

- Mariner Non-Agency RMBS Portfolio, net of fees
 - Funded April 2010 with transfer of assets from terminated TCW portfolio
 - Market value as of February 28, 2011: \$350 million
 - Performance through February 2011
 - Portfolio: 9.38%
 - Benchmark: 3.45%

History with PSERS

- This would be the third portfolio with Mariner or Mariner-related entities
 - \$350 million non-agency RMBS portfolio
 - \$150 million in the Caspian Select Credit International Fund
 - Additional \$50 million will be funded to Caspian on May 1st

Objective

- To take advantage of the significant opportunity to create a portfolio of liquid, short duration, zero expected principal loss non-agency RMBS bonds that provide attractive relative value and yield pick-up (200 – 500 bps) to comparable or even longer duration fixed income securities
- We believe that this investment opportunity will last for the next 2 to 3 years

Portfolio Use

- Staff intends to invest \$300 million of the PSERS LIBOR-Plus portfolio in this product as an alpha generator for the internally managed alpha generation program
- The assets of this portfolio will be backing equity swaps used in the internally managed index portfolios

Account Terms

- Management fee: 35 bps
- Performance Fee: 10% of excess returns
- Hurdle Rate: 1-month LIBOR + 200 bps
- High water mark: Yes
- Account Structure: Separate account
- Custodian: BNY Mellon
- Lockup Period: None
- Liquidity: Daily
- Transparency: Full
- Breakage Fee: \$1.35 million less fees paid through termination date

Other

- Relationships with Wilshire: None
- Placement Agents: None
- Political Contributions in PA: None

Recommendation

 Staff, together with Wilshire Associates, recommends that the Board retain Mariner Investment Group, LLC to managed a short duration non-agency RMBS mandate in an amount within the target ranges established in Exhibit D of the Investment Policy Statement, Objectives and Guidelines.

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