# Report on investments by independent investment consultant

**May 3, 2023**

**New York City**

**Houston Firefighters' Relief and Retirement Fund**

**Report on Investments, Compliance, Asset Allocation, Portfolio Structure, Performance Reviews, Benchmarks, Costs, Leverage and Disclosures**

## INTRODUCTION

In December of 2022, Houston Firefighters' Relief and Retirement Fund ("HFRRF") engaged Global Sovereign Advisors ("GSA") as an independent investment consultant to conduct the triennial review as mandated under SB 2190.

In this document, GSA reports on:

(a) the Fund's compliance with its investment policy statement and ethics policies, including policies concerning the acceptance of gifts, and policies concerning insider trading;

(b) the Fund's asset allocation, including a review and discussion of the various risks, objectives, and expected future cash flows, taking into consideration the actuarial status of the Fund;

(c) the Fund's portfolio structure, including the Fund's need for liquidity, cash income, real return, and inflation protection and the active, passive, or index approach for different portions of the portfolio;

(d) investment manager performance reviews and an evaluation of the processes used to retain and evaluate managers;

(e) benchmarks used for each asset class and individual manager;

(f) an evaluation of fees and trading costs;

(g) an evaluation of any leverage, foreign exchange, or other hedging transaction, and;

(h) an evaluation of investment-related disclosures in the Fund's annual reports.

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## DISCLAIMER

1) GSA has reviewed documentation provided to us by the Houston Firefighters' Relief and Retirement Fund ("HFRRF") representing a sample of investment and operational activities over the past three fiscal years together with Annual Reports for fiscal years 2022, 2021, and 2020. In accordance with the agreement dated 8 December 2022, GSA was tasked with evaluating the procedures and mechanisms used to manage the Fund's investments in accordance with the Investment Policy Statement (IPS) pursuant to section 2B of Tex. Rev. Civ. Ann. Article 6243e.2(1). Our analysis and commentary are based solely on the documentation provided by HFRRF which is responsible for the legitimacy, accuracy and authenticity of the materials reviewed.

2) Our analysis follows the order set forth in the Scope of Services.

3) The independent auditor McConnell & Jones, LLP, gave HFRRF a clean opinion as of 30 June 2022 and GSA has relied on this opinion. In addition, GSA reviewed the assumptions in the 2021 ALM study conducted by Buck Consultants, Inc. and interviewed the Actuary in charge of the study.

4) GSA received full cooperation from the Chief Investment Officer, the Senior Investment Officer, the Senior Investment Operations Analyst, the Executive Director, the Chief Technology Officer, General Counsel, Chairman of the HFRRF Board of Trustees, and the Bank of New York Mellon, the Fund's custodian bank. We would like to thank them for their clear answers to the numerous questions posed during the course of this review.

5) The analysis contained herein satisfies GSA's obligations under its engagement with HFRRF to provide an independent investment consultant's report under §2B.

6) Prior to the engagement for this report and its analysis, GSA did not have an existing ongoing relationship with HFRRF but did perform the due diligence report three years earlier. GSA does not directly or indirectly manage any investments of HFRRF.

## REQUIREMENT A

### The Fund's compliance with its investment policy statement and ethics policies, including policies concerning the acceptance of gifts, and policies concerning insider trading.

1) The Fund's Investment Policy Statement (IPS) went through an extensive review and revision by the staff and Investment Committee (IC) in 2021, which was approved by the Board. It incorporated revisions to align with the 2021 Asset Liability Management (ALM) Study and Strategic Asset Allocation (SAA). This IPS embodies current best practices covering governance (including the definition of duties and investment philosophy), objectives and constraints of the Fund (such as time horizon, return objectives, and liquidity requirements), portfolio parameters (such as asset allocation, benchmarks, types of securities), risk management (including performance objectives and control procedures) and reporting (monthly, quarterly, annually and *ad hoc* when needed). Board oversight responsibilities remain the same, with the exception that prior signoff by the Board Chair is no longer needed to rebalance the public markets asset allocation when it shifts outside of TAA ranges or when an expected cash outflow requires the replenishment of cash through sale of public markets assets. All other safeguards remain. Such changes provide for more timely portfolio management. Following this change, rebalancing activities will be reported to the IC in the monthly investment actions summary.

2) The Fund has a dedicated Investment Compliance Analyst who ensures that all relevant policies are complied with, including regular vetting of the asset allocation. The Fund provides clear documentation regarding current investments, including Investment Committee materials provided monthly, quarterly, and annually. The documentation describes monthly investment actions and private equity and/or real estate commitments taken since the previous monthly meeting. Clear charts showing the relative risk/return characteristics of the Fund are provided to the Investment Committee and meetings provide an opportunity to hear comments from the public. The monthly Investment Committee meeting is somewhat more frequent than other funds, affording enhanced oversight and dialogue among the participants. The inclusion of time during the meeting to receive comments from the general public broadens the communications, transparency and oversight of the Fund.

3) The Investment Compliance Analyst provided to GSA a spreadsheet detailing separate items monitored periodically. Following the IPS revision of October 14, 2021, compliance oversight included monthly reports to the Investment Committee covering the following topics:

   i. Asset Allocation
   ii. Investment Actions Taken
   iii. Tactical Asset Allocation (TAA) Ranges
   iv. Rebalancing activities
   v. Investment agreements – legal reviews/signature checks
   vi. Certification that all actions duly reported to Investment Committee

4) The breadth, frequency and detail of the reports is deemed to be in keeping with industry best practices.

5) Reviewing compliance with the IPS (with the original effective dates of July 1, 2019 to June 30, 2022) and the updated IPS (with an effective date of October 14, 2021) also takes into consideration the impact of the global pandemic and the worldwide shutdown of economic and social activity beginning March 13, 2020 resulting in sizable uncertainty and a unique economic environment. Subsequent comments describe how the Fund addressed these uncertainties, along with the resiliency of the portfolio and investment operations.

6) Execution of investment management and reporting was impacted by the "work from home" environment. Proactively, prior to the onset of the pandemic, HFRRF had already migrated phone systems to a cloud service which allowed employees to work from anywhere with an internet connection. Maintaining and upgrading technology is a continuous process and it reflects well on the IT operations that there were plans and actions taken to improve operational resiliency prior to the pandemic. During the past three years, the Fund has implemented data access through cloud service, a multi-factor authentication system for data access, and other on-going cyber security measures. Cyber security training for staff existed prior to the pandemic and continues as a priority. The investment team has also upgraded software needed to manage an investment portfolio that has grown in scale and complexity.

7) Adherence to the Fund's precepts of focusing on the long-term, adjusting Tactical Asset Allocation (TAA), active management, ensuring adequate liquidity, and improving diversification presented both challenges and opportunities during the three years under review.

8) The expansion of private market investments requires an extended timeline. Conducting extensive due diligence and building constructive relationships with top tier General Partners are both essential to the allocation of appropriate amounts with optimum diversification. In the case of HFRRF, the approach is to divide the long-term SAA into a series of goals to be achieved over the course of many years. This approach is practical and is used by many institutional investors. One unexpected impact of the pandemic was that whipsawing market returns provided substantial gains in private market assets, with weaknesses seen in public markets. Consequently, the allocation targets were achieved much earlier than originally planned.

   The TAA allows for some adjustment to an asset class depending on the stage of the business cycle, to reduce the risk of too frequent rebalancing and to make allowances for some short-term adjustments to asset allocation in response to changes in monetary policy, sectorial trends, or crises. The TAA also allows for additional time, when needed, to fund private market investments.

   As noted in the Investment Policy Statement, when market prices move significantly away from their original position, assets may no longer be allocated in the portfolio in accordance with the proportions set forth in the TAA approved by the Board/Investment Committee.

In our review of the TAA during the last three years, public market investments saw higher volatility than in the previous three years. Based on market conditions, the TAA allocations were broadened. This was a reasonable action to reduce the risk of too frequent automatic rebalancing during the wide market volatility seen during the pandemic. Private market assets, which are not liquid and require several months to buy/sell investments, rose above the upper TAA range and remained elevated for an extended period of time, until the IPS TAA range was formally updated. Private equity saw substantial growth in FY 2021 with a return of 65% (see p. 54 of the 2022 Annual Report), causing an excessive allocation to the asset class. A sale of some private market assets in the secondary market was required and a sale of private assets amounting to a net asset value of $474 million was completed in mid-2022, reducing somewhat the elevated allocation.

In contrast, the cash allocation reported within the performance report (on a look-through basis to include cash in actively managed publicly- traded accounts) was significantly below its TAA over an extended period of time. This reported shortfall is not reflective of liquidity. While the reported cash balance looks through the actively managed public accounts, including those of three GTAA funds (whose strategies use futures and options), there is a constant balance of cash managed by HFRRF in an in-house account, providing adequate liquidity to cover payment requirements.

9) During the course of our review of documents provided by HFRRF and extensive interviews with management, staff, representatives of Bank of New York Mellon as Custodian, Actuaries at Buck, LLC and Auditors at McConnell Jones, we identified no cases of divergence from ethics policies, including gift acceptance, nor evidence of insider trading.

10) As for the ethics policies, including policies concerning insider trading, the policies appear to be appropriate and consistent with best practices.

REQUIREMENT B

## The Fund's asset allocation, including a review and discussion of the various risks, objectives and expected future cash flows.

1) Here we begin with the changes implemented across the portfolio during the three fiscal years under review. As investment research has shown, the allocation across asset classes (stocks, bonds, etc.) is the primary driver of portfolio return variability. The determinants of how the Strategic Asset Allocation of the pension assets are allocated are analyzed in the asset-liability study. The shift in the asset allocation from July 1, 2019 to June 30, 2022 was as follows:

| STRATEGIC ASSET ALLOCATION (%) | | |
|---|---|---|
| **ASSET CLASS** | **7/1/2019** | **6/30/2022** |
| **Total Equity** | **34** | **38** |
| ***Domestic*** | 17 | 19 |
| ***International*** | 17 | 19 |
| **Fixed Income** | **30** | **13** |
| ***Aggregate Bonds*** | NA | 5 |
| ***Intermediate Credit*** | NA | 3 |
| ***Intermediate High Yield*** | NA | 5 |
| **Digital Assets** | **NA** | * |
| **Hedge Funds** | **8** | **2** |
| **Private Debt** | **NA** | **10** |
| **Private Equity** | **20** | **25** |
| **Real Estate** | **7** | **10** |
| **Cash** | **1** | **2** |
| ***Total Public Market Investments*** | ***73*** | ***55*** |
| ***Total Private Market Investments*** | ***27*** | ***45*** |

**** New investment added in FY 2022.***

As a result of the new ALM study, a new SAA was approved in October 2021.

Private market investments have grown across large institutional investors. The number of private companies has been increasing in the US and globally. According to the World Bank, the number of companies listed on US exchanges declined from a peak in 1996 of over 8,000 companies to just under 4,300 in 2019. Factors driving this decline include bankruptcies, mergers, and acquisitions. Private companies benefited from lower regulatory barriers to entry and access to funding at low interest rates. In addition, companies are staying private for longer.

While market capitalization-weighted public equity indexes cover all publicly-traded stocks or various segments of it (i.e., large cap or small cap companies), in recent years we have seen the dominance of technology stocks. Looking at the widely followed S&P 500 index, the technology stocks account for seven of the top ten companies and as of early April 2023, 88% of the S&P gains. This concentration adds to investment (volatility) risk. Also contributing to volatility is the momentum factor driven by market participants.

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The Strategic Asset Allocation is a long-term view intended to limit chasing investment returns with frequent structural changes in the portfolio which investment research has shown is not in the best interest of long-term investors. Long-term risks and the Fund's risk appetite are reflected in the IPS and the policy benchmark selection.

2) A review of the past three fiscal years encompassed market conditions which changed dramatically in 2020, beginning with a steep market decline at the onset of the pandemic, followed by a sharp reversal which continued through 2021. Entering the second half of 2022 brought new sources of market volatility on the geopolitical front with the war in Ukraine, energy price increases, supply line disruptions, and interest rate increases.

3) Short term risks are managed by Tactical Asset Allocation within the range of risk tolerance, as reflected in the IPS by tactical ranges and the risk budget. The timeframe to rebalance private market assets can be several months to over one year depending on market conditions. To address this and the sizable volatility during the pandemic, the Tactical Asset Allocation range for Private Equity, as well as all other asset classes, were expanded:

| **TACTICAL ASSET ALLOCATION (%)** | | | **Current SAA (%)** |
|---|---|---|---|
| **ASSET CLASS** | **7/1/2019** | **6/30/2022** | |
| **Total Equity** | | | **38** |
| ***Domestic*** | *12 - 30* | *7 - 31* | 19 |
| ***International*** | *12 - 30* | *7 - 31* | 19 |
| **Fixed Income** | 15 - 35 | | **20** |
| ***Aggregate Bonds*** | *NA* | *1 - 13* | 9 |
| ***Intermediate Credit*** | *NA* | *0 - 7* | 3 |
| ***Intermediate High Yield*** | *NA* | *1 - 15* | 8 |
| **Digital Assets** | NA | 0 - 5 | **.5*** |
| **Hedge Funds** | 4 - 12 | 0 - 12 | **4.5** |
| **Private Debt** | NA | 0 -10 | **3** |
| **Private Equity** | 11 - 25 | 10 - 37 | **25** |
| **Real Estate** | 4 - 10 | 5 - 15 | **7** |
| **Cash** | 0.5 - 5 | 0.5 - 8 | **2** |
| ***Total Public Market Investments*** | | | ***65*** |
| ***Total Private Market Investments*** | | | ***35*** |

**** New investment added in FY2022***

To manage the timeframe for expanding the private market allocation, the IPS sets an interim Strategic Asset Allocation called "Current Strategic Asset Allocation" (SAA) shown in the table above.

Significant expansions or contractions of less liquid private market exposures reduce the flexibility to adjust the asset allocation. Funds invested in private markets (private equity and real estate) at July 1, 2019 represented 29 % of the total portfolio. Private market holdings peaked at 46 % (May 31, 2022) and subsided to 45% (private equity, real estate, private debt) at June 30, 2022. Liquidity monitoring is therefore important.

4) The Senior Investment Operations Analyst monitors the Fund's asset allocation on a regular basis to ensure that it remains in conformity with the Investment Policy Statement (IPS). The custodian bank, BNY Mellon, produces automated reports daily, weekly, and monthly to facilitate tracking of asset allocation and performance. Every month, the Investment Committee receives an Investment Actions Taken Report and Asset Allocation chart, for discussion and review. From our discussions with the Chief Investment Officer, Senior Investment Officer, and Custodian, we believe the asset allocation is given close and timely attention.

5) The Senior Investment Operations Analyst reviews all data coming from investment managers and the Custodian; then confirms that the information reconciles with all in-house records. The CIO, and Senior Investment Officer monitor the Fund's asset allocation daily, paying particularly close attention to asset allocation ranges and cash balances. The CIO can initiate asset rebalancing at any time. Under the current IPS, any portfolio rebalancing action is then reported in the Investment Actions Taken Report to the Investment Committee in the next monthly meeting.

6) It is best practice to conduct scenario analysis regularly to test how the portfolio is expected to perform under stressed economic conditions. Diversification is important to manage risk, but it is not always effective, especially when a market crisis arises and the correlation across asset classes increases. The CIO and Senior Investment Officer, no less than annually request scenario analyses and stress tests from third party consultants unless market conditions warrant an *ad hoc* analysis. It is inherent in the private equity asset class for performance and reporting to lag the more actively traded public markets. For this reason, stress tests, pacing and scenario analyses for private assets conducted on an annual basis is often adequate. Building analytical expertise in-house is suggested as a way to provide more timely scenario analyses as well as added insights to reviewing third party analyses when considering purchases and sales of assets.

7) We were advised that Insurance coverage from the custodian bank covers securities and documents of value while in transit or on the premises of the bank. Assets held in private equity or real estate funds are managed under the responsibility of the General Partners. Limited Partnerships are audited on an annual basis. And in many cases, there are SOC 1 reports that address the administration/operations of the partnership/fund. Policy audits include such items as Allocation Policies, Investment Restrictions, and Conflicts of Interest Policies, all at the Fund/Partnership level. These are available to the HFRRF Investment Team for review but also reviewed by the HFRRF private markets consultant as part of underwriting. The LPA governs the majority of the risks around

manager decisions.

8) Included under fiduciary responsibility, reviewing the documentation for private market commitments requires expert scrutiny. Legal Counsel works with external attorneys to review all documentation with the specific structure and risk parameters of HFRRF. Pacing studies are conducted for private market investments to provide some guidelines and to manage expectations for contributions and distribution of funds. They are updated as market conditions change.

## REQUIREMENT C

**The Fund's portfolio structure, including the fund's need for liquidity, cash income, real return, and inflation protection and the active, passive or index approach for different portions of the portfolio.**

1) Liquidity is a combination of cash and readily available cash invested in liquid public market assets. The Fund has a process to project future cash flows. Moreover, the CIO and Senior Investment Officer are actively engaged in ensuring that cash is replenished in time. In addition, for Private Investments, the Fund closely monitors expected capital calls and distributions and periodically conducts pacing studies which include longer term expectations to ensure future cash flow needs (capital calls and distributions) under normal and stressed scenarios are quantified.
2) Note also that the Fund has an overdraft facility arrangement with the custodian bank to protect against accidental mistiming of trading instruction letters. Moreover, the Fund has no control over when banks actually post cash flows. This problem was mitigated by allowing for a full day between cash deposit and withdrawal instructions to reduce inadvertent overdrafts. In the past three years, the overdraft facility has not been used.
3) The portion of the portfolio invested with publicly-traded stocks is primarily held in low-cost index funds or in commingled funds with respected fund managers. Research regarding public equity markets indicates a lack of persistent excess returns (i.e., above benchmark, net of fees) with active management in the large, developed markets that are considered more efficient due to information flows, favorable regulatory environments, and sound trading infrastructure.
4) HFRRF also utilizes factor-based analysis, a technique which considers such characteristics as growth, value, momentum, volatility, size, country, etc., which are helpful additional tools for active portfolio management.
5) Private investments, which are not publicly traded, have become an increasingly important part of institutional portfolios and represent a significant portion of the HFRRF portfolio. Persistence in excess returns has been visible in these markets as they may not be subject to the same short-term pressures as public companies and have greater control over operations and strategic direction. Selection of an experienced General Partner is a key factor. Future results are, nonetheless, not guaranteed. The CIO and investment team conduct due diligence in selecting third party advisors and work with them in the due diligence process for investment opportunities. The team's approach focuses on respected managers, building strong relationships to benefit from scale of investment commitments, investing in follow-up funds and taking advantage of co-investment opportunities with more favorable fee structures. Strong returns in private equity have resulted in the need to look for not only new investment opportunities, but also opportunities to sell investment holdings. To manage the size of the allocation as well as adjust its diversification, the Fund sold a portion of its private market interests in a secondary market transaction in 2022. These actions are in line with best practices.

It bears mentioning that the Fund's ability to sell private equity in 2022 was enabled by the combination of buoyant market conditions, a CIO who paid very close attention to valuations, and investor interest in such assets. During a period of stressful market conditions, locating potential buyers may demand considerable patience.

6) Monitoring private equity and other private market assets (real estate, private debt, etc.) requires more resources than public market investments. The timing of capital calls for additional funds to be sent to the manager as well as distributions back to the Fund for future investment are estimated through a pacing model, but these flows are not guaranteed to occur on an exact schedule. The investment team has the flexibility to sell publicly traded assets as a source of additional liquidity to meet commitments. These actions are in line with best practices.

7) As a long-term investor, the Fund must weigh news that impacts the financial markets in the short term versus what it means for the portfolio in terms of long-term risks and opportunities. One of the tools used is quantitative scenario analysis. It is best practice to perform such stress testing the portfolio to challenging market conditions on a regular basis. Scenario analysis incorporates expected (geometric) returns over multiple long-term timeframes. The Fund does utilize scenario testing through third party providers. The frequency of use varies, but should be conducted on a regularly scheduled basis and additionally, when significant news and financial market events warrant critical thinking regarding their potential impact on the portfolio. The HFRRF FY 2023 Strategy and Initiatives Report references such challenges.

8) Portfolio diversification has expanded to include private credit and a small exposure to digital assets. The investment team invested in digital assets through a separately managed account in order to avoid possible regulatory uncertainties and to better control the investment as compared to a commingled fund. When researching opportunities, the team conducts due diligence with the assistance of legal counsel in order to assure the investment structure is suitable.

9) The Investment objectives include preserving the principal of the Fund in real terms and earning additional returns over a rolling 10-year period (net of fees). Real returns are defined as nominal returns minus inflation over a long-term period. The stated target return for the Fund is expressed in nominal terms. Under SB2190, the discount used for determining the City's contribution in the annual Risk Sharing Valuation Report can be no higher than 7%. This rate was used in the 2021 ALM study. The 7% discount rate is composed of a forecasted long-term inflation rate of 2.5% and a real return above the inflation rate of 4.5%. For GASB purposes in the Annual Report, 7.25% was reported which reflects the expected return for the portfolio.

The Fund is well diversified globally. While many factors can impact a particular company, sector, or country, diversification across geographic areas, industries, and types of assets can reduce the volatility over the long term. The actuarial experience report will provide guidance as to managing the portfolio while implementing the guidelines set forth in SB2190.

10) The audited financial statements of the Fund distinguish the different sources of cash income between interest income, dividends, income from securities lending, earnings from private equity and real estate, and other income.

Requirement D

## Investment manager performance reviews and an evaluation of the processes used to retain and evaluate managers.

1) The revised IPS states the investment staff must confer quarterly with investment managers. Reporting by investment managers typically includes performance information, changes to the portfolio, changes in personnel within the investment team and senior management. Changes in investment philosophy, personnel, or process may require further due diligence to assess if the manager still meets the Fund's requirements and should be included in any reporting by the asset manager.
2) The required time to monitor different investments varies widely. Publicly- traded index funds are straightforward because the criteria are rules based and explicitly stated. In contrast, the GTAA fund strategies require a critical thinking perspective, because the positions incorporate how the investment manager expects the market to perform over the next few quarters. Discussions are held with outside managers quarterly, often virtually.
3) The reporting frequency of investment managers vary from monthly to quarterly. A review of private market investments usually requires more in-depth analysis and contact with the General Partner (i.e., investment management team) and the other limited partners. Managing these relationships for opportunities for further investment is important. Given the large number of meetings, there are increased travel requirements as well as numerous meetings to be monitored virtually by the CIO and Senior Investment Officer. Given the number of private investments for a growing portfolio, staffing considerations are important and require monitoring.
4) The Investment Committee is provided with a monthly update covering public investments. Private equity valuations and performance are reported quarterly, with a one quarter lag, which is standard industry practice. The Fund provides a report from the Trust Universe Comparisons Service, which is prepared independently by Wilshire to compare peer performance. This is also consistent with industry best practices.

REQUIREMENT E

## Benchmarks used for each asset class and individual manager.

1) Industry standard benchmarks are used where appropriate to gauge the performance of investment managers. The benchmark data are licensed and maintained by the independent custodian that also produces the performance reports.

2) Benchmarks are revised periodically for changes in the investment universe being measured. Companies are added or subtracted, specific bond issues mature, or investment products change. More infrequently there may be a change in methodology. Every four, or five years, as an integral part of independently conducted ALM studies, the benchmarks are re-evaluated and HFRRF management determines whether any changes are required.

3) In certain cases, a blend of multiple benchmarks is used by the custodian to gauge the performance of a fund. Some benchmarks are a weighted combination of two or more benchmarks to align with the scope of the mandate. Benchmarks may be discontinued and require substitution. The history of the benchmark applied to a manager, sub-asset class, asset class or portfolio is reported in the performance report. Although benchmarks for public assets are transparent and generally investable, private market benchmarks tend to reflect the holdings that are already in the hands of investors, making it impossible for another fund to invest in exactly the same assets. The Private Equity industry uses benchmarks that approximate market conditions, but it is in the nature of such assets that the respective benchmarks may be neither investable nor transparent. This is an industry-wide issue and not specific to HFRRF.

4) Trustee training should provide for an understanding of the attributes, purposes and limitations of benchmarks selected or under consideration by HFRRF.

REQUIREMENT F

## An evaluation of the fees and trading costs

1) Fees have generally risen during the 3-year period of Fiscal Years 2020 – 2022. This was driven by the increase in the allocation to private market assets, notably private equity and real estate. Private market assets have provided significant returns NET of fees. The HFRRF investment team pays attention to net of fee returns and monitors fee structure for reasonableness relative to other investors and partners to assess a balance of return on investment relative to fees incurred.

2) As reported in the annual reports of the Houston Firefighters' Relief and Retirement Fund, the overall cost for 2022 was 1.29% of assets under management, up from 90 basis points in 2021. In 2020 private equity and real estate fees were not categorized. During the past two years, much of the difference in fees arose from realized carried interest payments in private markets.

3) Important factors in determining value provided include the size of the investments, the contribution to return in the overall portfolio and how the investment team has negotiated and evaluated costs.

4) The private equity portfolio grew by 148% from $724 MM at the end of FY 2019 to $1.8 Billion at the end of FY 2022. Fees were 1.8% in 2021 and 2.1% in 2022. Returns for private equity were 2.2% in 2020, 65.7% in 2021, and 25.3% in 2022. It was the best performing asset class over three-, seven-, and ten-year periods. Similarly, real estate assets grew by 74% from $196MM to $341MM. Fees increased from 2.1% in 2021, and 4.2% in 2022. Real estate returns also outpaced all other asset classes other than private equity in 2022 at 24%. The return in 2021 was 12.8%, lagging the public equity markets. Real Estate outperformed public equities over the seven- and ten-year time horizon.

5) Management has been successful in negotiating significant cost reductions which benefits the Fund regardless of market conditions and will strengthen HFRRF's negotiating position as a fair, yet cost-conscious investor. For example, within private equity, HFRRF has made earlier and larger commitments to fewer managers, allowing the Fund to qualify for volume discounts. Moreover, the Fund has selected managers who use more cost-effective fee structures, for example, charging based on a "European waterfall" where the carry fee is based on total fund performance, instead of the "American waterfall" where carry fees are charged for each individual deal in a fund.

6) Management of the Fund emphasized that their strategy is to optimize management fees on a continuous basis, balancing risk, and performance with the nature of each investment. For example, HFRRF has made it a standard practice to include most-favored nation (MFN) provisions with each contract, to ensure that HFRRF pays no more than like investors. Another example of their cost-consciousness, for private markets, there is a clear preference for funds that charge fees on invested capital, rather than on both balances awaiting investment (committed) *and* invested capital.

Additional cost-saving efforts include, when appropriate, participation in select co-investment strategies where management fees may be discounted and negotiated fee discounts offered to early investors.

7) Brokerage fees remain about the same, at slightly above one cent per share.

8) Several years ago, most of the publicly-traded equity investments were shifted into index funds or commingled funds with sophisticated large-scale investment firms such as Blackrock, Schroders, and Newton Investment, which provide a cost savings. With the growth in Private Equity, public equity now represents a smaller share of the portfolio.

9) It would be beneficial for the Fund to utilize a benchmarking firm to compare investment fees, administrative costs, and staff size, to funds of a similar size and asset allocation. Asset allocation will be an important factor in the consideration of staffing requirements because of HFRRF's high allocation to private market funds. Conducting a review every 5 years or whenever the number and complexity of the asset classes is increased. In our opinion, the significant shift in the balance of assets between private and public markets requires a review of costs and of staffing requirements.

Requirement G

## An evaluation of any leverage, foreign exchange, or other hedging transaction

1) The Fund does not use any fund-level leverage. Individual managers and hedge funds may use options or futures for risk management, which can be viewed as leverage. The Fund does not borrow money to make investments.
2) The Fund itself does not engage in hedging transactions, nor does it use FX overlays or FX hedges. A few of the Private Equity and Private Real Estate funds are denominated in Euro. Carry and management fees for such funds are charged in Euro. The accounting statements and performance reports for private investments that invest globally are presented in US dollars. The balance of private investments that invest globally are USD denominated, therefore carry and management fees for such funds are charged in USD.
3) The Fund has allocations to hedge funds and risk parity funds, which may engage in leverage, FX transactions and hedging transactions.

## REQUIREMENT H

### An evaluation of investment related disclosures in the Fund's annual reports.

1) For 39 years, HFRRF has received a Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association.

2) The disclosures provide information covering the Fund's investment philosophy, an outline of investment policies and investment process. There is sufficient historical data to show where the Fund has been and how it is evolving to meet beneficiary needs and evolving risks and opportunities in current capital market conditions.

3) A recommended enhancement to the Annual Report would be to include a review of economic and financial market developments explaining events and returns for the period covered in each Annual Report.

4) Beyond standard reporting, adding information regarding various safeguard measures such as disaster recovery, fraud protection, and future plans would also add value.

## Summary and Recommendations

1) The procedures and documentation provided by HFRRF evidence a systematic approach to safeguarding and increasing the value of the portfolio.
2) Higher fee arrangements are limited to classes of investments where more active management approaches can enhance returns. HFRRF practices diligent compliance functions, employs external professionals to conduct regular external audits and engages actuaries to perform periodic ALM studies consistent with industry best practices. Overall, the closely monitored portfolio, with allocations to a prudent blend of active and passive funds, provides adequate diversification for the long term.
3) The Fund is growing and the asset allocation now has a significant exposure to private market assets. These assets require increased due diligence on the part of the HFRRF investment team. It would likely add value to have an adequate roster of individuals with expertise in private markets to monitor performance, to attend all meetings and to effect transactions. In this regard, we recommend undertaking an independent benchmarking study that not only reviews fees and administrative costs, but also includes an assessment of staffing levels given the Fund's complex structure.
4) While there are external advisors hired to perform various analyses, the Fund should build bench depth and strength. Looking ahead, it would be valuable to have additional staff with the potential to develop cross-functional skills such as risk management, or to become future leaders of the Fund. Developing additional in-house expertise not only reduces over-reliance on external sources but also develops skills to be better able to assess external providers. Timely analysis from third party providers can sometimes be an issue.
5) Given the increased frequency of unexpected events, there is risk that senior management, such as the CIO, or Executive Director becomes unavailable. A clear emergency backup plan should be in place and documented. A back-up plan for key service providers (such as Custodians) should also be considered. Current service providers should also share information regarding disaster recovery strategies relevant to their work with HFRRF. Potential key participants in a back-up plan should be kept up-to-date on mission critical matters and procedures.
6) Valuations are a key discussion point for private market assets. External managers utilize third party auditors at regular intervals but in between audit reports, appraisals are used. All General Partners are required to have their valuations independently audited by external auditors annually.
7) Even with the most prudent and effective management, portfolio volatility has increased in recent years due to external economic conditions. Following decades of interest rate repression, markets are now adjusting to an environment without artificially low borrowing rates.

While one expects that the financial authorities will eventually succeed in their efforts to reduce financial market risks such as inflation and bank failures, adjustments may need to be made to key metrics, such as discount factors, as economic conditions or demographics evolve. We believe the strong team in place at HFRRF has managed the last three years with consummate skill and expect their legacy to continue.

## DOCUMENTS PROVIDED BY HFRRF

Organization Chart

Job Descriptions-Investment Staff, Executive Director, Legal Counsel

Trustee List

Policy and Procedures Manual (update 2022)

- Includes Investment Policy Statement (2021, 2016)
- Code of Ethics
- Corporate Governance Policy

Compliance Checklist

Code of Ethics Affidavit

Asset Allocation Summary-Total Fund FY2019-2020 (monthly and quarterly)

Private Equity Pacing Analysis (November 2021, December 2022)

Private Equity Project Ladders (various dates 2022, 2023)

Private Equity Advisory List

Investment Committee: Agenda & Packet (August 2022)

Investment Committee: Agenda & Packet (September 2022)

Interactive Performance Report (December 31, 2022)

Investment Fund descriptions – sampling

Investment Committee presentations for proposed investment actions -sampling

Investment Committee Minutes (FY 2020 – 2022)

Investment Strategy and Initiatives – FY 2022, FY 2023

Annual Reports / Audited Financial Statements (FY 2020, 2021, 2022)

Asset-Liability Study 2021

Actuarial Experience Study 2020

Risk Sharing Valuation Sharing Study (FY 2022)

Custodian-related contracts

- Custody
- Trading
- Securities Lending
- Asset Servicing
- Amendments

Board of Trustee Effectiveness Assessment (2018)

Additional background provided in shared investment research reports, emails and interviews.

**Interviews**

HFRRF Staff

- Chief Investment Officer
- Senior Investment Officer
- Senior Investment Operations Analyst
- Executive Director
- General Counsel
- Chief Technology Officer

Chair, Board of Trustees

McConnell Jones (auditor)

Buck Consulting (actuary)

BNY Mellon (Custodian)