2017 Absolute Return Strategy Search Process and Recommendations

Marc L. Leavitt, Director of Absolute Return Strategies (ARS)
Martha deLivron, ARS Senior Investment Analyst
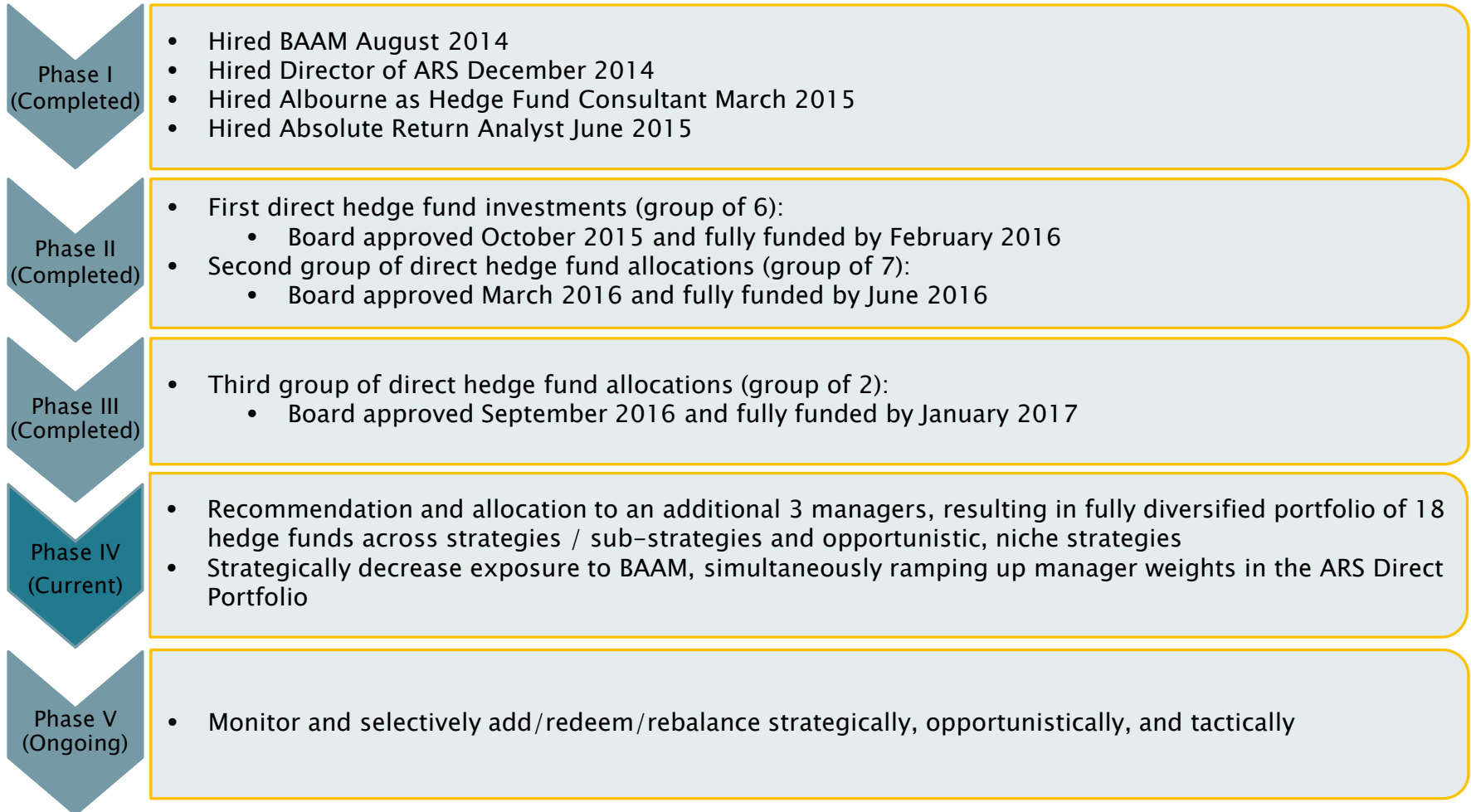Albourne America
March 30-31, 2017

TMRS
TEXAS MUNICIPAL RETIREMENT SYSTEM

Agenda

I.   ARS Search Process & Allocation Objectives

II.   Manager Search Process

III. Portfolio Construction

IV. Manager Selection & Recommendation

V.   Requested Board Action

Section I

ARS SEARCH PROCESS & ALLOCATION OBJECTIVES

2017 ARS Search Process Timeline

Phase	Details
Phase I (Completed)	• Hired BAAM August 2014 • Hired Director of ARS December 2014 • Hired Albourne as Hedge Fund Consultant March 2015 • Hired Absolute Return Analyst June 2015
Phase II (Completed)	• First direct hedge fund investments (group of 6): • Board approved October 2015 and fully funded by February 2016 • Second group of direct hedge fund allocations (group of 7): • Board approved March 2016 and fully funded by June 2016
Phase III (Completed)	• Third group of direct hedge fund allocations (group of 2): • Board approved September 2016 and fully funded by January 2017
Phase IV (Current)	• Recommendation and allocation to an additional 3 managers, resulting in fully diversified portfolio of 18 hedge funds across strategies / sub-strategies and opportunistic, niche strategies • Strategically decrease exposure to BAAM, simultaneously ramping up manager weights in the ARS Direct Portfolio
Phase V (Ongoing)	• Monitor and selectively add/redeem/rebalance strategically, opportunistically, and tactically

Absolute Return Strategy Objectives

- Objective
    - Purpose is to diversify equity and credit market risk by targeting hedge fund return streams that are independent of the directionality of the broad stock and bond markets. The ARS portfolio will be invested in a wide variety of hedge fund strategies, with specific constraints on overall portfolio risk and individual manager exposure.
    - The performance objective is to exceed the benchmark, defined as the HFRI Fund of Funds Diversified Index, net of fees, and to earn in excess of the appropriate long-term benchmark (3-month LIBOR + 500 basis points) on an ongoing rolling 5-year period.
- Investment Philosophy
    - Predicated on manager skill in:
        - Rotating (long/short trading) market factors based on valuation
        - Navigating less liquid, non public and opaque markets
        - Navigating special situations
        - Predicting and capturing market trends
    - Accordingly, ARS is not an "asset class" (or market sector)

Section II
MANAGER SEARCH PROCESS

Manager Search Process (1 of 2)

Sourcing
(Y/N)

Preliminary Due Diligence
(1/2)

Prioritization
(A,B,C)

Comprehensive Due Diligence
(Score)

Staff Recommendation

Board Approval
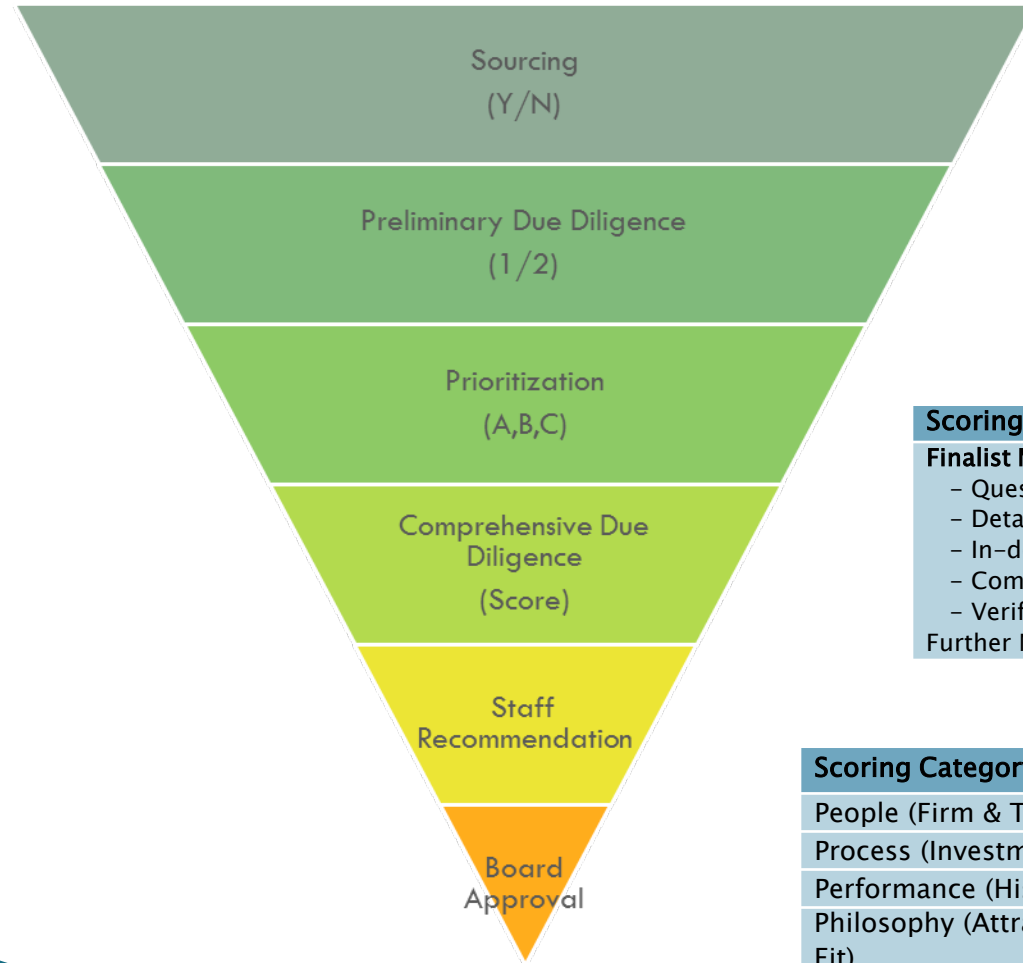
Manager Screen & Universe Analysis Scoring

Scoring Category	Score / Outcome
Manager Screen - Is vehicle consistent w/ TMRS' objectives?	Yes – Take Meeting; No – Don't Take Meeting
Manager Analysis - Does vehicle have adequate capacity and timeline? - PPPPT* Preliminary Review	1 – Advance; 2 – Stop Research

Semi-Finalist Scoring Matrix

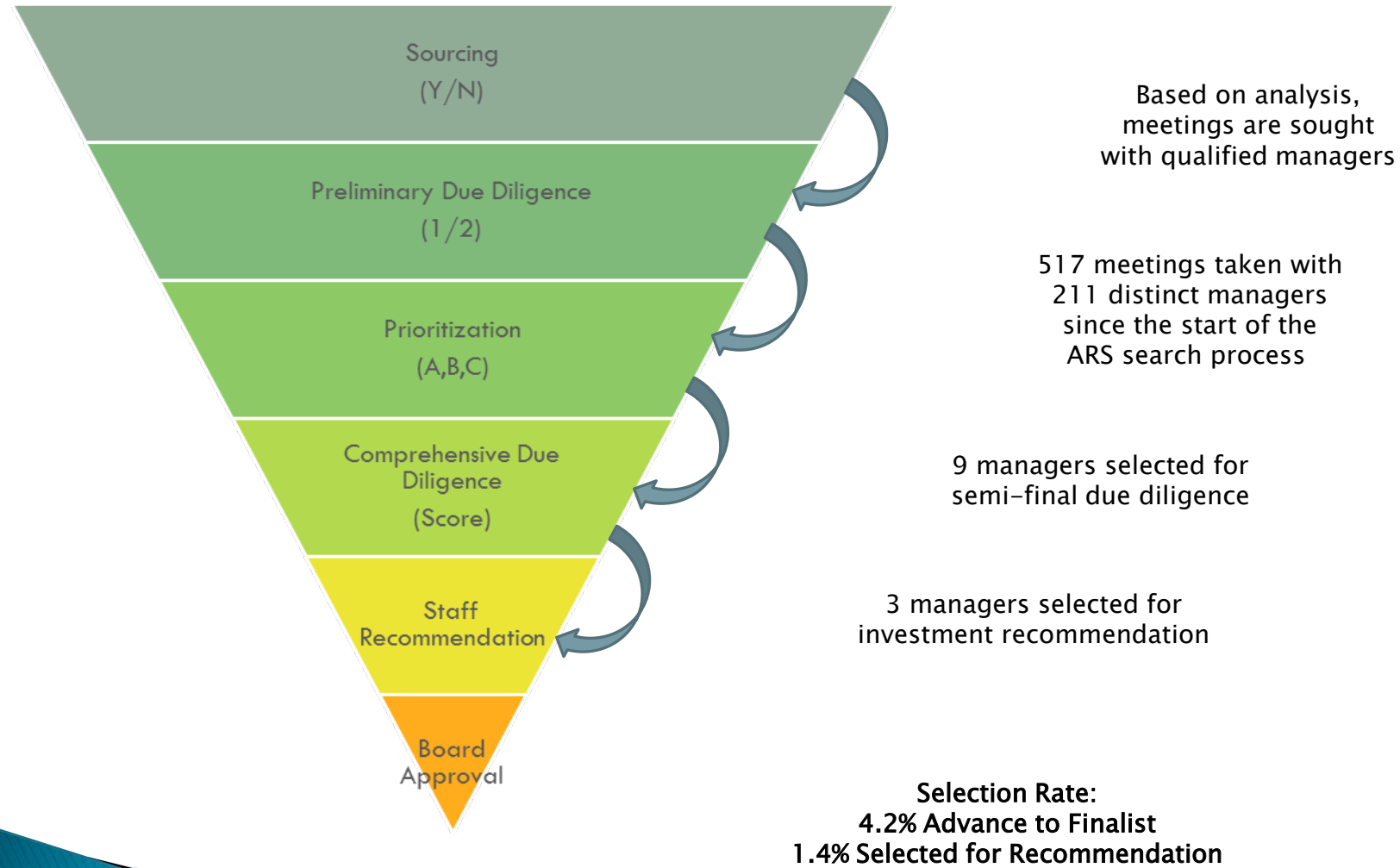| Scoring Category	Score
Finalist Manager Review - Questionnaire Review - Detailed PPPPT* Review - In-depth Manager Qualifications Review - Compliance with TMRS IPS - Verification of Research, References, Further Market Research	A – Prioritize for Final Due Diligence B – Perform More Research C – Stop Research / Manager not Selected

Final Due Diligence Scoring Matrix

Scoring Category	Possible Points
People (Firm & Team)	0 – 25 points
Process (Investment Process & Risk Management)	0 – 25 points
Performance (History / Expected)	0 – 25 points
Philosophy (Attractiveness of Opportunity / Portfolio Fit)	0 – 12.5 points
Terms (Fees, Liquidity, etc.)	0 – 12.5 points
Total	**100†**

*PPPPT – People, Philosophy, Process, Performance, Terms
†Selected managers standardized to a score of 100 to allow comparability among selected managers.

Manager Search Process (2 of 2)

Sourcing (Y/N)

Preliminary Due Diligence (1/2)

Prioritization (A,B,C)

Comprehensive Due Diligence (Score)

Staff Recommendation

Board Approval

Based on analysis, meetings are sought with qualified managers

517 meetings taken with 211 distinct managers since the start of the ARS search process

9 managers selected for semi-final due diligence

3 managers selected for investment recommendation

Selection Rate:
4.2% Advance to Finalist
1.4% Selected for Recommendation

Final Selected Managers Scoring Matrix

Final Due Diligence Scoring Matrix – Aggregated Results*

Recommended Manager/Fund	Manager Score†	Comparable Mgr. A Score	Comparable Mgr. B Score
BG Umbrella Fund Plc BG Fund (BG)	100.0	97.5	89.5
H2O Alpha 10 Feeder Fund (U.S.) L.P. (H2O)	100.0	90.0	84.5
Red Cliff Asia Fund (Red Cliff)	100.0	95.5	88.0

*Scoring matrices utilize difference calibrations depending on the strategy being utilized.
†Selected managers standardized to a score of 100 to allow comparability among selected managers
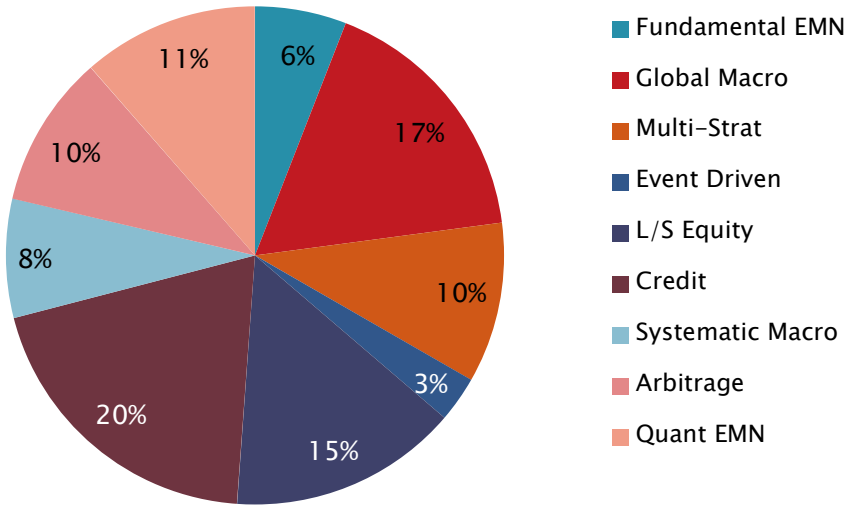
Section III

PORTFOLIO CONSTRUCTION

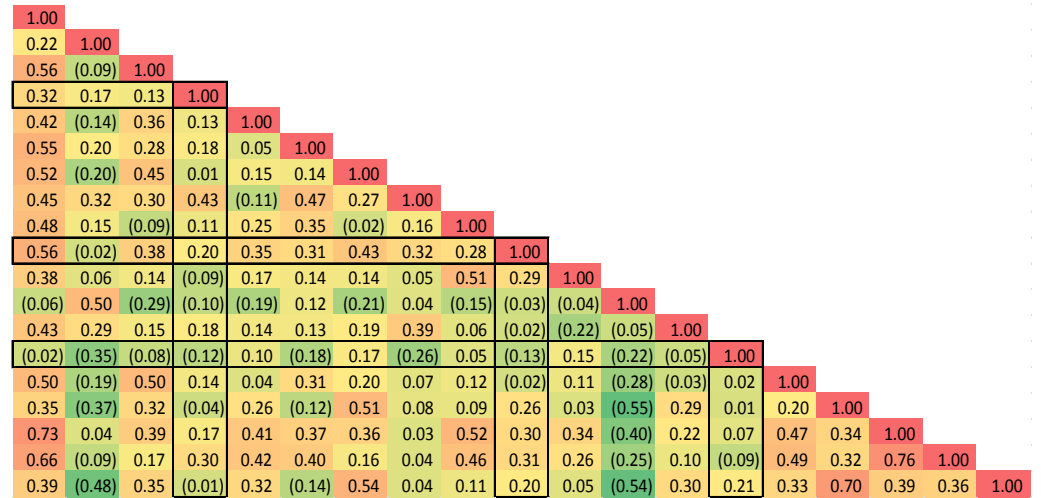# Manager Selection Portfolio Considerations
Strategy Diversification

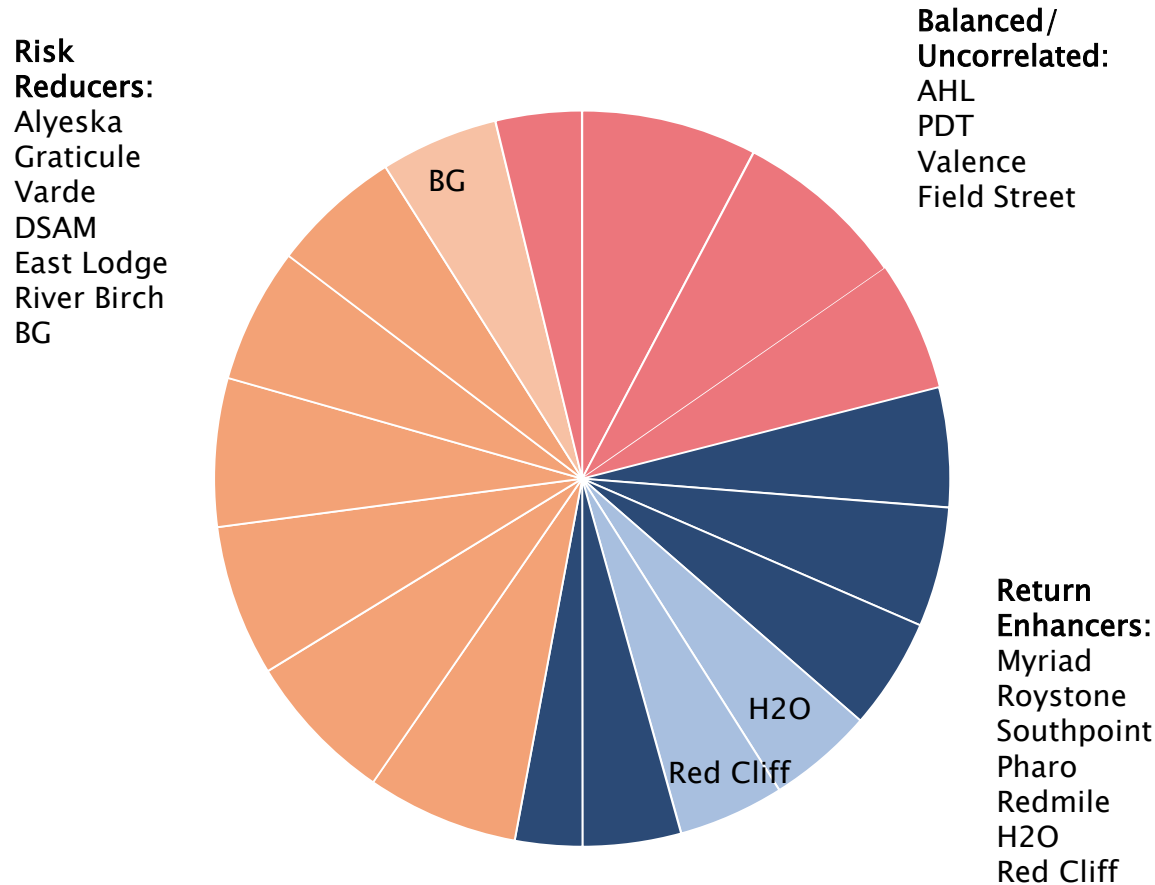### ARS Direct Portfolio: Exposure by Strategy*

Pie chart values: 6%, 17%, 10%, 3%, 15%, 20%, 8%, 10%, 11%

Legend:
- Fundamental EMN
- Global Macro
- Multi–Strat
- Event Driven
- L/S Equity
- Credit
- Systematic Macro
- Arbitrage
- Quant EMN

*Post March recommendations and rebalancing.

ARS Direct Portfolio Correlation Heat Map
January 2014 – December 2016

1.00																		
0.22	1.00																	
0.56	(0.09)	1.00																
0.32	0.17	0.13	1.00															
0.42	(0.14)	0.36	0.13	1.00														
0.55	0.20	0.28	0.18	0.05	1.00													
0.52	(0.20)	0.45	0.01	0.15	0.14	1.00												
0.45	0.32	0.30	0.43	(0.11)	0.47	0.27	1.00											
0.48	0.15	(0.09)	0.11	0.25	0.35	(0.02)	0.16	1.00										
0.56	(0.02)	0.38	0.20	0.35	0.31	0.43	0.32	0.28	1.00									
0.38	0.06	0.14	(0.09)	0.17	0.14	0.14	0.05	0.51	0.29	1.00								
(0.06)	0.50	(0.29)	(0.10)	(0.19)	0.12	(0.21)	0.04	(0.15)	(0.03)	(0.04)	1.00							
0.43	0.29	0.15	0.18	0.14	0.13	0.19	0.39	0.06	(0.02)	(0.22)	(0.05)	1.00						
(0.02)	(0.35)	(0.08)	(0.12)	0.10	(0.18)	0.17	(0.26)	0.05	(0.13)	0.15	(0.22)	(0.05)	1.00					
0.50	(0.19)	0.50	0.14	0.04	0.31	0.20	0.07	0.12	(0.02)	0.11	(0.28)	(0.03)	0.02	1.00				
0.35	(0.37)	0.32	(0.04)	0.26	(0.12)	0.51	0.08	0.09	0.26	0.03	(0.55)	0.29	0.01	0.20	1.00			
0.73	0.04	0.39	0.17	0.41	0.37	0.36	0.03	0.52	0.30	0.34	(0.40)	0.22	0.07	0.47	0.34	1.00		
0.66	(0.09)	0.17	0.30	0.42	0.40	0.16	0.04	0.46	0.31	0.26	(0.25)	0.10	(0.09)	0.49	0.32	0.76	1.00	
0.39	(0.48)	0.35	(0.01)	0.32	(0.14)	0.54	0.04	0.11	0.20	0.05	(0.54)	0.30	0.21	0.33	0.70	0.39	0.36	1.00

Manager Selection Portfolio Considerations
Position Sizing

Risk Reducers:
Alyeska
Graticule
Varde
DSAM
East Lodge
River Birch
BG

Balanced/ Uncorrelated:
AHL
PDT
Valence
Field Street

Return Enhancers:
Myriad
Roystone
Southpoint
Pharo
Redmile
H2O
Red Cliff

BG

H2O

Red Cliff

Sizing of managers is based on both qualitative and quantitative factors

Section IV

MANAGER SELECTION & RECOMMENDATION

Executive Summary of Manager Recommendation

Summary of Recommendations		
Recommended Manager/Fund	Strategy Classification	Recommended Amount
BG	Multi-Strategy Opportunistic	$100 million
H2O	Global Macro	$90 million
Red Cliff	Relative Value	$90 million
Total Net Recommendations:		$280 million

ARS Pacing model as approved by the TMRS Board of Trustees in December 2016 established $300 million as the targeted level of allocations for 2017.

Top Candidate Characteristics – BG (1/2)
$100 million Recommendation

Highlights

Founder(s): Emmanuel Boussard & Emmanuel Gavaudan

Firm AUM: €3.5 billion

Employees: 65

Office Location(s): London, Paris
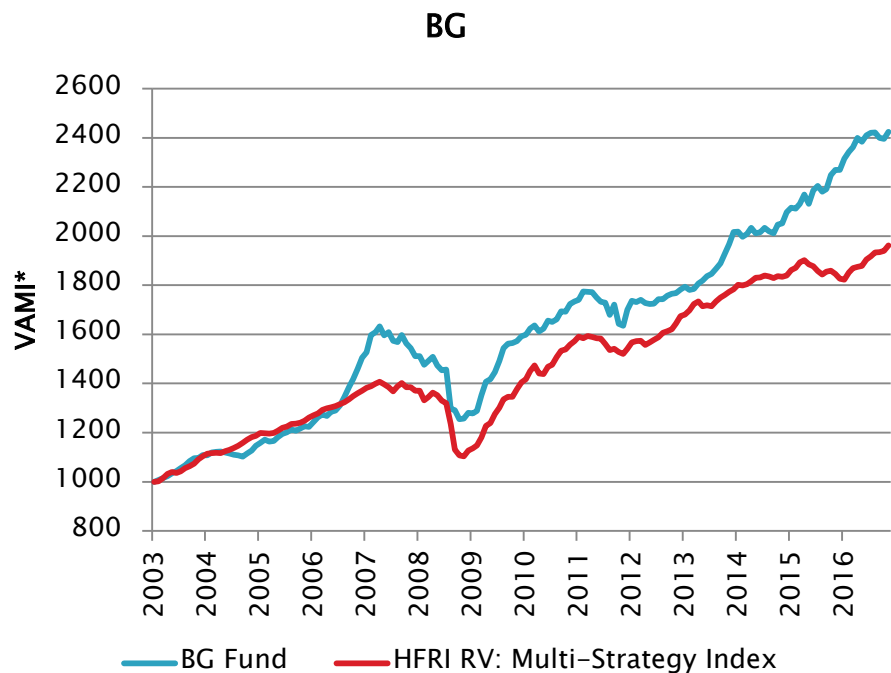
BG

Legend: BG Fund — HFRI RV: Multi-Strategy Index

*VAMI definition: "Value-Added Monthly Index" is the growth in value of a $1,000 invested calculated by multiplying (1 + current monthly rate of return) x (previous month VAMI).

Top Candidate Characteristics – BG (2/2)
$100 million Recommendation

BG is a European-focused multi-strategy portfolio that invests predominantly in relative value opportunities. The investment process is fundamentally driven and seeks to identify arbitrage opportunities with attractive risk-reward characteristics and a pre-determined catalyst for convergence. The strategy is attractive to TMRS given the manager's stable return profile and low market beta. In addition, the manager increases the ARS Direct Portfolio's exposure to convertible bond arbitrage strategies, which are attractive given the lack of participation in the space post the 2008 Global Financial Crisis.

Investment Case
- *Unique skill set*
- *Risk management discipline*
- *CIO experience*

Issues to Watch
- *Key man*
- *Investor Concentration*

Scoring Matrix

Category	BG Fund	Comp. Mgr. A	Comp. Mgr. B
People	25.0	25.0	22.0
Process	25.0	25.0	25.0
Performance	25.0	25.0	20.0
Philosophy	12.5	10.0	10.0
Terms	12.5	12.5	12.5
Total Points	100.0	97.5	89.5

Top Candidate Characteristics – H2O (1/2)

$90 million Recommendation

Highlights

Founder(s): Bruno Crastes, Vincent Chailley, Marc Maudhuit and Jean-Noel Alba

Firm AUM: $11 billion

Employees: 41

Office Location(s): London
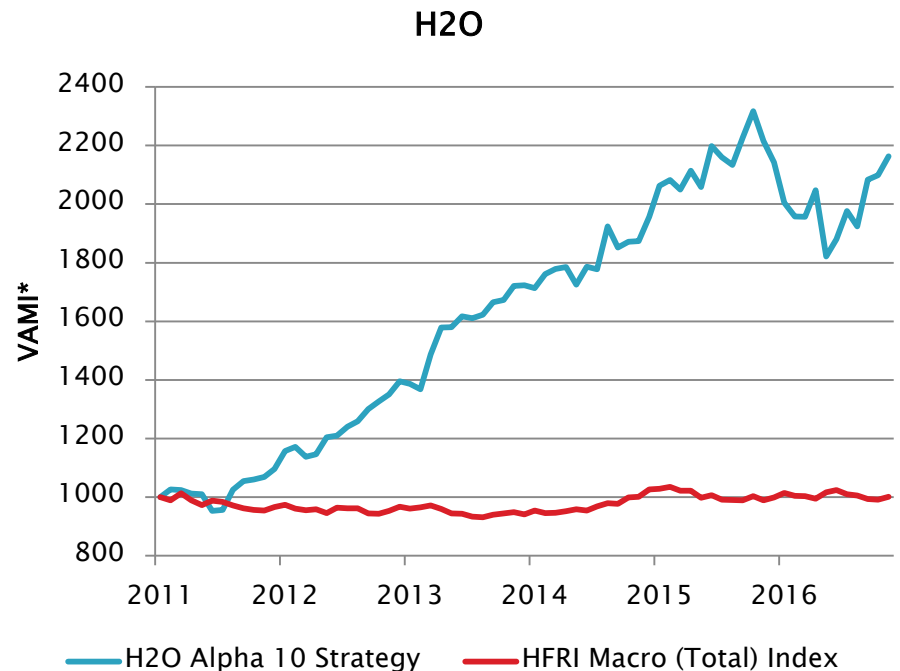
H2O

*VAMI definition: "Value-Added Monthly Index" is the growth in value of a $1,000 invested calculated by multiplying (1 + current monthly rate of return) x (previous month VAMI).

Top Candidate Characteristics – H2O (2/2)
$90 million Recommendation

H2O employs a global macro approach to investing long and short in currencies, credit and equities with both directional and relative value positions. H2O focuses on investments with horizons of up to two years, which are supplemented with short term trading. H2O is attractive to TMRS given their unique investment process, which has resulted in significant outperformance over their peer group. Their higher volatility profile complements the slightly more defensive tilt of the current ARS Direct Portfolio.

Investment Case
- Unique, process-oriented approach
- Experienced, cohesive team
- Performance

Issues to Watch
- Value bias
- High number of products

Scoring Matrix

Category	H2O	Comp. Mgr. A	Comp. Mgr. B
People	25.0	23.0	23.0
Process	25.0	20.0	23.0
Performance	25.0	25.0	15.0
Philosophy	12.5	11.0	12.5
Terms	12.5	11.0	11.0
Total Points	100.0	90.0	84.5

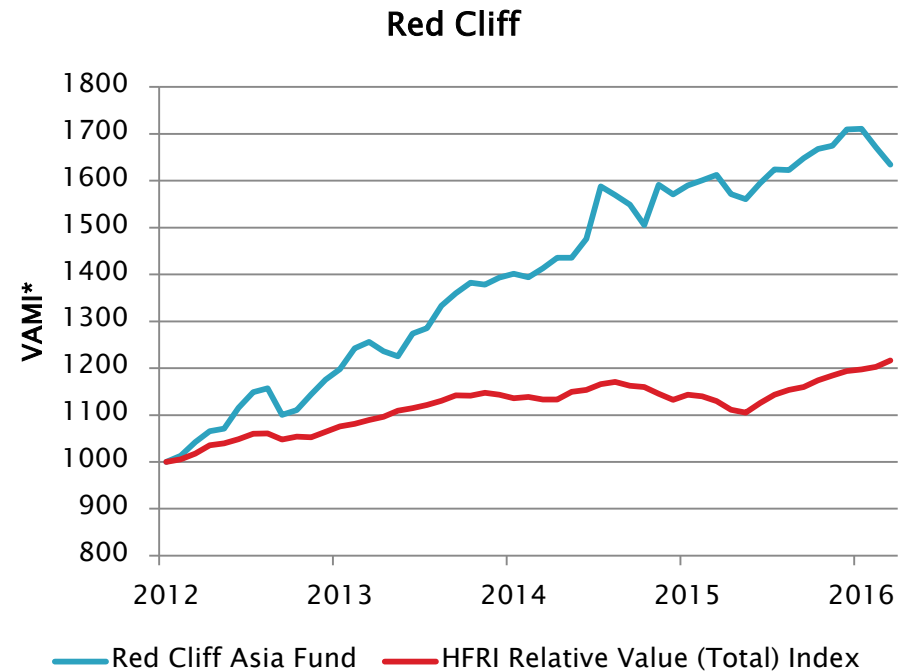# Top Candidate Characteristics – Red Cliff (1/2)

$90 million Recommendation

Highlights

Founder(s): William Lee

Firm AUM: $945 million

Employees: 13

Office Location(s): Hong Kong

Red Cliff

Red Cliff Asia Fund — HFRI Relative Value (Total) Index

*VAMI definition: "Value-Added Monthly Index" is the growth in value of a $1,000 invested calculated by multiplying (1 + current monthly rate of return) x (previous month VAMI).

Top Candidate Characteristics – Red Cliff Fund
$90 million Recommendation

Red Cliff invests in arbitrage opportunities across FX, fixed income, and equity markets with a primary focus on Asian markets. Red Cliff primarily seeks to exploit inefficiencies arising from three key factors: structured product imbalances, flow dynamics, and regulatory distortions. Red Cliff is attractive to TMRS given the manager's niche approach to investing, which results in a return stream with virtually no correlation to the ARS Direct Portfolio nor to broad market indices.

Investment Case
- *Correlation*
- *High-quality returns*
- *Niche strategy*

Issues to Watch
- *Key man*
- *Scalability*
- *Mark-to-market losses*

Scoring Matrix

Category	Red Cliff	Comp. Mgr. A	Comp. Mgr. B
People	25.0	25.0	20.0
Process	25.0	22.0	25.0
Performance	25.0	25.0	24.0
Philosophy	12.5	12.5	11.0
Terms	12.5	11.0	8.0
Total Points	100.0	95.5	88.0

Hypothetical Portfolio Performance

ARS Direct Portfolio Pro Forma Returns
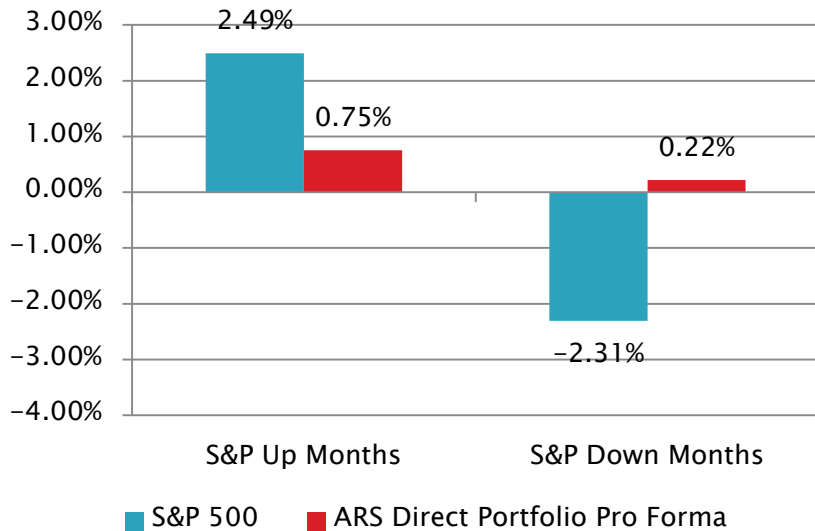
Cumulative Return versus Benchmarks

Legend: ARS Direct Portfolio Pro Forma — S&P 500 Index — HFRI FOF Diversified Index — Aggregate Bond Index TR
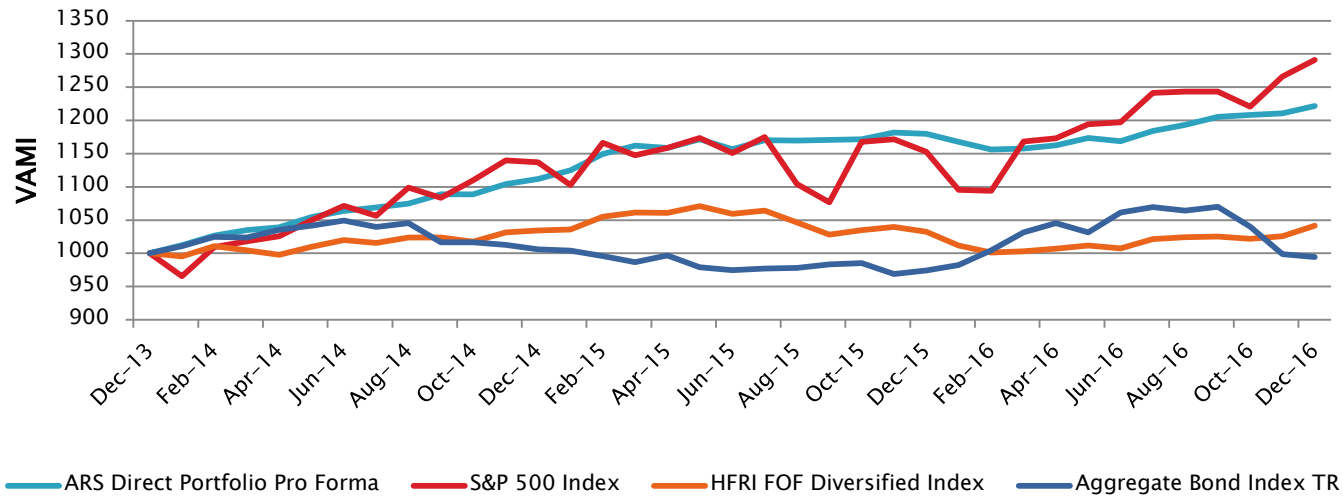
Performance Analysis: Jan–14 to Dec–16	Annualized Return	Annualized Volatility	Sharpe Ratio	Max Drawdown
ARS Direct Portfolio Pro Forma	**6.90%**	**2.63%**	**2.62**	**−2.18%**
HFRI FOF Diversified Index	1.38%	3.27%	0.42	−6.59%
S&P 500 Index	8.89%	10.59%	0.84	−8.42%
Aggregate Bond Index TR	−0.19%	4.97%	−0.04	−7.73%

Hypothetical Portfolio Performance

Up/Down Capture

Fund Performance Across S&P Up & Down Markets

	S&P Up Months	S&P Down Months
S&P 500	2.49%	−2.31%
ARS Direct Portfolio Pro Forma	0.75%	0.22%

Fund Performance Across Hedge Fund Up & Down Markets

	HF Up Months	HF Down Months
HFRI FW Composite	1.03%	−0.82%
ARS Direct Portfolio Pro Forma	0.80%	0.26%
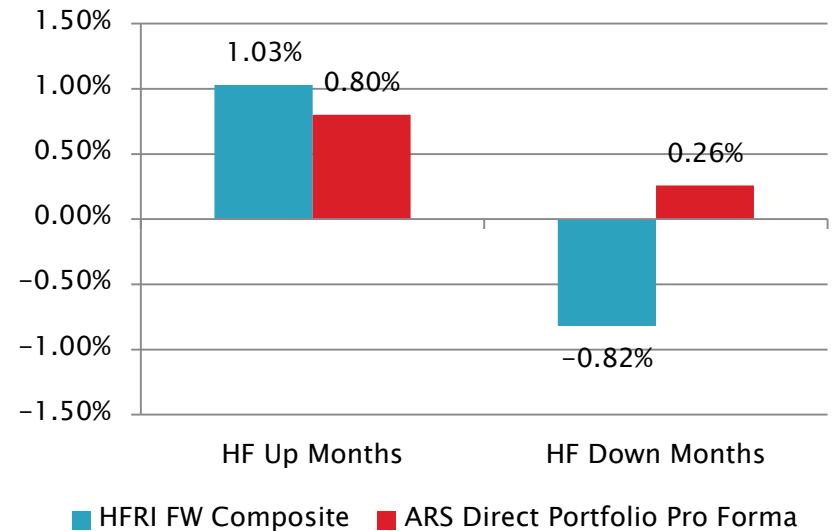
Pro Forma Performance: January 2014 – December 2016

Section V

REQUESTED BOARD ACTION

Recommendations

- TMRS Staff and Albourne recommend that the Board of Trustees approve the selection of the following managers/funds or their affiliates as referenced in the Board Communication Memo for investment in the specified strategies below:

  - BG Umbrella Fund Plc – BG Fund $100 million
  - H2O Alpha 10 Feeder Fund (U.S.) L.P. $ 90 million
  - Red Cliff Asia Fund $ 90 million

DISCLOSURES

TMRS periodically discloses public information that is not excepted from disclosure under Section 552.0225(b) of the Texas Public Information Act. Information provided by a manager, a Managing General Partner (GP), any of its Associates or other data provider to TMRS or a TMRS service provider, and contained in these materials (i) may have been independently produced or modified by TMRS or the TMRS service provider; (ii) has not been reviewed or approved by the manager, Managing GP or any of its Associates; and (iii) may not reflect the historical performance or asset value reflected in the manager's, Managing GP's or any of its Associates' records and, therefore, should not be used for comparative purposes.