

FIRM BROCHURE

(Part 2A of Form ADV)

March 14, 2022

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Part 2A of Form ADV (the "Brochure") provides information about the qualifications and business practices of Aperio Group, LLC ("Aperio," "we," or the "Firm"). If you have any questions about the contents of this Brochure, please contact us at (415) 339-4300, and/or aperioclientservice@blackrock.com, and/or www.aperiogroup.com. The information in this Brochure has not been approved or verified by the U.S. Securities and Exchange Commission (SEC) or by any state securities authority.

Aperio is registered as an investment adviser with the SEC; however, such registration does not imply a certain level of skill or training, and no inference to the contrary should be made.

Additional information about Aperio is also available on the SEC's website at www.adviserinfo.sec.gov.

ITEM 1: COVER PAGE

ITEM 2: MATERIAL CHANGES

This Brochure has been revised to reflect the following updates and material changes since the last annual update of our Brochure on March 2, 2021.

Item 8: Methods of Analysis, Investment Strategies, and Risk of Loss. We updated the risks discussed to include expanded discussion of the risks associated with geopolitical risks, operations and operational events, cybersecurity, technology, and volatility.

Item 11: Code of Ethics, Participation or Interest in Client Transactions, and Personal Trading. We updated Item 11 to reflect that Aperio's Code of Ethics has been replaced by the BlackRock, Inc., Code of Business Conduct and Ethics.

Item 16: Investment Discretion. We updated language to clarify how Clients grant Aperio discretionary trading authority over their portfolios.

The previous version of this Brochure is dated March 2, 2021. Aperio encourages each Client to read the Brochure carefully and to contact us at the telephone number or email address on the cover page of this Brochure with any questions you may have.

Additional information about Aperio and its investment adviser representatives is available on the SEC's website at www.adviserinfo.sec.gov.

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ITEM 4: ADVISORY BUSINESS

Description of Aperio

Aperio is a California limited liability company and an investment adviser registered with and regulated by the SEC under the Investment Advisers Act of 1940 (the "Advisers Act"). Aperio manages domestic, international, and global equity portfolios for high-net-worth individuals, institutions, and intermediaries such as wealth managers, consultants, and family offices. Aperio also advises a limited number of ERISA Clients, and provides sub-advisory investment management services to registered mutual funds and pooled investment vehicles, including private funds.

Aperio was founded and has been in business since August 1999 and until early 2016, was entirely owned by its four partners: Patrick Geddes, Guy Lampard, Robert Newman, and Paul Solli.

Principal Owners

On February 1, 2021, BlackRock, Inc. ("BlackRock"), a publicly traded company, completed its acquisition of Aperio Holdings, LLC, and other equity interests related to Aperio Holdings, LLC, upon which BlackRock acquired all of the outstanding equity interests of Aperio Holdings previously held by Aperio insiders and Aperio's majority investor, Golden Gate Capital, and thus acquired, indirectly, all equity interests in Aperio (the "Acquisition").

As a result of the Acquisition, Aperio is an indirect wholly-owned subsidiary of BlackRock, a global leader in investment management, risk management, and advisory services for institutional and retail Clients.

Aperio is led by its Co-Heads: Ran Leshem, who also has been acting as Chief Investment Officer since 2007, and Liz Michaels, Aperio's former Chief of Staff and Head of ESG, who each report to Martin Small, Head of BlackRock's U.S. Wealth Advisory Business ("USWA"). After the Acquisition, former CEO and co-founder Patrick Geddes transitioned to a new role acting as a Senior Tax Advisor.

As used in this Brochure, the term the "Adviser" refers to Aperio, except where the context otherwise requires. References to "BlackRock" in this Brochure include BlackRock, Inc., together with its subsidiaries, including investment advisory and trust company subsidiaries ("BlackRock Investment Advisers" or the "Advisers," which includes Aperio).

Types of Advisory Services

Separate Account Management

Aperio offers three (3) main equity investment strategies:

- Active Tax Management,
- Factor Tilts, and
- SRI/ESG (Socially Responsible Investing/Environmental, Social, and Governance).

Aperio creates customized separately managed equity portfolios for individuals and institutions. We use quantitative models and tools to incorporate Client specifications for benchmark, factor tilts, SRI/ESG values, and tax management. Clients also are able to customize their portfolios to meet specific requirements, such as holding restrictions, industry/country limitations, and situation-appropriate tax needs. Benchmarks include broad market equity indexes representing domestic and/or foreign companies. Once a Client has selected an investment strategy and benchmark, Aperio provides continuous supervision and management of the assets. Clients are responsible for informing Aperio of any changes to their investment objectives, individual needs, and/or restrictions.

Please refer to *Item 8: Methods of Analysis, Investment Strategies, and Risk of Loss* for detailed information regarding these strategies.

Advisory Agreements

Separate Accounts

For all separate account Clients, a written advisory agreement governs the terms of the relationship between Aperio and its Clients. Aperio's most common agreement types are its Master Sub-Advisory Agreement and individual Investment Advisory Agreement. Both types of agreements describe the advisory services to be provided, Aperio's responsibilities, and the terms of engagement, including, but not limited to, fees and termination.

Investment advisor intermediaries, consultants, and wealth managers (collectively, "Intermediaries," and individually, an "Intermediary") acting as the primary advisor may enter into a Master Sub-Advisory Agreement with Aperio when Aperio has been selected to manage portfolios for Intermediaries' clients as a sub-advisor. In this case, the Intermediary's client (usually a high-net-worth individual investor or foundation/endowment) delegates to the Intermediary the authority to select sub-advisor managers. A list of clients covered by the Master Sub-Advisory Agreement is appended to the agreement and updated regularly. Otherwise, non-sub-advisory Clients, including those that are introduced to Aperio by an Intermediary, typically enter into an individual Investment Advisory Agreement.

Both the Master Sub-Advisory Agreement and the individual Investment Advisory Agreement may be terminated by either party upon written notice to the other party. If Aperio terminates a Master Sub-Advisory Agreement, Aperio agrees to continue service for a specified period to facilitate transitioning of accounts. Both agreements provide for management fees paid in advance to be pro-rated to the date of termination and any unearned portion of the prepaid fees to be refunded to the Client. For services billed in arrears, the Client will be billed for services earned but not paid.

Participation in UMA Program

We participate in a unified managed account program (the "UMA Program") sponsored by an unaffiliated investment advisory firm (the "UMA Sponsor"). We provide an investment model to the UMA Sponsor, and the UMA Sponsor implements the investment model by executing trades in the UMA accounts at its discretion. We are responsible for communicating any changes to the investment model to the UMA Sponsor on a timely basis. UMA clients are generally not considered to be Aperio Clients, but rather clients of the UMA Sponsor. Specific

to the terms of the UMA Program, Aperio exercises investment discretion while the UMA Sponsor has responsibility for trading. Also, under the terms of the UMA Program, the UMA Sponsor can choose not to execute the trades recommended by Aperio. Thus, for the purposes of Aperio's SEC reporting, we consider this account to be one of shared investment discretion with the UMA Sponsor, and we count these assets in our AUM in Form ADV reporting.

Wrap Program Services

Aperio's separate account strategies are also offered through certain wrap programs (each, a "Wrap Program"), which are sponsored by unaffiliated multi-service financial institutions (each, a "Wrap Sponsor"). A list of Wrap Programs may be found in Part 1 of our Form ADV. For further information on Wrap Programs, please also refer below to information in Item 5.

For single-contract Wrap Programs, Aperio contracts directly with the Wrap Sponsor or an affiliated advisor, and the written agreement governing Aperio's services for the Wrap Program describes the services to be provided for each Wrap Program client (the "Wrap Client"), Aperio's responsibilities, and the terms of engagement, including fees and termination. For single-contract Wrap Programs, Aperio does not execute a contract with each Wrap Client. Conversely, for dual-contract Wrap Programs, Aperio will execute an individual Investment Advisory Agreement with each Wrap Client. Wrap Sponsors of such dual-contract Wrap Programs may require service or other additional agreements with Aperio to cover items such as use of software provided, data downloads of account information, and electronic trading service terms and conditions.

Generally, a Wrap Client, with the assistance and advice of the Wrap Sponsor, selects an investment advisor, such as Aperio, from a list of Wrap Sponsor approved advisers to provide investment management services for their assets allocated to their Wrap Program account(s). In addition, a Wrap Client may receive certain other services provided by the Wrap Sponsor and/or entities affiliated with the Wrap Sponsor (such as manager selection, trading execution, custodial services, periodic monitoring of investment managers, and performance reporting).

Wrap Clients are typically charged by the Wrap Sponsor quarterly, in advance or in arrears, a comprehensive or wrap fee based upon a percentage of the value of the assets under management to cover such services (the "Wrap Fee"). The Wrap Fee often, but not always, includes the advisory fees charged by Aperio (or other participating managers) through the Wrap Program. Where the services provided by Aperio are included in the Wrap Fee, the Wrap Sponsor generally collects the Wrap Fee from the Wrap Client and remits the advisory fee to Aperio. For dual-contract Wrap Programs, Aperio's fee is typically paid directly by the Wrap Client pursuant to the Investment Advisory Agreement with Aperio.

Although the types of investment management services provided by Aperio to Wrap Clients are generally the same as the types of investment management services provided to our non-Wrap Program Clients, certain differences usually exist. For example, the Wrap Sponsor collects each client's investment objectives and assists the client in determining the strategy best suited for the client, and client communications regarding the investment management of a Wrap Client's assets are generally between the Wrap Sponsor or an affiliated advisor and the Wrap Client, with Aperio communicating only with the Wrap Sponsor or affiliated advisor, unless requested otherwise.

Since the Wrap Fee paid by Wrap Clients is all-inclusive, as described above, Aperio believes it is important for each Wrap Client to evaluate whether such a program is suitable for their needs and cost effective, given factors such as the size of the account, frequency of transactions, and the Wrap Client's investment objectives, as well as whether comparable or similar services are available at a lower cost if provided separately. Wrap Sponsors are responsible for providing Wrap Clients with this Brochure and applicable brochures for the Wrap Program (the "Wrap Program Brochure"). Wrap Clients should review the Wrap Program Brochure for further details about the relevant Wrap Program.

Amount of Client Assets Managed

As of December 31, 2021, the following represents the total amount of Client assets under management by Aperio:

Type of Account	Assets Under Management ("AUM")
Discretionary	\$54,129,271,253
Non-Discretionary	\$0
Total:	\$54,129,271,253

ITEM 5: FEES AND COMPENSATION

Fee Agreements - General

Aperio has entered into various advisory agreements with investment advisers and other financial Intermediaries with respect to investment programs they offer. Typically, Aperio negotiates fees with the advisers and Wrap Sponsors and not with individuals participating in such programs. However, for specialized portfolio customization, additional fees may be charged based on the size and complexity of the account(s). In the event of fee schedule changes, Aperio reserves the right to continue pre-established fee schedules with current Clients that may be more or less advantageous to such Clients than the new or changed fee schedules offered to prospective Clients. Additionally, Aperio reserves the right to offer prospective Clients' fee schedules or terms that may be more or less advantageous to such prospective Clients than the existing fee schedules offered to its current Clients for similar services.

Separate Account Indexing

Aperio charges an annual management fee based on a percentage of a Client's account value for all separately managed equity index strategies managed by Aperio. However, accounts that track certain specialized indexes may be charged additional fees based on the pass-through cost of licensing such data. Fees are negotiable at the sole discretion of Aperio and vary depending on account size, account parameters, and overall relationship. A minimum annual fee of up to \$3,500 may be applied; however, Aperio has discretion to lower or waive the minimum at any time and for any Client(s).

Below is the standard annual advisory fee:

Domestic Indexes	0.35%
Foreign/Global Indexes	0.40%
Domestic SRI	0.45%
Foreign/Global Index SRI	0.50%

Wrap Fees

The annual fees received by Aperio from each Wrap Sponsor are generally equal to either:

(a) a percentage of the total assets in the Wrap Sponsor's Wrap Program accounts for which Aperio provides investment management services or (b) a percentage of the Wrap Fees actually collected by the Wrap Sponsor from Wrap Clients to whom we provide investment management services. Each Wrap Sponsor generally pays Aperio on a quarterly basis, generally in advance, or as outlined in each written agreement between Aperio and the Wrap Sponsor. With respect to each Wrap Program in which we participate, the standard fees received by us from each Wrap Sponsor can vary depending on the investment style selected and other factors. The annual fees currently range from 0.15% to 0.50%, depending on the product offered.

Aperio is not informed of the specific fee arrangement negotiated between each Wrap Client and the Wrap Sponsor. Wrap Sponsors charge a minimum annual Wrap Fee to each of their Wrap Clients. Complete information on the services provided and fees charged under a Wrap Program can be found in each Wrap Sponsor's Form ADV, Part 2A—Appendix 1, also known as the Wrap Fee Program Brochure. Wrap Clients should carefully evaluate all information in the applicable brochure to determine whether or not the Wrap Fee paid for the services provided exceeds the aggregate cost of such services if they were to be provided separately.

Wrap accounts are generally managed in the same or similar manner as other separately managed accounts. However, Wrap Programs may impose specific restrictions and investment guidelines that are more restrictive than fully discretionary Client accounts; this is discussed in the Wrap Sponsor's Wrap Program Brochure. In addition, Wrap Programs may mandate that Aperio direct transactions to a specific broker-dealer, which may restrict Aperio's ability to seek best execution or to aggregate trades. As a result, the performance of such wrap accounts may vary from that of fully discretionary accounts. Please refer to Item 12 of this Brochure, which describes our brokerage practices in detail.

Aperio negotiates fees with some Clients who pay lower fees than the fees shown above. Also, lower fees for comparable services may be available from other sources.

Mutual Fund Clients

For our sub-advised mutual fund Clients, we receive annual sub-advisory fees, which are based on the funds' average daily net assets. The annual sub-advisory fees are paid monthly in arrears by the funds' advisers and range from 0.08% to 0.20%.

Deduction of Fees

The consent for deduction of fees is generally contained in the written agreement that each Client enters into with Aperio, or otherwise is contained in the sub-advisory agreement between Aperio and each Client's financial advisor (Intermediary). In some cases, Clients or their Intermediary may negotiate different billing terms, such as requiring direct invoices and providing payment through means other than deduction of fees directly from the Client's custodial account.

Clients' custodians will deliver a periodic (at least quarterly) account statement directly to Clients. The statement will include all transactions that took place in the account during the period covered and reflect any advisory fees deducted and paid to Aperio. Clients are encouraged to review their account statements for accuracy and compare them to the reports received from Aperio. Should there be any discrepancies, Clients should rely on the information in their custodians' account statements.

Other Fees

Clients should understand that the fees discussed above are specific to what Aperio charges and do not include certain charges that may be imposed by third parties, such as custodial fees, mutual fund fees and expenses, and additional fees charged by Wrap Sponsors (although we have generally described some of those additional fees in specific sections of this Brochure.) Client assets also can be, depending on the type of account and the types of investments in the account, subject to asset-based transaction fees, brokerage fees and commissions, and other fees and taxes on brokerage accounts and securities transactions.

Clients should understand that all custodial fees and any other charges, fees, and commissions incurred in connection with transactions for a Client's account are generally paid out of the assets in the account and are in addition to the investment management fees charged by Aperio. Please refer to Item 12 of this Brochure for additional important information about our brokerage and transactional practices, including considerations for selecting broker-dealers for Client transactions.

Clients should review the fees charged to their account(s) to fully understand the total amount of all fees charged. Clients should understand that lower fees for comparable services may be available from other investment advisory firms.

No supervised person of Aperio receives transaction-based compensation related to investment recommendations or advice that could be considered a conflict of interest.

Fees in Advance

The management fee is typically billed quarterly in advance based on the account value at the end of the prior quarter. Such invoices may include prorated adjustments for deposits and withdrawals made in the previous quarter. A small number of accounts are billed quarterly in arrears based on the account value at the end of the period. Aperio also manages certain accounts that are part of Wrap Programs. Details on Wrap Fees are described in a separate section of Item 5.

Since investment advisory fees are typically billed quarterly in advance, if the agreement is terminated during a quarter, the portion of the fee paid for the remainder of the period will be refunded. The amount refunded will be prorated according to the portion of the quarter that was prepaid and not earned. For fees charged in arrears, the amount billed is prorated for the period in which services were earned.

Compensation of Supervised Persons

No supervised person of Aperio receives transaction-based compensation related to investment recommendations or advice that could be considered a conflict of interest.

ITEM 6: PERFORMANCE-BASED FEES AND SIDE-BY-SIDE MANAGEMENT

Aperio does not charge performance-based fees (i.e., fees calculated based on a share of capital gains on or capital appreciation of the Client's assets or any portion of the Client's assets). Consequently, Aperio does not engage in side-by-side management of accounts that are charged a performance-based fee with accounts that are charged another type of fee (such as fees based on assets under management). As described above, we provide our services based upon a percentage of assets under management, in accordance with Advisers Act Rule 205-(a)(1). Notably, accounts that are managed in the same investment style by Aperio (e.g., based on risk profile) are not always managed the same way due to the Client's overall investment objective, discretion of the investment professional assigned to the account, asset size, and account restrictions.

ITEM 7: TYPES OF CLIENTS

Description

Aperio Clients generally include the following:

- Registered Investment Advisers and Consultants;
- Family and Multi-Family Offices;
- Individuals, High-Net-Worth Individuals, and Trusts;
- Charitable Organizations including Endowments and Foundations;
- Pooled Investment Vehicles and Investment Companies including Registered Mutual Funds;
- Wrap Programs and Other Wealth Management Platforms; and
- Pension and Profit-Sharing Retirement Plans.

For ERISA Clients, Aperio provides certain required disclosures to the "responsible plan fiduciary" (as such term is defined in ERISA) in accordance with Section 408(b)(2), regarding the services we provide and the direct and indirect compensation we receive from such Clients. Generally, these disclosures are contained in this Brochure, in the Client agreement, and in separate ERISA disclosure documents, and are designed to enable the ERISA plan's fiduciary to: (1) determine the reasonableness of all compensation received by Aperio; (2)

identify any potential conflicts of interests; and (3) satisfy reporting and disclosure requirements to plan participants.

Conditions for Managing Accounts

For accounts managed by Aperio, both through an Intermediary or directly, the Client must use the services of a custodian to hold the securities in their account. For Aperio to accept an account for management, Aperio must have an established relationship with that custodian or alternatively must agree to establish one. The Client is required to grant Aperio the authority to manage their account by signing a Limited Power of Attorney ("LPOA"). The LPOA grants Aperio discretionary authority to manage the portfolio according to agreed-upon guidelines, to buy and sell securities, invest cash, implement Client instructions, deduct fees, and perform other actions consistent with managing the portfolio.

Wrap Program accounts are usually subject to minimum account sizes and program fees in addition to Aperio fees, which are outlined in the Wrap Sponsor's ADV, Part 2A–Appendix 1.

There may be times when certain restrictions are placed by a Client that prevent us from accepting or continuing to service the Client's account. Aperio reserves the right not to accept and/or to terminate a Client's account if it feels that the Client-imposed restrictions would limit or prevent it from meeting and/or maintaining its objectives. Furthermore, pursuant to provisions in the Investment Advisory Agreement, Aperio may elect to terminate a Client should changes occur to Client-imposed restrictions, Client investment objectives, and/or other business or regulatory circumstances where Aperio believes it can no longer manage the Client's assets effectively.

Please see the discussion in Item 11 for further information regarding potential restrictions on Aperio as a BlackRock-affiliated Investment Adviser.

ITEM 8: METHODS OF ANALYSIS, INVESTMENT STRATEGIES, AND RISK OF LOSS

Methods of Analysis

Aperio uses mathematical models and software to manage our Client strategies. Investment strategies are typically customized to Client specifications and have a defined benchmark and a set of Client restrictions/targets. To create portfolios, Aperio typically uses broad universes consisting of stocks that are screened for liquidity and capitalization. Portfolios are constructed using optimization techniques and generally hold between 50 and 1,000 stocks, depending on the benchmark, strategy, and Client constraints. For taxable Clients, portfolios are rebalanced using a tax-efficient approach to maximize loss harvesting and minimize capital gains. Aperio's methodologies consider portfolio risk, transactions costs, and taxes when making investment decisions.

Investment Strategies

For the Active Tax Management strategy, Aperio constructs a portfolio comprising individual stocks that track a target benchmark and utilizes software designed to systematically harvest losses within the portfolio and immediately replace the securities sold at a loss with others of

similar type and risk. The losses realized are available to offset gains created in other portions of the Client's portfolio (including those not managed by Aperio) such as those portions managed by active managers, hedge funds, or through the sale of low-cost-basis stock. Any savings realized by the reduction in taxes paid or postponed can improve returns when measured after-tax. This after-tax return benefit presumes that Clients have capital gains from active managers, hedge funds, sale of low-cost-basis stock, or other sources suitable for offset. Changes in tax law and/or the treatment of capital gains could impact the after-tax returns from this strategy.

The Factor Tilts and SRI/ESG strategies are customized portfolios of equity securities that are designed to meet specific Client-driven objectives. These strategies are suitable for both taxable and non-taxable portfolios and include SRI/ESG screening as well as other factor strategies. SRI/ESG portfolios are designed to track the major market indexes using a universe of securities that meet specific criteria and standards of conduct as determined by the values expressed by the Client.

Factor Tilts enable Clients to gain exposure to quantitative factors like quality, value, momentum, low volatility, *etc.*, in a low-cost, tax-efficient strategy. Clients can also tilt portfolios based on industries, sectors, and countries. Clients can work with Aperio to develop customized factor tilts or choose "standard" customized tilt strategies offered by Aperio.

Risk of Loss

Aperio's separately managed equity portfolios consist of stocks with the objective that the portfolio perform in line with the selected index benchmark. As a result, the value of the managed portfolios will generally rise and fall with the stock markets. With all separately managed portfolios, there is a significant risk that accounts will decline in value from time to time, and Clients should be prepared to accept the risk of potential loss. In addition, accounts may hold small amounts of cash.

Aperio uses quantitative tools to measure the estimated tracking error of the portfolio versus the benchmark index. Estimated tracking error is a statistic that forecasts how much a portfolio is likely to deviate from the benchmark index on an annualized basis and represents a one-standard-deviation event. For example, if the estimated tracking error of a portfolio is 1% and the benchmark index goes up 10%, there is an approximately 68% chance that the portfolio performance will be between 9% and 11%, assuming what statisticians refer to as a "normal distribution." There is also the possibility that the account could experience a two-, three-, or higher standard-deviation outcome. While not expected, the risk of a significant deviation from the benchmark index is possible. If the deviation is negative versus the benchmark index, the portfolio will underperform—perhaps significantly—versus the benchmark index. Some accounts will perform worse than the benchmark index due to random variation.

The Factor Tilt strategies add an additional and potentially significant level of tracking error risk as the themes emphasized by these strategies move in and out of favor.

SRI strategies add an additional level of tracking error risk due to the investing constraints such a style of investing introduces to the management of a portfolio. An optional participation in a shareholder advocacy program requires a commitment from the Client to

hold its position in the impacted company for a specific period of time. Participation in this program is directed by the Client, who accepts the potential for risk of loss due to the holding period requirement.

Some additional general investment risks a Client should be aware of include, but are not limited to, the following:

Business Risk

These risks are associated with a particular industry or a particular company within an industry. For example, oil-drilling companies depend on finding oil and then refining it (a lengthy process), before they can generate a profit. They carry a higher risk of profitability than an electric company that generates its income from a steady stream of customers who buy electricity no matter what the economic environment is like.

Currency Risk

Overseas investments are subject to fluctuations in the value of the dollar against the currency of the investment's originating country. This is also referred to as exchange rate risk.

Equity Markets Risk

Since the strategies invest in equity securities, they are subject to the risk that stock prices can fall over short or extended periods of time. Historically, the equity markets have moved in cycles, and the value of each strategy's equity securities may fluctuate drastically from day-to-day. Individual companies may report poor results or be negatively affected by industry and/or economic trends and developments. The prices of securities issued by such companies may suffer a decline in response. These factors contribute to price volatility, which is the principal risk of investing in the strategies we offer.

Financial Risk

Excessive borrowing to finance business operations may increase the risk of profitability, because a company must meet the terms of its obligations in good times and bad. During periods of financial stress, the inability to meet loan obligations can result in bankruptcy and/or a declining market value.

Foreign and Emerging-Markets Risk

The value of a Client portfolio may be adversely affected by changes in currency exchange rates and political and economic developments across multiple borders. In emerging or less developed countries, these risks can be more significant than in major markets in developed countries. Generally, investment markets in emerging countries are smaller, less liquid, and more volatile, and as a result, the value of a portfolio investing in emerging markets may be more volatile. Emerging-market investments often are subject to speculative trading, which typically contributes to volatility. Emerging-market countries also may have relatively unstable governments and economies. Trading in foreign and emerging markets usually involves higher expenses than trading in the United States. A Client may have difficulties enforcing legal or contractual rights in a foreign country for any portfolio invested in these markets. Depositary receipts are subject to many of the risks associated with investing directly in foreign securities, including political and economic risks.

Geopolitical Risk

The European financial markets have recently experienced volatility and adverse trends due to concerns about economic downturns in, or rising government debt levels of, several European countries, as well as acts of war in the region. These events may spread to other countries in Europe and may affect the value and liquidity of Clients' portfolio investments.

Russia launched a large-scale invasion of Ukraine on February 24, 2022. The extent and duration of the military action, resulting sanctions, and resulting future market disruptions in the region are impossible to predict but could be significant and have a severe adverse effect on the region, including significant negative impacts on the economy and the markets for certain securities and commodities, such as oil and natural gas, as well as other sectors.

Governments in the United States and many other countries (collectively, the "Sanctioning Bodies") have imposed sanctions that placed restrictions on dealings with certain Russian entities and individuals, including politicians and Russian corporate and banking entities, as well as other actions, including freezing trading in Russian securities and prohibiting certain business activities relating to Russian assets. The Sanctioning Bodies, or others, could also institute broader sanctions on Russia, including banning Russia from global payments systems that facilitate cross-border payments. These sanctions, or even the threat of further sanctions, may result in the decline of the value and liquidity of Russian securities, including American depositary receipts (ADRs), a weakening of the ruble, or other adverse consequences to the Russian economy. These sanctions could also result in the immediate freeze of Russian securities and/or funds invested in prohibited assets, impairing the ability of a Client to buy, sell, receive, or deliver those securities and/or assets.

Current or future sanctions may result in Russia taking countermeasures or retaliatory actions, which may further impair the value and liquidity of Russian securities. For example, the Russian government has responded with actions to impose capital controls and limit liquidity in Russian securities. These retaliatory measures may include the immediate freeze of Russian assets held in Client portfolios.

It is unknown when, or if, sanctions may be lifted or Aperio's ability to trade in Russian securities will resume.

These sanctions, the decision by Russia to suspend trading on the Moscow Exchange (MOEX) and prohibit nonresident investors from executing security sales, and other events have led to changes in some indexes that serve as benchmarks to Client portfolios, including the removal of Russian securities from certain benchmark indexes. To the extent that Aperio has any Russian securities in its Client portfolios, or rebalances its Client portfolios and trades in non-Russian securities to seek to track the investment results of certain benchmark indexes, this may result in increased transaction costs and increased tracking error.

General Investing Risk

Our investment strategies are not intended to be a complete investment program. Clients generally should have a long-term investment perspective and be able to tolerate potentially sharp declines in value and/or investment losses. Investment advisers, other market participants, and many securities markets are subject to rules and regulations and the jurisdiction of one or more regulators. Changes to applicable rules and regulations

could have an adverse effect on securities markets and market participants, as well as on the ability to execute a particular investment strategy.

Model and Data Risk

In the design and execution of our portfolio management strategies, we rely heavily on quantitative models and information and data supplied by third parties ("Models and Data"). Models and Data are specifically used to help us construct portfolios, and the various transactions and investments in the course of our management of Client accounts. If the Models and Data we use were ever to be proven to be incorrect or incomplete, any decisions made in reliance thereon expose our Clients to potential risks. Some of the models Aperio uses may be predictive in nature. The use of predictive models has inherent risks. Because predictive models are usually constructed based on historical data supplied by third parties, the success of relying on such models may depend on the accuracy and reliability of the supplied historical data, and Client investments bear the risk that the quantitative models used by Aperio will not be successful in selecting the transactions in securities consistent with Client investment objectives. All models rely on correct data inputs. If incorrect data is entered into even a well-founded model, the resulting information will be incorrect. Aperio, in our sole discretion, will continue to test, evaluate, and add new models, which may result in the modification of existing models from time to time. There can be no assurance that model modifications will enable Clients to achieve their investment objective.

Market Disruption, Health Crises, Terrorism, and Geopolitical Risk

A Client is subject to the risk that war, terrorism, global health crises or similar pandemics, and other related geopolitical events may lead to increased short-term market volatility and have adverse long-term effects on world economies and markets generally, as well as adverse effects on issuers of securities and the value of a Client's investments. War, terrorism, and related geopolitical events, as well as global health crises and similar pandemics have led, and in the future may lead, to increased short-term market volatility and may have adverse long-term effects on world economies and markets generally. Those events as well as other changes in world economic, political, and health conditions also could adversely affect individual issuers or related groups of issuers, securities markets, interest rates, credit ratings, inflation, investor sentiment, and other factors affecting the value of a Client's investments. At such times, a Client's exposure to a number of other risks described elsewhere in this section can increase.

Operational and Operating Events Risk

A portfolio may suffer a loss arising from shortcomings or failures in internal processes, people, or systems, or from external events. Operational risk can arise from many factors ranging from routine processing errors to potentially costly incidents related to, for example, major systems failures.

Trade errors and other operational mistakes ("Operating Events") occasionally occur in connection with Aperio's management of funds and Client accounts ("Portfolios"). Aperio has policies and procedures that address identification and correction of Operating Events, consistent with applicable standards of care and Client documentation. An Operating Event generally is compensable by Aperio to a Client when it is a mistake (whether an action or inaction) in which Aperio has, in Aperio's reasonable view, deviated from the applicable investment guidelines or the applicable standard of care in managing a Portfolio, subject to the considerations set forth below.

Operating Events may include, but are not limited to: (1) the placement of orders (either purchases or sales) in excess of the amount of securities intended to trade for a Portfolio; (2) the purchase (or sale) of a security when it should have been sold (or purchased); (3) the purchase or sale of a security not intended for the Portfolio; (4) the purchase or sale of a security contrary to applicable investment guidelines or restrictions; (5) incorrect allocations of trades; and (6) transactions with a non-authorized counterparty. Operating Events can also occur in connection with other activities that are undertaken by Aperio, such as net asset value calculation, management fee calculations, calculations of carried interest or incentive fees, trade recording and settlement, and other matters that are non-advisory in nature.

Aperio makes determinations regarding Operating Events pursuant to our policies on a case-by-case basis, in our discretion, based on factors we consider reasonable, including regulatory requirements, contractual obligations, and business practices. Not all Operating Events will be considered compensable mistakes. Relevant factors Aperio considers when evaluating whether an Operating Event is compensable include, among others, the nature of the service being provided at the time of the event, specific applicable contractual and legal requirements and standards of care, whether an applicable investment objective or guideline was contravened, the nature of the Client's investment program, and the nature of the relevant circumstances.

Operating Events may result in gains or losses or could have no financial impact. Clients are entitled to retain any gain resulting from an Operating Event. Operating Events involving erroneous transactions in Intermediary program accounts generally are corrected in accordance with the procedures established by the particular Intermediary and/or custodian. Clients should contact their program sponsor, Intermediary, or custodian for information on how Operating Events are corrected in such programs.

When Aperio determines that reimbursement is appropriate, the Client will be compensated as determined in good faith by Aperio. Aperio will determine the amount to be reimbursed, if any, based on what we consider reasonable guidelines regarding these matters in light of all of the facts and circumstances related to the Operating Event. In general, compensation is expected to be limited to direct and actual losses, which may be calculated relative to comparable conforming investments, market factors, and benchmarks and with reference to related transactions and/or other factors Aperio considers relevant. Compensation generally will not include any amounts or measures that we determine are indirect, consequently, speculative or uncertain.

Political and Legislative Risk

Companies face a complex set of laws and circumstances in each country in which they operate. The political and legal environment can change rapidly and without warning, with significant impact, especially for companies operating outside the United States or those companies that conduct a substantial amount of their business outside the United States.

Risk of Reliance on Technology; Backup Measures

Aperio's investment activities and investment strategies are dependent upon various computer and telecommunications technologies, many of which are provided by or are dependent upon third parties such as data feed, data center, telecommunications, or utility providers. The successful deployment, implementation, and/or operation of such activities

and strategies, and various other critical activities of Aperio on behalf of our Clients, could be severely compromised by system or component failure, telecommunications failure, power loss, a software-related "system crash," unauthorized system access or use (such as "hacking"), computer viruses and similar programs, fire or water damage, human errors in using or accessing relevant systems, or various other events or circumstances. Such events or circumstances may affect Aperio directly and/or may affect one or more third parties that provide services to Aperio and/or our Clients.

It is not possible to provide comprehensive and foolproof protection against all such events, and no assurance can be given about the ability of applicable third parties to continue providing their services. Any event that interrupts such computer and/or telecommunications systems or operations could have a material adverse effect on our Clients, including by preventing Aperio from trading, modifying, liquidating, and/or monitoring our Clients' investments. Moreover, any unauthorized access to Aperio's information systems or those of certain third parties could result in the loss, disclosure, or improper use of information relating to investments and/or personally identifiable information of Aperio's Clients; any such loss, disclosure, or use could have a material adverse effect on such Clients or investors.

Aperio maintains backup electronic books and records at a third-party disaster recovery site, which is a fully operational data center facility. In the case of events that interrupt Aperio's computer and/or telecommunications systems or operations, Aperio hopes to resume trading, modifying, liquidating, and/or monitoring our Clients' investments relatively promptly, subject to any circumstances that are outside Aperio's control. In the case of severe business disruptions (e.g., regional power outage or loss of personnel), Aperio may not resume such activities for one or more business days because (among other things) such resumption is dependent on other critical business constituents, such as brokers and exchanges, and on the nature of the disruption. Although the foregoing reflects Aperio's objectives, designs, and/or plans, no assurance can be given that these objectives, designs, and/or plans will be realized, or that, in particular, Aperio would be able to resume operations following a business disruption. Although the foregoing reflects Aperio's objectives, designs, and/or plans, no assurance can be given that these objectives, designs, and/or plans will be realized, or that, in particular, Aperio would be able to resume operations following a business disruption, and any such disruption could have a material adverse effect on Aperio's Clients.

Small Companies Risk

Smaller companies are subject to greater price fluctuations, limited liquidity, higher transaction costs, and higher investment risk. Such companies may have limited product lines, markets, or financial resources; may be dependent on a limited management group; or may lack substantial capital reserves or an established performance record. There is generally less publicly available information about such companies than for larger, more established companies. Stocks of these companies frequently have lower trading volumes, making them more volatile and potentially more difficult to value.

SRI/ESG Risk

Applying SRI/ESG investing goals to investment decisions is qualitative and subjective by nature, and there is no guarantee that the criteria utilized by Aperio or any judgment exercised by Aperio will reflect the beliefs or values of any particular investor. In evaluating a company, we are dependent upon information and data obtained through

voluntary or third-party reporting that may be incomplete, inaccurate or unavailable, which could cause Aperio to incorrectly assess a company's practices and/or related risks and opportunities. SRI/ESG-related practices differ by region, industry, and issue and are evolving accordingly, and a company's practices or Aperio's assessment of such practices may change over time. In addition, changes in the regulatory environment may impact Aperio's ability to achieve our SRI/ESG objectives and implement our SRI/ESG strategy.

Tax-Managed Investing Risk

Market conditions may limit the ability to generate tax losses or to generate dividend income taxed at favorable tax rates. A tax-managed strategy may cause a Client portfolio to hold a security in order to achieve more favorable tax treatment or to sell a security in order to create tax losses. The ability to utilize various tax-management techniques may be curtailed or eliminated in the future by tax legislation or regulation. The benefit of tax-managed investing to an individual investor is dependent upon the tax liability of that investor. Over time, the ability of an investor in a tax-managed strategy to harvest losses may decrease and gains may build up in a securities portfolio.

Tax Risk

The tax treatment of investments held in a Client portfolio may be adversely affected by future tax legislation, U.S. Treasury regulations, and/or guidance issued by the Internal Revenue Service that could affect the character, timing, and/or amount of taxable income or gains attributable to an account.

Tracking Error Risk

Tracking error risk refers to the risk that the performance of a Client portfolio may not match or correlate to that of the benchmark index it attempts to track, either on a daily or aggregate basis. Factors that contribute to tracking error generally include: fees and trading expenses, imperfect correlation between the portfolio's investments and the benchmark index, changes to the composition of the benchmark index, regulatory policies, and high portfolio turnover. Tracking error risk may cause the performance of a Client portfolio to be less or more than expected.

Technology and Cybersecurity Risk

Aperio and our BlackRock, Inc., affiliates are dependent on the effectiveness of the information and cybersecurity policies, procedures, and capabilities we maintain to protect the confidentiality, integrity, and availability of our computer and telecommunications systems and the data that resides on or is transmitted through them. An externally caused information-security incident, such as a cyberattack including a phishing scam, malware, or denial-of-service attack, or an internally caused incident, such as failure to control access to sensitive systems, could materially interrupt business operations or cause disclosure or modification of sensitive or confidential Client or competitive information. Moreover, our increased use of cloud and other technologies could heighten these and other operational risks, as certain aspects of the security of such technologies may be complex, unpredictable, or beyond our control.

Our growing exposure to the public Internet, as well as any reliance on mobile or cloud technology or any failure by third-party service providers to adequately safeguard their systems and prevent cyberattacks, could disrupt our operations and result in misappropriation, corruption, or loss of personal, confidential, or proprietary information. In addition, there is a risk that encryption and other protective measures may be

circumvented, particularly to the extent that new computing technologies increase the speed and computing power available. Moreover, due to the complexity and interconnectedness of BlackRock's systems, the process of upgrading existing capabilities, developing new functionalities, and expanding coverage into new markets and geographies, including to address Client or regulatory requirements, may expose us to additional cyber- and information-security risks or system disruptions, for Aperio, as well as for Clients who rely upon, or have exposure to, our systems. Although we have implemented policies and controls, and take protective measures, to strengthen our computer systems, processes, software, technology assets, and networks to prevent and address potential data breaches, inadvertent disclosures, cyberattacks and cyber-related fraud, there can be no assurance that any of these measures will prove effective.

In addition, due to our interconnectivity with third-party vendors, advisers, and other financial institutions, we may be adversely affected if any of them are subject to a successful cyberattack or other information-security event, including those arising due to the use of mobile technology or a third-party cloud environment. BlackRock, including Aperio, also routinely transmits and receives personal, confidential, or proprietary information by email and other electronic means. We collaborate with Clients, vendors, and other third parties to develop secure transmission capabilities and protect against cyberattacks. However, we cannot ensure that we or such third parties have all appropriate controls in place to protect the confidentiality of such information.

Any information-security incident or cyberattack against us or third parties with whom we are connected, or issuers of securities or instruments in which our Client portfolios invest, including any interception, mishandling, or misuse of personal, confidential, or proprietary information, has the ability to cause disruptions and impact business operations, potentially resulting in financial losses, the inability to transact business, violations of applicable privacy and other laws, loss of competitive position, regulatory fines and/or sanctions, breach of Client contracts, reputational harm, or legal liability.

Volatility Risk; Volatility of Investment Returns

The performance of investment strategies Aperio deploys on behalf of our Clients may be volatile (both in absolute terms and relative to realized returns), potentially resulting in increased risks, including the risk of losses. Such strategies may have volatility, a greater chance of losses or negative returns, lower average returns, correlation with certain macroeconomic risk factors, asset class concentrations, and/or other significant risks, whether in absolute terms, relative to expected returns, or relative to certain other strategies that are deployed by Aperio on behalf of other Clients.

There can be no assurance that a Client's investment objectives will be obtained, and no inference to the contrary is being made. Prior to entering into an agreement with Aperio, a Client should carefully consider: (1) committing to management only those assets that the Client believes will not be needed for current purposes and that can be invested on a long-term basis, usually a minimum of three to five years; (2) that volatility from investing in the stock market can occur; and (3) that over time, the value of the Client's assets can fluctuate and at any time be worth more or less than the amount invested.

Aperio does not represent, guarantee, or imply that our services or methods of analysis can or will predict future results, successfully identify market tops or bottoms, or insulate Clients from losses due to market corrections or declines.

ITEM 9: DISCIPLINARY INFORMATION

There are no adverse disciplinary events affecting Aperio that would be deemed material to a Client's decision to use Aperio's investment advisory services.

ITEM 10: OTHER FINANCIAL INDUSTRY ACTIVITIES AND AFFILIATIONS

BlackRock is a broad financial services organization. In some cases, the Advisers have business arrangements with related persons/companies that are material to the Advisers' advisory business or to their clients. In some cases, these business arrangements create a potential conflict of interest, or the appearance of a conflict of interest between the Adviser and a Client. The services that BlackRock provides its Clients through its Advisers or through investments in a BlackRock investment product, as well as related conflicts of interest, are discussed in *Item 11: Code of Ethics, Participation or Interest in Client Transactions, and Personal Trading* of this Brochure.

From time-to-time Aperio refers Clients or prospects to wealth managers, accountants, tax specialists, attorneys, and other professionals. Furthermore, such professionals have referred and may continue to refer their Clients or prospects to Aperio. Referrals both to and from Aperio are made without any compensation or other commitment, with the exception of a handful of accounts that were opened at Aperio before December 31,2006, as disclosed in Item 14 of this Brochure.

Aperio does not recommend or select other investment advisers for Clients.

ITEM 11: CODE OF ETHICS, PARTICIPATION OR INTEREST IN CLIENT TRANSACTIONS, AND PERSONAL TRADING

Aperio makes decisions for its Clients in accordance with its fiduciary obligations. BlackRock is a worldwide asset management, risk management, investment system outsourcing, and financial services organization, and a major participant in global financial and capital markets. As such, Aperio's evaluation of and policies and procedures governing any potential or actual conflicts of interest necessarily take into consideration its broader affiliate relationships.

BlackRock's Code of Business Conduct and Ethics

BlackRock's Code of Business Conduct and Ethics (referred to, collectively with related policies and procedures, such as the Global Personal Trading Policy, as the "Code") requires employees to comply with the applicable federal securities laws, as well as fiduciary principles applicable to BlackRock's business, including that employees must avoid placing their own personal interests ahead of BlackRock Clients. We will provide a copy of the Code to any Client or prospective Client upon request.

Participation or Interest in Client Transactions

As allowed under the Code, Aperio employees are permitted to purchase for their own or for related accounts the same securities that are recommended and purchased for Aperio's

Clients. Aperio's policy is that, in all circumstances, the interests of our Clients take precedence over the interests of employees or personal relationships. Any conflicts or potential conflicts of interest must be disclosed. In addition, to address these conflicts, employee trading is continually monitored, to help prevent conflicts of interest between our Clients and us.

Aperio is a sub-adviser to registered investment companies (mutual funds) and could participate in calls or programs informing potential investors about such mutual funds. Since Aperio derives investment management fees from these mutual funds, the potential for a conflict of interest would be prominently disclosed.

Although our BlackRock affiliates may do so, Aperio does not directly conduct any principal or agency cross-securities transactions for Client accounts, nor do we conduct cross-trades between Client accounts. Principal transactions are generally defined as transactions where an adviser, acting as principal for its own account or the account of an affiliated broker-dealer, buys from or sells any security to any advisory Client. An agency cross-transaction is defined as a transaction where a person acts as an investment adviser in relation to a transaction in which the investment adviser, or any person controlled by or under common control with the investment adviser, acts as broker for both the advisory Client and for another person on the other side of the transaction. Should Aperio decide to conduct principal trades or cross-trades in Client accounts, we will comply with the provisions of Rule 206(3) of the Advisers Act and Rule 17a-7 of the Investment Company Act of 1940, as applicable.

Client Holdings in the Securities of BlackRock, Inc.

Certain Client accounts invested in index-based separately managed account strategies may hold securities of BlackRock, Inc., which correspond to the approximate weighting of BlackRock securities in the index strategy followed by such accounts. BlackRock Investment Advisers, including Aperio, have a conflict of interest, because BlackRock, its subsidiaries, and their personnel benefit from transactions that support or increase the market demand and price for BlackRock securities. The conflict is mitigated, because purchases and sales of BlackRock securities in the Client account are limited to transactions that align the weighting of BlackRock securities in the Client account to the current weightings of the index to which the Client account is benchmarked.

Personal Trading

Aperio employees are subject to BlackRock's Code of Business Conduct and Ethics, as well as policies incorporated therein, including, but not limited to, its Global Personal Trading Policy, Outside Activity Policy, Political Contribution Policy, as well as restrictions involving proprietary information, material non-public information, and potential restrictions on investment adviser activity. Each of these policies governs the conduct of BlackRock's directors, managers, members, officers, and employees—including all Aperio employees—(collectively, the "BlackRock Group") and are described in detail below.

BlackRock's Global Personal Trading Policy and Other Ethical Restrictions

Members of the BlackRock Group buy, sell, and hold for their own and their family members' accounts public securities, private securities, and other investments in which such BlackRock personnel have a pecuniary interest, whether because they are also bought, sold, or held for BlackRock Clients or through accounts (or investments in funds) managed by BlackRock Investment Advisers or otherwise. As a result of differing trading and investment strategies or constraints, positions taken by BlackRock directors, officers, and employees can be the same as or different from, or made contemporaneously with or at different times than, positions taken for BlackRock Clients.

As these situations involve potential conflicts of interest, BlackRock has adopted policies and procedures relating to personal securities transactions, insider trading, and other ethical considerations, including the Global Personal Trading Policy in accordance with Rule 17j-1 under the Investment Company Act and Rule 204A-1 under the Advisers Act (the "Rules"). These policies and procedures are intended to identify and prevent actual conflicts of interest with Clients and to resolve such conflicts appropriately if they do occur.

In conformity with the Rules, the Global Personal Trading Policy contains provisions regarding employee personal trading and reporting requirements that are designed to address potential conflicts of interest that might interfere, or appear to interfere, with making decisions in the best interest of BlackRock Clients. Together with BlackRock's Code, the Global Personal Trading Policy requires employees to comply with the applicable federal securities laws, as well as fiduciary principles applicable to BlackRock's business, including that employees must avoid placing their own personal interests ahead of BlackRock Clients' interests.

The Global Personal Trading Policy requires that employees at BlackRock conduct all personal investment transactions in a manner consistent with applicable federal securities laws, the Global Insider Trading Policy, and other BlackRock policies. These requirements include reporting personal investment accounts, preclearing personal trading and private investment transactions. The Global Personal Trading Policy also generally prohibits employees from acquiring securities in initial public offerings, and contains prohibitions against profiting from short-term trading, subject to very limited exceptions. The Global Personal Trading Policy additionally imposes "blackout" periods on certain employees, including portfolio management personnel, prohibiting transactions in certain securities during time periods surrounding transactions in the same securities by BlackRock Client accounts. Moreover, the Global Personal Trading Policy and other BlackRock policies contain provisions that are designed to prevent the use of material non-public information.

Any member of the BlackRock Group covered by the Code who fails to observe its requirements, or those contained in related BlackRock policies and procedures, is subject to potential remedial action. BlackRock will determine on a case-by-case basis what remedial action should be taken in response to any violation, including potential voiding or reversal of a trade, the cost of which will be borne by the employee or owner of the account, or limiting an employee's personal trading for some period of time.

Members of the BlackRock Group have a duty to act solely in the interest of BlackRock's Clients. BlackRock's Global Outside Activity Policy requires that BlackRock employees obtain approval from their line manager and Compliance before engaging in any outside activities so that BlackRock has the opportunity to consider whether such activities create actual or potential conflicts of interest. The Global Outside Activity Policy is intended to

identify activities that have the potential to conflict with an employee's role at BlackRock and/or BlackRock's activities.

Political Contributions

BlackRock's political contributions policy establishes the requirements that apply when BlackRock and its employees make or solicit U.S. political contributions or engage in political activities in the U.S. The policy prohibits BlackRock and its employees from making or soliciting U.S. political contributions for the purpose of obtaining or retaining business. The policy requires employees to preclear U.S. political contributions before they, their spouse, domestic partner, or dependent children make any contributions to a political candidate, government official, political party, or political action committee ("PAC") in the U.S.

The BlackRock PAC, a nonpartisan political action committee, is supported voluntarily by eligible U.S. employees to help elect U.S. federal candidates who the PAC's Board of Directors determine share BlackRock's values and goals.

Material Non-Public Information/Insider Trading

BlackRock Group receives material non-public information in the ordinary course of its business. This is information that is not available to other investors or other confidential information which, if disclosed, would likely affect an investor's decision to buy, sell, or hold a security. This information is received voluntarily and involuntarily and under varying circumstances, including, but not limited to, upon execution of a nondisclosure agreement, as a result of serving on the board of directors of a company, serving on ad hoc or official creditors' committees and participation in risk, advisory, or other committees for various trading platforms, clearinghouses, and other market infrastructure—related entities and organizations. Under applicable law, members of the BlackRock Group are generally prohibited from disclosing or using such information for their personal benefit or for the benefit of any other person, regardless of whether that person is a BlackRock Client.

Accordingly, should a member of the BlackRock Group obtain, either voluntarily or involuntarily, material non-public information with respect to an issuer, it may limit the ability of BlackRock Clients to buy, sell, or hold investments and may result in an underlying security or investment being priced inconsistently across BlackRock Clients. BlackRock has no obligation or responsibility to disclose the information to, or use such information for the benefit of, any person (including BlackRock Clients), even if requested by BlackRock or its affiliates and even if failure to do so would be detrimental to the interests of that person. BlackRock has adopted a Global Insider Trading Policy and a Global Material Non-public Information Barrier Policy, which establish procedures reasonably designed to prevent the misuse of material non-public information by BlackRock and its personnel. Under the Global Insider Trading Policy, BlackRock Investment Advisers generally are not permitted to use material non-public information obtained by any department or affiliate of BlackRock in the course of its business activities or otherwise, in effecting purchases and sales in securities transactions for BlackRock Clients, or for their personal accounts.

BlackRock also has adopted policies establishing information barriers to minimize the likelihood that particular investment advisory units or teams will inadvertently come into

possession of material non-public information known by some other unit or team at BlackRock and thereby also minimizing the likelihood that a particular unit or team will be inadvertently precluded from taking action on behalf of its Clients. Nonetheless, the investment flexibility of one or more of the BlackRock Investment Advisers or business units on behalf of BlackRock Clients may be constrained as a consequence of BlackRock's policies regarding material non-public information and insider trading and related legal requirements.

Consequently, BlackRock Investment Advisers' investment activities likely will be impacted by receipt of such information, even if a failure to act on such information is ultimately detrimental to BlackRock Clients. In addition, in certain circumstances, the use of such information would also be prohibited by BlackRock's Global Insider Trading Policy.

From time to time, certain BlackRock employees use paid expert networks and other industry experts (subject to the BlackRock policies regarding the handling and restricted use of material non-public information). BlackRock has adopted specific policies and procedures to prevent and address the receipt of any material non-public information from such expert networks.

BlackRock's Business Practices and Potential Conflicts of Interest

In addition to Aperio's supervised persons being immediately subject to the BlackRock compliance policies and procedures described above, we also describe herein certain BlackRock business practices and the potential conflicts of interest presented, and how conflicts of interest that may arise are addressed.

On occasion, BlackRock, including its affiliates, may invest in a company, or otherwise seek to acquire a controlling or noncontrolling stake in a company, for strategic purposes. Such activity could result in a restriction on the ability of BlackRock Clients to engage with such company as a counterparty or otherwise invest in such company's securities, either at the time of such engagement or at a later date. In addition, BlackRock may take action with respect to its proprietary account(s) that competes or conflicts with the advice a BlackRock Investment Adviser may give to, or an investment action a BlackRock Investment Adviser may take on behalf of, a BlackRock Client. Such activity gives rise to a potential conflict of interest.

BlackRock Investment Advisers make decisions for their Clients in accordance with their fiduciary obligations to such Clients. As a global provider of investment management, risk management, and advisory services to institutional and retail Clients, BlackRock engages in a broad spectrum of activities, including sponsoring and managing a variety of public and private investment funds, funds of funds, and separate accounts across fixed income, cash management, equity, multi-asset, alternative investment, and real estate strategies; providing discretionary and non-discretionary financial advisory services; providing enterprise trading systems, risk analytics, investment accounting, and trading support services under the BlackRock Solutions business; and engaging in certain broker-dealer activities, transition management services, mortgage servicing, and other activities. BlackRock acts as, among other things, an investment manager, investment adviser, broker-dealer and, under certain circumstances, an index provider.

BlackRock Investment Advisers manage the assets of BlackRock Clients in accordance with the investment mandate selected by each BlackRock Client and applicable law, and will seek

to give advice to, and make investment decisions for, such BlackRock Client that the BlackRock Investment Adviser believes to be in the best interests of such BlackRock Client. However, from time to time, investment allocation decisions are made which adversely affect the size or price of the assets purchased or sold for a BlackRock Client, and the results of the investment activities of a BlackRock Client may differ significantly from the results achieved by the BlackRock Investment Advisers for other current or future BlackRock Clients. Thus, the management of numerous accounts for BlackRock Clients and other services provided by the BlackRock Investment Advisers creates a number of potential conflicts of interest.

Additionally, regulatory and legal restrictions (including those relating to the aggregation of positions among different funds and accounts) and BlackRock's internal policies and procedures restrict certain investment activities of BlackRock Investment Advisers for BlackRock Clients.

These and other potential conflicts are discussed generally herein or in the relevant investment management agreement and/or governing documents of the investments managed or served by the various BlackRock Investment Advisers, including Aperio, which should be reviewed in conjunction with any investment with such BlackRock Investment Adviser. Given the interrelationships among the BlackRock Group and the changing nature of the business, affiliations, and opportunities, as well as legislative and regulatory developments, there may be other or different potential conflicts that arise in the future or that are not covered by this discussion. As a fiduciary to the BlackRock Clients, however, BlackRock is committed to putting the interests of BlackRock Clients ahead of its own in the provision of investment management and advisory services.

Potential Conflicts Relating to BlackRock Investment Advisory Activities

The results of the investment activities provided to a BlackRock Client can differ significantly from the results achieved by BlackRock Investment Advisers for other current or future BlackRock Clients. BlackRock Investment Advisers will manage the assets of a BlackRock Client in accordance with the investment mandate selected by such BlackRock Client. However, members of the BlackRock Group (including BlackRock Investment Advisers) may give advice and take action with respect to their own account or any other BlackRock Client that competes or conflicts with the advice a BlackRock Investment Adviser may give to, or an investment action a BlackRock Investment Adviser may take on behalf of, a BlackRock Client (or a group of BlackRock Clients), or advice that may involve different timing than that of a BlackRock Client. The potential conflicts include, in particular, members of the BlackRock Group and one or more BlackRock Clients buying or selling positions while another BlackRock Client is undertaking the same or a differing, including potentially opposite, strategy. Similarly, BlackRock Investment Advisers' management of BlackRock Client accounts may benefit members of the BlackRock Group including, to the extent permitted by applicable law and contractual arrangements, investing BlackRock Client accounts directly or indirectly in the securities of companies in which a member of the BlackRock Group, or other BlackRock Client for itself or its Clients, has an equity, debt, or other interest.

In addition, to the extent permitted by applicable law and contractual arrangements, BlackRock Clients may engage in investment transactions which may result in other BlackRock Clients being relieved of obligations or otherwise having to divest or cause

BlackRock Clients to have to divest certain investments. In some instances, the purchase, holding, and sale, as well as voting of investments by BlackRock Clients may enhance the profitability or increase or decrease the value of a BlackRock Group member's or other BlackRock Clients' own investments in such companies. This may give rise to potential conflicts of interest.

<u>Potential Restrictions and Conflicts Relating to Information Possessed or Provided by</u> BlackRock

In connection with the activities of BlackRock, Inc., and BlackRock Investment Advisers, certain persons within the BlackRock Group receive information regarding proposed investment activities for BlackRock and BlackRock Clients that is not generally available to the public. Also, BlackRock Investment Advisers have access to certain fundamental analyses, research, and proprietary technical models developed internally or by other members of the BlackRock Group, certain third parties, and their respective personnel. There will be no obligation on the part of such persons or any BlackRock Investment Adviser to make available for use by a BlackRock Client, or to effect transactions on behalf of a BlackRock Client on the basis of, any such information, strategies, analyses, or models known to them or developed in connection with their own proprietary or other activities. In many cases, such persons will be prohibited from disclosing or using such information for their own benefit or for the benefit of any other person, including BlackRock Clients. In other cases, fundamental analyses, research, and proprietary models developed internally are used by various BlackRock Investment Advisers and personnel on behalf of different BlackRock Clients, which could result in purchase or sale transactions in the same security at different times (and could potentially result in certain transactions being made by one portfolio manager on behalf of certain BlackRock Clients before similar transactions are made by a different portfolio manager on behalf of other BlackRock Clients), or could also result in different purchase and sale transactions being made with respect to the same security. Further information regarding inconsistent investment positions and timing of competing transactions is set forth in "Potential Conflicts Relating to BlackRock Investment Advisory Activities," above.

Similarly, one or more BlackRock Clients could have, as a result of receiving Client reports or otherwise, access to information regarding BlackRock Investment Advisers' transactions or views, including views on voting proxies, which are not available to other BlackRock Clients, and may act on such information through accounts managed by persons other than a BlackRock Investment Adviser. The foregoing transactions may negatively impact BlackRock Clients through market movements or by decreasing the pool of available securities or liquidity. BlackRock Clients could also be adversely affected when cash flows and market movements result from purchase and sale transactions, as well as increases of capital in, and withdrawals of capital from, accounts of other BlackRock Clients. These effects can be more pronounced in thinly traded securities and less liquid markets.

Potential Restrictions on BlackRock Investment Adviser Activity

From time to time, BlackRock will be restricted from or limited in purchasing, selling, or voting securities, derivative instruments, or other assets, including affiliated accounts, on behalf of BlackRock Clients because of corporate or regulatory and legal requirements, as well as contractual restrictions, applicable to BlackRock or the securities held by BlackRock

on behalf of its Clients. BlackRock has developed internal policies, to the extent necessary, designed to comply with, limit the applicability of, or otherwise relate to such requirements, as well as address potential conflicts of interest. These restrictions can impact or limit BlackRock's ability to purchase, vote, or sell certain securities, derivative instruments, or other assets on behalf of certain BlackRock Clients at the same time as other BlackRock Clients. A Client not advised by BlackRock will not necessarily be subject to the same considerations.

In some cases, BlackRock Investment Advisers do not initiate or recommend certain types of transactions, or will otherwise restrict or limit their advice with respect to securities or instruments issued by, or related to, companies, for which BlackRock is performing advisory or other services, or companies in which BlackRock has an interest. Such limitations or restrictions can arise solely from actions taken or initiated by BlackRock and have a negative effect on BlackRock Clients. For example, from time to time, when BlackRock is engaged to provide advisory or risk management services for a company, BlackRock Investment Advisers will be prohibited from, or limited in, purchasing or selling securities of that company for BlackRock Client accounts, particularly where such services result in BlackRock obtaining material non-public information about the company.

Similar situations could arise if: (1) BlackRock personnel serve as directors or officers of companies the securities of which BlackRock wishes to purchase or sell; (2) BlackRock has an ownership or other interest in a company; (3) BlackRock is provided with material non-public information with respect to the issuer of securities; (4) BlackRock Investment Advisers on behalf of BlackRock Clients or BlackRock, Inc., participate in a transaction (including a controlled acquisition of a U.S. public company) that results in the requirement to restrict all purchases and voting of equity securities of such target company; or (5) regulations, including portfolio affiliation rules or stock exchange rules, prohibit participation in offerings by an issuer when BlackRock's Clients' have prior holdings of such issuer's securities. However, where permitted by applicable law, and where consistent with BlackRock's policies and procedures (including the implementation of appropriate information barriers), BlackRock can purchase or sell securities or instruments that are issued by such companies or are the subject of an advisory or risk management assignment by BlackRock, or in cases in which BlackRock personnel serve as directors or officers of the issuer.

In certain circumstances where BlackRock invests in securities issued by companies that operate in certain regulated industries or in certain emerging or international markets, or are subject to corporate or regulatory ownership restrictions, there will be limits on the aggregate and/or portfolio-level amount permitted to be invested or voted by BlackRock that can be exceeded only with the grant of a license, waiver, regulatory relief, or corporate consent. As a result, BlackRock Investment Advisers on behalf of BlackRock Clients may limit purchases, sell existing investments, or otherwise restrict, forgo, or limit the exercise of rights (including transferring, outsourcing or limiting voting rights or foregoing the right to receive dividends) when BlackRock Investment Advisers, in their sole discretion, deem it appropriate in light of potential regulatory or corporate restrictions on ownership, voting rights, or other consequences resulting from reaching investment thresholds. Similar limitations apply to derivative instruments or other assets or instruments, including futures, options, or swaps.

In those circumstances where ownership thresholds or limitations must be observed, BlackRock seeks to equitably allocate limited investment opportunities among BlackRock Clients, taking into consideration a security's benchmark weight and investment strategy.

When BlackRock's ownership in certain securities nears an applicable threshold, BlackRock will limit purchases in such securities in index portfolios to the issuer's weighting in the applicable benchmark used by BlackRock to manage the BlackRock Client account or fund and in actively managed portfolios to the issuer's weighting in the applicable risk benchmark, adjusted on the basis of scaling factors that recognize additional degrees of freedom of active mandates over index mandates. If BlackRock's Clients' holdings of an issuer exceed an applicable threshold and BlackRock is unable to obtain relief to enable the continued holding of such investments, it will be necessary to sell down these positions to meet the applicable limitations, possibly during deteriorating market conditions. In these cases, benchmark overweight positions will be sold prior to benchmark positions being reduced to meet applicable limitations.

In addition to the foregoing, other ownership or voting thresholds may trigger or require reporting, applications, licenses, or other special obligations to governmental and regulatory authorities, and such reports, applications, or licenses may entail the disclosure of the identity of the BlackRock Client or BlackRock's intended strategy with respect to such securities, instruments, or assets. Where applicable, BlackRock can elect to forego or limit certain investments or opportunities, including limitations on voting or other investor rights, rather than incur the costs of an application, registration, or license.

Under certain circumstances, BlackRock will restrict a purchase or sale of a security, derivative instrument, or other asset on behalf of BlackRock Clients in anticipation of a future conflict that may arise if such purchase or sale would be made. Any such determination will take into consideration the interests of the relevant BlackRock Clients, the circumstances that would give rise to the future conflict, and applicable laws. Such determination will be made on a case-by-case basis.

When evaluating non-index investments on behalf of its Clients, especially in the case of private and real assets, BlackRock may consider the reputational risks of such investments to itself or its Clients. As a result, BlackRock may, from time to time, forego making or disposing of non-index investments on behalf of its Clients based on BlackRock's evaluation of these risks, even in circumstances where such investments are legally permissible and consistent with Client guidelines. With respect to index investing, however, BlackRock manages to each applicable index without regard to these risks.

ITEM 12: BROKERAGE PRACTICES

Selection Criteria

Selection of the broker-dealer used for executing transactions is dependent on several factors including the choice of custodian, which is typically driven by the Client. Aperio has relationships with many custodians. Aperio will inform Clients which custodians are available; however, Clients make the actual selection. When a Client chooses a custodian that is compensated for its custodial services through trading commissions, except for very unusual circumstances, it is typically most cost effective for the Client to trade through that custodian's broker-dealer. The custodian/trading relationships used by Aperio offer competitive trading costs, electronic order execution, and competent back-office support including technological links with Aperio's information systems. In addition, other products and services are available to Aperio from Charles Schwab & Co., Inc. ("Schwab"), National Financial Services LLC and

Fidelity Brokerage Services LLC (together with all affiliates, "Fidelity"), and other similar custodians/brokers, as discussed (and as defined, in the case of Fidelity), below. For broker-dealers where Aperio has discretion, the following selection criteria are used, including but not limited to: execution quality, commissions, and clearing and settlement capabilities of the broker-dealer; the broker-dealer's experience and ability to place difficult trades; access to markets; and the reputation, financial strength, and stability of the broker-dealer.

Wrap Accounts

Clients choosing to participate in certain Wrap Programs or platforms may use Aperio investment management services. Brokerage and other trading fees in such cases are between the Client and the brokerage/custodial firm. In most cases, since the fees paid by the Client include commissions, Aperio places Wrap Client trades with the Wrap Sponsor for execution. While Aperio may have discretion to select broker-dealers other than the Wrap Sponsor to execute trades for wrap accounts in a particular program, trades are generally executed through the Wrap Sponsor. A Wrap Sponsor may instruct Aperio not to execute transactions on behalf of the wrap accounts in that program with certain broker-dealers. When a Wrap Sponsor restricts Aperio in this way, it may affect Aperio's ability to negotiate favorable commission rates or volume discounts, the availability of certain spreads, and the timeliness of execution. This may consequently result in a less advantageous price being realized by the account. Aperio endeavors to treat all wrap accounts fairly and equitably over time in the execution of Client orders. Depending on various factors, such as the size of the order and the type and availability of a security, orders for wrap accounts may be executed throughout the day. When orders are placed with broker-dealers, such trades may experience sequencing delays and market impact costs, which Aperio attempts to minimize.

<u>Matters Impacting Charles Schwab, Fidelity, and Other Similar Custodian/Broker</u> Relationships

Firms such as Charles Schwab and Fidelity generally do not charge separately for custody services but are compensated by charging commissions or other fees on trades they execute or that settle into their accounts. For some accounts, these firms may charge a percentage of the dollar amount of assets in the account in lieu of commissions. These firms' commission rates and asset-based transaction fees are negotiated by the Client. In addition to commissions or asset-based fees, custodians such as Schwab charge a flat dollar amount as a "trade away" fee for each trade that we have executed by a different broker-dealer but where the securities bought or the funds from the securities sold are deposited (settled) into a Client's Schwab or other similar custodian's account. These fees are in addition to the commissions or other compensation Clients pay the executing broker-dealer. Because of this, to minimize Client trading costs, we have the custodian/broker execute most trades for Client accounts.

Soft Dollar Arrangements

Aperio currently has no third-party soft dollar arrangements in place with any broker-dealers to receive research or brokerage services. Soft dollar benefits would be defined as non-Client execution services received by Aperio, such as research or brokerage services, and provided to Aperio in exchange for executing Client transactions through a particular broker-dealer. Broker-dealers and other parties sometimes provide those benefits to advisers through

arrangements involving soft dollar credits based on the commission rate and volume of trades executed through the broker-dealer. Section 28(e) of the Securities Exchange Act of 1934 (the "Exchange Act") permits advisers to pay more than the lowest commission rate available in exchange for such research and brokerage services.

Although certain soft dollar benefits are permitted by applicable law, Aperio does not have any such arrangements. Aperio will send trades to brokers that provide brokerage services that directly relate to the execution of trades and that otherwise are expected to satisfy Aperio's selection criteria for providing best execution. Broker-dealers do, however, provide unsolicited research and brokerage services that could be considered to be soft dollar benefits for Aperio, some of which are provided on a standard basis to many Clients that use those broker-dealers. Some of these services provide no benefit to Aperio, and others have some value. These brokerage services include trading software used to route orders electronically to market centers and the provision of FIX connections used to electronically effect securities transactions. Aperio will only continue to use such services when it believes any higher commission is reasonable given the value of the research or brokerage services received. consistent with Section 28(e) of the Exchange Act. Other examples of services include electronic access to account information; trade order processing systems; trade analysis software; on-line pricing services; communication services relating to execution, clearing, and settlement; and message services used to transmit orders, conferences, and seminars.

There are times when Aperio, to manage Client portfolios, expresses a preference that a Client establish brokerage accounts with firms that offer automated reconciliation and trading, such as Fidelity and/or Schwab, to maintain custody of Clients' assets and to effect trades for their accounts. Schwab and Fidelity are both SEC-registered broker-dealers and members of the Financial Industry Regulatory Authority/Securities Investor Protection Corporation ("FINRA/SIPC"). There is no direct link between the investment advice given to Clients and Aperio's recommendation to use the custodial or brokerage services of Fidelity or Schwab, although certain benefits are received by Aperio due to these arrangements. Aperio has adopted written policies and procedures regarding our trading practices, including, but not limited to, best execution and soft dollar reviews.

Brokerage for Client Referrals

Aperio does not seek or receive Client referrals from any discretionary broker-dealers and does not consider Client referrals in selecting or recommending discretionary broker-dealers, nor does it intend to do so for the foreseeable future.

Aperio's Interest in Schwab's Services

Due to the size of Client assets maintained with Aperio, Aperio does not pay for Schwab's services. While Aperio does not recommend specific custodians, the benefits provided by Schwab for maintaining accounts there has the potential to be a conflict of interest. We believe, however, that Aperio's support for Clients who have chosen to use Schwab as their custodian and broker is consistent with being in the best interests of our Clients. This is primarily due to the scope, quality, and price of Schwab's overall services and not Schwab's services that benefit only us. We have a significant amount of Client assets under management at Schwab as well as at other custodians and do not believe that maintaining assets at Schwab is related in any way to Aperio's avoiding the payment of service fees to Schwab or presents a

material conflict of interest. It is important for Clients to consider and compare the significant differences between having assets held with a broker-dealer, bank, or other custodian prior to opening an account with Aperio. Some of these differences include, but are not limited to, total account costs, trading freedom, commission rates, and security and technology services.

Fidelity Custodian Arrangement

Aperio has an arrangement with Fidelity through which Fidelity provides Aperio with Fidelity's "platform" services. The platform services include, among others, brokerage, custodial, administrative support, record keeping, and related services that are intended to support intermediaries like Aperio in conducting business and in serving the best interests of their Clients but that also benefit Aperio. Aperio is not affiliated with Fidelity.

Fidelity charges brokerage commissions and transaction fees for effecting certain securities transactions (i.e., commissions are charged for individual equity and debt securities transactions). Fidelity's commission rates are generally considered discounted from customary retail commission rates. However, the commissions and transaction fees charged by Fidelity may be higher or lower than those charged by other custodians and broker-dealers. As part of the arrangement between Fidelity and Aperio, Fidelity also makes available to Aperio, at no additional charge to us, certain brokerage services, which are used by Aperio in the management of accounts for which Aperio has investment discretion.

Aperio also receives additional services, which include services that do not directly benefit Aperio Clients. As a result of receiving these services for no additional cost, Aperio has an incentive to continue to use or expand the use of Fidelity's services, which creates a potential conflict of interest. Aperio examined this conflict when it chose to enter into the relationship with Fidelity and has determined that the relationship is in the best interests of Clients. As part of the custodian arrangement, a Client may pay a commission/transaction fee that is higher than another qualified broker-dealer might charge to effect the same transaction where Aperio determines in good faith that the commission/transaction fee is reasonable in relation to the value of the brokerage services received.

Best Execution

For a Client using a traditional bank or trust company custodian but without the trade execution, broker-dealer selection is at the discretion of Aperio and will be based on, among other things, low transaction costs, the quality of executions, and electronic order and trade settlement capabilities. While Aperio is under common ownership with certain entities, which include one or more broker-dealers (the "Broker-Dealer Affiliates"), Aperio does not have any business dealings with the Broker-Dealer Affiliates in connection with any of the advisory services we provide to our Clients, we do not share operations with any of the Broker-Dealer Affiliates, we do not refer Clients or business to the Broker-Dealer Affiliates and the Broker-Dealer Affiliates do not provide business or Clients to us, we do not share supervised persons or premises with the Broker-Dealer Affiliates, and have no reason to believe that our relationship with the Broker-Dealer Affiliates otherwise creates a conflict of interest with our Clients. We do not consider the promotion or sale of investment products affiliated with or managed by Aperio or our affiliates when selecting brokers to execute Client transactions.

As a fiduciary, Aperio has an obligation to use its best efforts to seek to obtain the best qualitative available price and most favorable execution given the circumstances, with respect to all portfolio transactions placed by Aperio on behalf of its Clients. Thus, Aperio carefully monitors and evaluates transaction costs and the quality of execution across all strategies and Client portfolios. This process is commonly referred to as seeking "best execution." Aperio conducts its best execution analysis on a regular basis through its Trade Oversight Committee, which in turn reports to BlackRock's Best Execution Committee and other relevant teams as needed.

In analyzing best overall execution, the Trade Oversight Committee considers various factors, including but not limited to: specific market and trading impact, number of shares being traded relative to market volume, execution price, trading costs, and other material inputs. Other specific factors considered in the best execution analysis include: the nature of the portfolio transaction; the size of the transaction; the execution, clearing, and settlement capabilities of the broker-dealer; the broker-dealer's experience and ability to place difficult trades; access to markets; the reputation, financial strength, and stability of the broker-dealer; availability of alternative trading platforms; the desired timing of the transaction; and the importance placed on confidentiality. Aperio always seeks to effect transactions at the price and commission that provide the most favorable total overall cost or proceeds reasonably attainable given the circumstances.

Unless otherwise agreed to, Aperio has discretion to place buy and sell orders with or through such brokers or dealers as it deems appropriate. Our general policy is to place Clients' trades with their broker custodian (e.g., Fidelity, Schwab, etc.) as we believe, based on our reviews, the broker custodian is providing the best overall deal for the Client and it remains competitive in relation to executions and the cost of each transaction. We also continually monitor the broker custodian performance in the Trade Oversight Committee review, as discussed above.

For transactions for our registered investment company (mutual fund) Clients, Aperio places trades with brokers that we believe can provide best execution, and in accordance with each mutual fund's written policies and procedures regarding brokerage selection and soft dollars. Although Aperio seeks to obtain best execution for Clients' securities transactions, we are not required to solicit competitive bids and we are not obligated to seek the lowest available commission cost. In seeking best execution, the determinative factor is not the lowest possible cost but whether the transaction represents the overall best qualitative execution, taking into consideration the full range of a broker-dealer's services, as stated above. Consistent with the foregoing, Aperio may not necessarily obtain the lowest possible commission rates for Client transactions. Aperio's Trade Oversight Committee performs periodic evaluations of our trading practices and utilized brokers/custodians in an ongoing effort to help ensure that Aperio is fulfilling its best execution obligation.

Directed Brokerage

A Client may instruct Aperio to execute some or all securities transactions for its account with or through one or more brokers designated by the Client. In such cases, the Client is generally responsible for negotiating the terms and conditions (including, but not limited to, commission rates) relating to all services to be provided by such broker and his or her own satisfaction with such terms and conditions. Aperio will, if requested by the Client, attempt to

negotiate the terms and conditions relating to the services provided by the broker. Under these arrangements, we do not assume any responsibility for obtaining the best prices or any particular commission rates for transactions with or through any such broker for such Client's account. The Client must recognize that it may not obtain commission rates as low as it might otherwise obtain if we had discretion to select brokers other than those chosen by the Client and, as a result, may not receive best execution on transactions due to the Client's direction.

Clients should also be aware that conflicts may arise between a Client's interest in receiving best execution with respect to transactions effected for the Client's account and our interest in potentially receiving future Client referrals from the broker. To mitigate these conflicts, Aperio's Trade Oversight Committee, in accordance with Aperio's fiduciary duty, performs periodic reviews of Client trade execution and brokerage services provided to help ensure Clients are receiving the best overall execution on their transactions.

Order Aggregation

Although each Client account is individually managed, Aperio often purchases and/or sells the same securities for several accounts at the same time. Aperio aggregates contemporaneous transactions in the same securities for Clients. Aperio aggregates trades at regular intervals throughout the day and considers all trades in a particular interval to be contemporaneous. When it does so, participating accounts are allocated the resulting securities or proceeds (and related transaction expenses) on an average price basis. Aperio believes combining orders in this way is, over time, advantageous to all participating Clients.

However, the average price resulting from any particular aggregated transaction could be less advantageous to a particular Client than if the Client had been the only account effecting the transaction or had completed its transactions in the security before the other participants. Despite the advantages that can arise from aggregation of orders, in many cases, Aperio is not able to aggregate orders for all Clients seeking to buy or sell the same security. This is often because orders for directed brokerage Clients generally must be, or should be, executed by the applicable program sponsor (or its affiliated or designated brokers). Aperio is unable to aggregate transactions executed through different program sponsors and/or through different brokerage firms that Aperio selects for nondirected brokerage Clients on the basis of execution quality. In addition, one or more Clients may direct Aperio to use a particular broker-dealer for some or all of that Client's transactions, preventing Aperio from aggregating that Client's transactions with transactions executed with other broker-dealers. Clients whose transactions are filled before or after other Clients' transactions may receive less favorable prices. Where Aperio cannot aggregate all trades, it will typically follow a random rotation sequence of order placement for all executing brokers.

ITEM 13: REVIEW OF ACCOUNTS

Aperio monitors Client accounts on a daily basis for cash reinvestment and tax loss-harvesting opportunities. Accounts are rebalanced at least once per quarter to take advantage of tax-loss harvesting opportunities, reduce forecast tracking error, and maintain consistency with the investment strategy and other Client constraints. On a monthly basis, Aperio's performance reporting team monitors each account to determine if any account's active returns exhibit statistically significant deviations from expectations based on forecast tracking error. On a quarterly basis, Aperio's Investment Committee reviews the performance of all of Aperio's

investment strategies and any accounts whose performance shows statistically significant deviations from expectations.

In addition to Aperio's periodic account reviews, Client accounts are also reviewed when there are any changes to Client investment strategy, constraints, or circumstances.

Aperio prepares and provides to each investment management Client written monthly performance summary reports. Included in the performance summary reports are specific period returns for each portfolio compared to its relevant benchmark index (both pre- and after-tax, if applicable), summary portfolio characteristics, portfolio sector weightings and country/region weightings (if applicable) versus the benchmark, as well as summary tax information for taxable accounts. The custodian also delivers monthly or quarterly reports to Clients showing current investment positions and account activity during the previous period.

ITEM 14: CLIENT REFERRALS AND OTHER COMPENSATION

Aperio Client Referral Arrangement from Schwab

Prior to December 31, 2006, Aperio received Client referrals from Schwab through Aperio's participation in the Schwab Advisor Network (the "Service"). Aperio no longer receives new referrals through the Service and has fewer than five accounts as of the date of this Brochure that are still subject to this arrangement. With respect to these accounts, Aperio pays Schwab a participation fee, all of which were for Client referrals received through the Service prior to December 31, 2006.

ITEM 15: CUSTODY

Aperio does not maintain custody of Client assets, except, pursuant to Rule 206(4)-2 of the Advisers Act, where Aperio is deemed to have custody of Client funds solely because it has the authority and ability to debit its advisory fees directly from Clients' accounts. To mitigate any potential conflicts of interests, Aperio's Client account assets are maintained with independent qualified custodians.

Notably, in most cases, a Client's broker-dealer also may act as the custodian of the Client's assets for little or no extra cost. Clients should be aware, however, of the differences between having their assets held with a broker-dealer versus at a bank or trust company. Some of these differences include, but are not limited to, custodian costs, trading issues, security of assets, Client reporting, and technology.

Aperio will implement investment management recommendations only after the Client has arranged for and furnished Aperio with all information and authorizations regarding its accounts held at the designated qualified custodian.

Clients will receive statements on at least a quarterly basis directly from the qualified custodian that holds and maintains their assets. Clients are urged to carefully review all custodial statements and compare them to the statements provided by Aperio. Aperio statements can vary from custodial statements based on accounting procedures, reporting dates, or valuation methodologies of certain securities. Please refer to Item 12 for additional

important disclosure information relating to our brokerage practices and relationships with custodians.

ITEM 16: INVESTMENT DISCRETION

In general, Aperio receives discretionary investment authority at the outset of an advisory relationship, either delegated in an advisory agreement by the Client, in a sub-advisory agreement with a Client's Intermediary (through its authority to select a third-party investment manager under its advisory agreement with the Client), or in a Wrap Program agreement with a Wrap Sponsor (which approves investment managers to offer services to Clients as part of the Wrap Program). Please see Item 4 ("Advisory Business") for more information concerning Wrap Programs.

Depending on the terms of the applicable advisory agreement, Aperio's authority could include the ability to select brokers and dealers through which to execute transactions on behalf of its Clients, and to negotiate the commission rates, if any, at which transactions are effected. In making decisions as to which securities are to be bought and sold and the amounts thereof, Aperio is guided by the mandate selected by the Client and any Client-imposed guidelines or restrictions. If granted discretionary investment authority, Aperio generally is not required to provide notice to, consult with, or seek the consent of its Clients prior to engaging in transactions. Please see Item 12 ("Brokerage Practices") of this Brochure for more information.

For Aperio's participation in the UMA Program, Aperio shares investment discretion with the UMA Sponsor under the terms of the agreement with the UMA Sponsor. Please see Item 4 ("Advisory Business") for more information concerning the UMA Program.

ITEM 17: VOTING CLIENT SECURITIES

Proxy Voting Policy

Aperio's policy is to vote proxies for Clients, unless directed otherwise by the Client in writing. Aperio uses third-party services to vote proxies consistent with what the Firm determines is in the best interests of Aperio's Clients. Aperio offers two proxy voting policies: Standard and SRI.

The Standard policy will generally cast proxy votes in favor of proposals that increase shareholder value and will generally cast proxy votes against proposals having the opposite effect. Aperio favors transparency of information and, therefore, the Standard proxy voting policy typically favors resolutions that increase transparency of information. However, this preference is not an absolute. In cases of high cost, proprietary information, or requests for specific policy change, Aperio's Standard proxy voting policy is inclined to oppose resolutions even when framed as requests for reports, disclosure, or transparency. Aperio's Standard policy will also vote against management when certain criteria are not met related to gender diversity on the board of directors and the compensation of named executive officers.

Aperio's SRI Proxy Voting policy applies criteria provided by a third-party service provider—Institutional Shareholder Services (ISS)—and can differ from votes cast for other Clients' portfolios managed by Aperio. On matters of social and environmental import, the guidelines seek to reflect a broad consensus of the socially responsible investing

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community. On matters of corporate governance, executive compensation, and corporate structure, ISS Social Advisory Services' SRI guidelines are based on a commitment to create and preserve economic value and to advance principles of good corporate governance consistent with responsibilities to society as a whole.

In exceptional cases where a Client requests that we vote in a specific way on a particular company issue, Aperio will make a best effort to work with the Client to set up Client specific voting programs.

Aperio may choose not to vote proxies in certain situations or for certain accounts, such as: (1) where a Client has informed Aperio that it wishes to retain the right to vote the proxy, in which case, Aperio will instruct the custodian to send the proxy material directly to the Client; (2) where Aperio deems the cost of voting would exceed any anticipated benefit to the Client; (3) where a proxy is received for a Client account that has been terminated with Aperio; (4) where a proxy is received for a security Aperio no longer manages (i.e., the entire position was previously sold); or (5) when voting a proxy would restrict the ability to trade the shares.

Aperio's Proxy Voting Committee monitors for and seeks to resolve potential material conflicts ("Material Conflicts") in the course of proxy voting. Specifically, the Committee seeks to identify potential Material Conflicts including, but not limited to, those presented by (a) public company status of Aperio Clients, intermediaries, custodians, and/or key service providers; and (b) other existing and/or potential relationships between Aperio (and/or Aperio employees) and publicly traded companies. In addition, Aperio makes available to its investment advisory Clients a service facilitating the submission of shareholder proposals through a third-party representative. It is generally expected that such proposals will be voted consistent with the principles set forth in Aperio's proxy voting policies, including these conflict-of-interest provisions. Aperio's policy is to vote proxies presenting potential Material Conflicts as it would vote any other proxy, in a manner consistent with its proxy voting policies and the proposal-specific criteria set forth in those policies. The Committee will regularly review all voting of proxies identified as presenting potential Material Conflicts at its regularly scheduled meetings to seek to ensure adherence to this standard.

A Client can request a complete copy of our current proxy voting policies and procedures and voting guidelines, or information on how we have voted proxies by policy, by logging on to our Client Portal at www.aperiogroup.com/portal to submit your request, and someone from the team will follow up shortly.

No Authority to Vote Proxies

As noted above, certain Clients may elect to vote their own proxies. In these instances, the Client handles aspects associated with proxy voting directly and independent of Aperio, while Aperio is delegated the responsibility with respect to securities held in the Client's account to make all elections concerning any mergers, acquisitions, tender offers, bankruptcy proceedings, or other corporate actions except class action lawsuits.

ITEM 18: FINANCIAL INFORMATION

Aperio does not require or solicit prepayment of more than \$1,200 in fees per Client, six months or more in advance, and therefore is not required to provide a balance sheet.

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There is no financial condition that impairs our ability to meet contractual commitments to Clients.

(Part 2B of Form ADV)

March 14, 2022

Lawrence Bevir

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Lawrence Bevir* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Lawrence Bevir* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Lawrence Bevir

Date of Birth: 07/1993

Educational Background:

University of California, Davis, Davis, CA, BA 2015

Business Background:

2020 - Present	Aperio Group, LLC, Associate Portfolio Manager
2019 - 2020	UBS Private Wealth Management, Senior Wealth Strategy Associate
2016 - 2019	Natixis Investment Management, Trade Quality Control Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Lawrence Bevir.

ITEM 4 OTHER BUSINESS ACTIVITIES

Lawrence Bevir is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Lawrence Bevir receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Lawrence Bevir is an Associate Portfolio Manager at Aperio Group, LLC. Lawrence Bevir provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Lawrence Bevir should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Kevin Bogert

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Kevin Bogert* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Kevin Bogert* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Kevin Bogert

Date of Birth: 01/1993

Educational Background:

University of Delaware, Alfred Lerner College of Business & Economics, Newark, DE: BS Finance, 2015

Business Background:

2021-Present	Aperio Group, LLC, Associate Portfolio Manager
2020-2021	Penn Capital Management, Inc. Senior Associate
2018-2020	Penn Capital Management, Inc. Client Relations Associate
2015-2017	JP Morgan Chase, Operations Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Kevin Bogert.

ITEM 4 OTHER BUSINESS ACTIVITIES

Kevin Bogert is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Kevin Bogert receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Kevin Bogert is an Associate Portfolio Manager at Aperio Group, LLC. Kevin Bogert provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Kevin Bogert should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Michael Branch, CFA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Michael Branch*, *CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Michael Branch*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Michael Branch, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 02/1982

Educational Background:

University of Arizona, Eller School of Business, Tucson, AZ: BS Finance, 2004

Business Background:

2012-Present	Aperio Group, LLC, Senior Portfolio Manager and Manager of Portfolio Research
2007-2011	Aperio Group, LLC, Performance Analyst
2004-2007	California Investment Trust, Mutual Fund Trading and Operations

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Michael Branch.

ITEM 4 OTHER BUSINESS ACTIVITIES

Michael Branch is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Michael Branch receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Michael Branch is a Senior Portfolio Manager and Manager of Portfolio Research at Aperio Group, LLC. Questions regarding the supervision of Michael Branch should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

* CFA DESIGNATION

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- Maintain independence and objectivity
- Act with integrity
- Maintain and improve their professional competence
- Disclose conflicts of interest and legal matters

Global Recognition

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Additionally, regulatory bodies in 19 countries recognize the CFA charter as a proxy for meeting certain licensing requirements, and more than 170 colleges and universities around the world have incorporated a majority of the CFA Program curriculum into their own finance courses.

Comprehensive and Current Knowledge

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The CFA Program curriculum is updated every year by experts from around the world to ensure that candidates learn the most relevant and practical new tools, ideas, and investment and wealth management skills to reflect the dynamic and complex nature of the profession.

To learn more about the CFA charter, visit www.cfainstitute.org.

(Part 2B of Form ADV)

March 14, 2022

Leyland Chin

APERIO GROUP, LLC

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www.aperiogroup.com

This brochure supplement provides information about *Leyland Chin* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Leyland Chin* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Leyland Chin

Date of Birth: 04/1997

Educational Background:

University of California, Los Angeles, Los Angeles, CA, BA Economics 2019

Business Background:

2021-present Aperio Group, LLC, Associate Portfolio Specialist 2019-2021 Engage Hospitality, LLC, General Manager

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Leyland Chin

ITEM 4 OTHER BUSINESS ACTIVITIES

Leyland Chin is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Leyland Chin receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Leyland Chin is an Associate Portfolio Specialist at Aperio Group, LLC. Mr. Chin provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Mr. Chin should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Jonathan Chow

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Jonathan Chow* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Jonathan Chow* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Jonathan Chow

Date of Birth: 11/1985

Educational Background:

University of California, Irvine, CA, BA 2007 University of San Francisco, San Francisco, CA M.S., 2012

Business Background:

2021-Present	Aperio Group, LLC, Associate Portfolio Manager
2020-2021	Oaktree Capital Management, Portfolio Analytics, Risk and Reporting
2018-2020	Union Bank, Foreign Exchange Sales and Trading
2017-2018	East West Bank, Foreign Exchange Sales, Trading and Research

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Jonathan Chow.

ITEM 4 OTHER BUSINESS ACTIVITIES

Jonathan Chow is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Jonathan Chow receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Jonathan Chow is Associate Portfolio Manager at Aperio Group, LLC. Jonathan Chow provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Jonathan Chow should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Matthew Czuj

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Matthew Czuj* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Matthew Czuj* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Matthew Czuj

Date of Birth: 07/1993

Educational Background:

Lebanon Valley College, Annville, PA: BA Economics, 2015

Business Background:

2021-Present	Aperio Group, LLC, Associate Portfolio Manager
2018-2021	BlackRock Inc, Portfolio Specialist
2015-2018	BlackRock Inc, Client Service Representative

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Matthew Czuj.

ITEM 4 OTHER BUSINESS ACTIVITIES

Matthew Czuj is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Matthew Czuj receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Matthew Czuj is an Associate Portfolio Manager at Aperio Group, LLC. Matthew Czuj provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Matthew Czuj should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Jack Delaney

APERIO GROUP, LLC

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www.aperiogroup.com

This brochure supplement provides information about *Jack Delaney* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Jack Delaney* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Jack Delaney

Date of Birth: 12/1993

Educational Background:

School: University of Rhode Island, Providence, RI: BA, Finance and Political Science, 2016

Business Background:

2020-Present	Aperio Group, LLC, Portfolio Manager - ESG Implementation
2019-2020	Aperio Group, LLC, Associate Portfolio Manager
2019-2019	Aperio Group, LLC, Senior Investment Operations Analyst
2016-2018	Aperio Group, LLC, Investment Operations Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Jack Delaney.

ITEM 4 OTHER BUSINESS ACTIVITIES

Jack Delaney is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Jack Delaney receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Jack Delaney is a Portfolio Manager - ESG Implementation at Aperio Group, LLC. Jack Delaney provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Jack Delaney should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Katherine Gabriana, CFA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301

www.aperiogroup.com

This brochure supplement provides information about *Katherine Gabriana*, *CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Katherine Gabriana*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Katherine Gabriana, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 02/84

Educational Background:

School: St. Mary's College of California, San Mateo, CA: MS, Financial Analysis and Investment Management, 2010

University of California, Berkeley, Berkeley, CA: BA, Linguistics, 2007

Business Background:

2019-Present	Aperio Group, LLC, Associate Portfolio Manager
2016-2019	Stamos Capital Partners, L.P., Associate, (Investment Management)
2010-2015	Financial Engines, Investment Team, Investment Management
2007-2010	Waterfront Container Leasing Co, Inc., Business Analyst/Financial Analyst
2006-2007	FTI Consulting, Analyst, Restructuring/Strategy Advisory

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Katherine Gabriana.

ITEM 4 OTHER BUSINESS ACTIVITIES

Katherine Gabriana is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Katherine Gabriana receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Katherine Gabriana is an Associate Portfolio Manager at Aperio Group, LLC. Katherine Gabriana provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Katherine Gabriana should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

* CFA DESIGNATION

The Chartered Financial Analyst (CFA) charter is a globally respected, graduate-level investment credential established in 1962 and awarded by CFA Institute—the largest global association of investment professionals.

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High Ethical Standards

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- Maintain independence and objectivity
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- Disclose conflicts of interest and legal matters

Global Recognition

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Comprehensive and Current Knowledge

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The CFA Program curriculum is updated every year by experts from around the world to ensure that candidates learn the most relevant and practical new tools, ideas, and investment and wealth management skills to reflect the dynamic and complex nature of the profession.

To learn more about the CFA charter, visit www.cfainstitute.org.

(Part 2B of Form ADV)

March 14, 2022

Jameel Gould

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Jameel Gould* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Jameel Gould* is available on the SEC's website at www.adviserinfo.sec.gov.

Item 1 Cover Page

Please see previous page.

Item 2 Educational Background and Business Experience

Date of Birth: 09/1993

Educational Background:

University of Maryland, College Park, MD: BA Economics, 2015

Business Background:

2021-Present	Aperio Group, LLC, Associate Portfolio Manager
2019-2021	AllianceBernstein LP, Middle Office Associate
2016-2019	Morgan Stanley, Derivative Middle Office/Product Controller

Item 3 Disciplinary Information

There is no disciplinary information to report about Jameel Gould

Item 4 Other Business Activities

Jameel Gould is not engaged in any other investment-related or other business activities.

Item 5 Additional Compensation

Jameel Gould receives no additional compensation for providing advisory services.

Item 6 Supervision

Jameel Gould is an Associate Portfolio Manager at Aperio Group, LLC. Jameel Gould provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Jameel Gould should be directed to Lucas Reisdorf, Lead Portfolio Manager, at 415-275-8645.

(Part 2B of Form ADV)

March 14, 2022

Brian Ko

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Brian Ko* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Brian Ko* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Brian Ko

Date of Birth: 04/1985

Educational Background:

Saint Mary's College of California, Moraga, CA: M.S. Financial Analysis, 2014 University of California, Davis, CA: B.S. Managerial Economics, 2007

Business Background:

2017-Present	Aperio Group, LLC, Lead Portfolio Manager
2014-2017	Aperio Group, LLC, Associate Portfolio Manager
2012-2014	Lateef Investment Mgmt, Senior Client Operations Associate
2007-2012	State Street Bank and Trust, Fund Accounting Manager

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Brian Ko.

ITEM 4 OTHER BUSINESS ACTIVITIES

Brian Ko is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Brian Ko receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Brian Ko is a Lead Portfolio Manager at Aperio Group, LLC. Brian Ko provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Brian Ko should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Willie Kwan

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301

www.aperiogroup.com

This brochure supplement provides information about *Willie Kwan* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Willie Kwan* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Willie Kwan

Date of Birth: 07/1980

Educational Background:

Brandeis University, Waltham, MA. B.A., 2002

Business Background:

2020-Present	Aperio Group, LLC, Lead Portfolio Manager
2019-2020	Aperio Group, LLC, Portfolio Manager
2016-2019	Aperio Group, LLC, Associate Portfolio Manager
2014-2016	Independent Investor
2011-2014	Charles Schwab Investment Management, Sr. Mgr Index Management
2006-2011	Thomson Reuters, Manager - Portfolio Analytics Content
2005-2006	Thomson Reuters, Global Data Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Willie Kwan.

ITEM 4 OTHER BUSINESS ACTIVITIES

Willie Kwan is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Willie Kwan receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Willie Kwan is a Lead Portfolio Manager at Aperio Group, LLC. Willie Kwan provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Willie Kwan should be directed to Terence Lau, Manager of Portfolio Rebalancing & Analysis at 415-339-4314.

(Part 2B of Form ADV)

March 14, 2022

Petar Lalovic, CFA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301

www.aperiogroup.com

This brochure supplement provides information about *Petar Lalovic*, *CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Petar Lalovic*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Petar Lalovic, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 07/1984

Educational Background:

London School of Economics and Political Science, London, England: MSc International Political Economy (2009)

Graduate Institute of International and Development Studies, Geneva, Switzerland: M.A., International Relations (2008)

Business Background:

2021-Present	Aperio Group, LLC, Investment Strategist
2020- 2021	Aperio Group, LLC, Portfolio Manager
2018- 2020	Aperio Group, LLC, Associate Portfolio Manager
2015- 2018	MUFG, Senior Financial Analyst
2010- 2014	Swiss Re: Business Development Manager, Assistant VP
2008- 2008	Patrimonium AG, Financial Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Petar Lalovic.

ITEM 4 OTHER BUSINESS ACTIVITIES

Petar Lalovic is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Petar Lalovic receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Petar Lalovic is an Investment Strategist at Aperio Group, LLC. Peter Lalovic provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Petar Lalovic should be directed to Dorian Young, Senior Investment Strategist, at 415-339-4294.

* CFA DESIGNATION

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(Part 2B of Form ADV)

March 14, 2022

Terence Lau

APERIO GROUP, LLC

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This brochure supplement provides information about *Terence Lau* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Terence Lau* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Terence Lau

Date of Birth: 05/1973

Educational Background:

San Francisco State University, San Francisco, CA: B.S. Finance, 1996

Business Background:

2017-Present	Aperio Group, LLC, Senior Portfolio Manager and Manager of Portfolio
	Rebalancing and Analysis
2006-2017	Aperio Group, LLC, Portfolio Manager
2005-2006	Aperio Group, LLC, Portfolio Accountant
2004-2005	Decimal Inc., Operations Specialist
1998-2004	Pen-Cal, Executive Benefits Consultant/Operations Specialist
1996-1998	Wells Fargo, Personal Banker

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Terence Lau.

ITEM 4 OTHER BUSINESS ACTIVITIES

Terence Lau is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Terence Lau receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Terence Lau is a Senior Portfolio Manager and Manager of Portfolio Rebalancing and Analysis at Aperio Group, LLC. Terence Lau manages and trades portfolios according to account guidelines using tightly controlled processes developed by the Firm. Questions regarding the supervision of Terence Lau should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Ran Leshem

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301

www.aperiogroup.com

This brochure supplement provides information about *Ran Leshem* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Ran Leshem* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Ran Leshem

Date of Birth: 12/1974

Educational Background:

University of California, Berkeley: MBA, 2006

University of Waterloo, Ontario, Canada: B.S. Mathematics, 1998

Business Background:

2021-Present	Aperio Group, LLC, Co-Head of Aperio Group
2014-Present	Aperio Group, LLC, Chief Investment Officer
2010-2014	Aperio Group, LLC, Head of Portfolio Management and Operations
2006-2010	Aperio Group, LLC, Portfolio Manager
2004-2006	GAP, Inc., Manager, Operating Strategy
2002-2004	OOCL, Senior Analyst
2001-2002	Woosh!, Product Manager
1999-2001	Price Waterhouse Coopers, Consultant

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Ran Leshem.

ITEM 4 OTHER BUSINESS ACTIVITIES

Ran Leshem is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Ran Leshem receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Ran Leshem is Co-Head and Chief Investment Officer at Aperio Group. Questions regarding the supervision of Ran Leshem should be directed to Liz Michaels, Co-Head of Aperio Group at 415-339-4310.

(Part 2B of Form ADV)

March 14, 2022

Anselm Liu

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Anselm Liu* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Anselm Liu* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Anselm Liu

Date of Birth: 10/1995

Educational Background:

University of California, San Diego, La Jolla, CA: B.S. Management Science 2017

Business Background:

2020-Present Aperio Group, LLC, Associate Portfolio Manager 2017–2020 Optivest, Inc., Investment Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Anselm Liu.

ITEM 4 OTHER BUSINESS ACTIVITIES

Anselm Liu is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Anselm Liu receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Anselm Liu is an Associate Portfolio Manager at Aperio Group, LLC. Anselm Liu provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Anselm Liu should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

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March 14, 2022

Jialing Lu, CFA

APERIO GROUP, LLC

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This brochure supplement provides information about *Jialing Lu, CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Jialing Lu*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Jialing Lu, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 07/1992

Educational Background:

University of Chicago, Chicago, IL: B.A. Economics and Statistics, 2014

Business Background:

2019-Present	Aperio Group, LLC, Portfolio Manager - Portfolio Research
2017-2019	Aperio Group, LLC, Associate Portfolio Manager
2014-2017	Aon Hewitt, Portfolio Management Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Jialing Lu.

ITEM 4 OTHER BUSINESS ACTIVITIES

Jialing Lu is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Jialing Lu receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Jialing Lu is a Portfolio Manager - Portfolio Research at Aperio Group, LLC. She works primarily in Portfolio Research providing quantitative portfolio management and investment strategy research and analysis. Questions regarding the supervision of Jialing Lu should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

* CFA DESIGNATION

The Chartered Financial Analyst (CFA) charter is a globally respected, graduate-level investment credential established in 1962 and awarded by CFA Institute—the largest global association of investment professionals.

There are currently more than 175,000 CFA charterholders working in 165 countries. To earn the CFA charter, candidates must: 1) pass three sequential, six-hour examinations; 2) have at least four years of qualified professional investment experience; 3) join CFA Institute as members; and 4) commit to abide by, and annually reaffirm, their adherence to the CFA Institute Code of Ethics and Standards of Professional Conduct.

High Ethical Standards

The CFA Institute Code of Ethics and Standards of Professional Conduct, enforced through an active professional conduct program, require CFA charterholders to:

- Place their clients' interests ahead of their own
- Maintain independence and objectivity
- Act with integrity
- Maintain and improve their professional competence
- Disclose conflicts of interest and legal matters

Global Recognition

Passing the three CFA exams is a difficult feat that requires extensive study (successful candidates report spending an average of 300 hours of study per level). Earning the CFA charter demonstrates mastery of many of the advanced skills needed for investment analysis and decision making in today's quickly evolving global financial industry. As a result, employers and clients are increasingly seeking CFA charterholders—often making the charter a prerequisite for employment.

Additionally, regulatory bodies in 19 countries recognize the CFA charter as a proxy for meeting certain licensing requirements, and more than 170 colleges and universities around the world have incorporated a majority of the CFA Program curriculum into their own finance courses.

Comprehensive and Current Knowledge

The CFA Program curriculum provides a comprehensive framework of knowledge for investment decision making and is firmly grounded in the knowledge and skills used every day in the investment profession. The three levels of the CFA Program test a proficiency with a wide range of fundamental and advanced investment topics, including ethical and professional standards, fixed-income and equity analysis, alternative and derivative investments, economics, financial reporting standards, portfolio management, and wealth planning.

The CFA Program curriculum is updated every year by experts from around the world to ensure that candidates learn the most relevant and practical new tools, ideas, and investment and wealth management skills to reflect the dynamic and complex nature of the profession.

To learn more about the CFA charter, visit www.cfainstitute.org.

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March 14, 2022

Robert Quimjian, CFA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301

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This brochure supplement provides information about *Robert Quimjian*, *CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Robert Quimjian*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Robert Quimjian, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 06/1987

Educational Background:

Miami University, Miami, OH, B.S. Finance, 2010

Business Background:

2019-Present	Aperio Group, LLC, Portfolio Manager - Portfolio Trading
2018-2019	Aperio Group, LLC, Associate Portfolio Manager
2015-2017	Quist Valuation, Senior Financial Analyst
2012-2015	Quist Valuation, Financial Analyst
2011-2012	Charles Schwab & Co., Inc., Registered Representative

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Robert Quimjian.

ITEM 4 OTHER BUSINESS ACTIVITIES

Robert Quimjian is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Robert Quimjian receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Robert Quimjian is a Portfolio Manager - Portfolio Trading at Aperio Group, LLC. Robert Quimjian provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Robert Quimjian should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

* CFA DESIGNATION

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High Ethical Standards

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- Place their clients' interests ahead of their own
- Maintain independence and objectivity
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- Disclose conflicts of interest and legal matters

Global Recognition

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Additionally, regulatory bodies in 19 countries recognize the CFA charter as a proxy for meeting certain licensing requirements, and more than 170 colleges and universities around the world have incorporated a majority of the CFA Program curriculum into their own finance courses.

Comprehensive and Current Knowledge

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To learn more about the CFA charter, visit www.cfainstitute.org.

(Part 2B of Form ADV)

March 14, 2022

Lucas Reisdorf, CFA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Lucas Reisdorf, CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Lucas Reisdorf, CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Lucas Reisdorf, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 04/1993

Educational Background:

SUNY Brockport, Brockport, NY, B.S. Mathematics, 2015

Business Background:

2021-Present	Aperio Group, LLC, Lead Portfolio Manager
2020-2021	Aperio Group, LLC, Portfolio Manager
2018-2019	Aperio Group, LLC, Associate Portfolio Manager
2015-2018	Aperio Group, LLC, Investment Operations Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Lucas Reisdorf.

ITEM 4 OTHER BUSINESS ACTIVITIES

Lucas Reisdorf is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Lucas Reisdorf receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Lucas Reisdorf is a Portfolio Manager at Aperio Group, LLC. Lucas Reisdorf provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Lucas Reisdorf should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

* CFA DESIGNATION

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High Ethical Standards

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- Disclose conflicts of interest and legal matters

Global Recognition

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Comprehensive and Current Knowledge

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(Part 2B of Form ADV)

March 14, 2022

Benjamin Schneider, CFA

APERIO GROUP, LLC

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This brochure supplement provides information about *Benjamin Schneider*, *CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Benjamin Schneider*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Benjamin Schneider, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 12/1984

Educational Background:

University of California, Berkeley Master of Financial Engineering, 2011

University of Southern California Master of Accounting, 2007 University of Southern California B.S., Business Administration

Business Background:

2017-Present Aperio Group, LLC, Senior Investment Strategist

2014-2017 Blackrock, Investment Strategist 2011-2014 Blackrock, Portfolio Manager

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Benjamin Schneider.

ITEM 4 OTHER BUSINESS ACTIVITIES

Benjamin Schneider is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Benjamin Schneider receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Benjamin Schneider is a Senior Investment Strategist at Aperio Group, LLC. Benjamin Schneider provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Benjamin Schneider should be directed to Ran Leshem, Chief Investment Officer and Co-Head of Aperio Group, LLC at 415-339-4317.

* CFA DESIGNATION

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Comprehensive and Current Knowledge

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To learn more about the CFA charter, visit www.cfainstitute.org.

(Part 2B of Form ADV)

March 14, 2022

Harrison Selwitz

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Harrison Selwitz* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Harrison Selwitz* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Harrison Selwitz

Date of Birth: 12/1989

Educational Background:

Tulane University, A.B. Freeman School of Business, BSM Finance

2012 Business Background:

2021 - Present	Quantitative Research Analyst
2020-2021	Aperio Group, LLC, Lead Portfolio Manager
2019 2020	Aperio Group, LLC, Portfolio Manager
2016- 2018	Aperio Group, LLC, Associate Portfolio Manager
2013- 2016	Citco Fund Services, Senior Middle Office Associate
2012- 2013	Epic Systems, Financial Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Harrison Selwitz.

ITEM 4 OTHER BUSINESS ACTIVITIES

Harrison Selwitz is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Harrison Selwitz receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Harrison Selwitz is a Lead Portfolio Manager at Aperio Group, LLC. Harrison Selwitz provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Harrison Selwitz should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Michelle Shkedi

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Michelle Shkedi* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Michelle Shkedi* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Michelle Shkedi

Date of Birth: 09/1989

Educational Background:

Wellesley College, Wellesley, MA, BA 2012

Business Background:

2020-Present	Aperio Group, LLC, Lead Portfolio Manager - Research, Process & Systems
2019-2020	Aperio Group, LLC, Portfolio Manager - Portfolio Investment Research
2018-2019	Aperio Group, LLC, Associate Portfolio Manager - Portfolio Management Research
2016-2018	Alternative Investment Group, Associate Portfolio Manager

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Michelle Shkedi.

ITEM 4 OTHER BUSINESS ACTIVITIES

Michelle Shkedi is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Michelle Shkedi receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Michelle Shkedi is a Lead Portfolio Manager - Research, Process & Systems at Aperio Group, LLC. Michelle Shkedi works primarily in Portfolio Research providing quantitative portfolio management and investment strategy research as well as developing investment processes for the Portfolio Management team. Questions regarding the supervision of Michelle Skhedi should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Christine Sinicrope, CFA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Christine Sinicrope*, *CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Christine Sinicrope*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Christine Sinicrope, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 09/1992

Educational Background:

University of Miami, Miami, FL, BA 2015

Business Background:

2021-Present	Aperio Group, LLC, Associate Portfolio Manager
2017-2021	Edward Jones, Investment Manager Research Analyst
2015-2017	Raymond James & Associates, Mutual Fund Research Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Christine Sinicrope.

ITEM 4 OTHER BUSINESS ACTIVITIES

Christine Sinicrope is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Christine Sinicrope receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Christine Sinicrope is Associate Portfolio Manager at Aperio Group, LLC. Christine Sinicrope provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Christine Sinicrope should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

* CFA DESIGNATION

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Global Recognition

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(Part 2B of Form ADV)

March 14, 2022

Eric Su

APERIO GROUP, LLC

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This brochure supplement provides information about *Eric Su* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Eric Su* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Eric Su

Date of Birth: 04/1995

Educational Background:

Villanova University, Philadelphia, PA: BBA, Finance, 2017

Business Background:

2019-Present Aperio Group, LLC, Associate Portfolio Manager

2019-2019 Vanguard, Fund Financial Analyst Vanguard, Fund Financial Associate

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Eric Su.

ITEM 4 OTHER BUSINESS ACTIVITIES

Eric Su is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Eric Su receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Eric Su is an Associate Portfolio Manager at Aperio Group, LLC. Eric Su provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Eric Su should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Annie Tan

APERIO GROUP, LLC

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This brochure supplement provides information about *Annie Tan* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance t (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Annie Tan* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Annie Tan

Date of Birth: 01/1988

Educational Background:

University of San Francisco, San Francisco, CA: M.S. Financial Analysis, 2012 University of California, Davis, Davis, CA: B.A. Economics, 2010

Business Background:

2018-Present	Aperio Group, LLC, Manager of ESG Implementation
2017-2018	Aperio Group, LLC, Portfolio Manager and ESG/SRI Lead
2013-2017	Aperio Group, LLC, Associate Portfolio Manager
2012-2013	Dragon Financial Group, Investment Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Annie Tan.

ITEM 4 OTHER BUSINESS ACTIVITIES

Annie Tan is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Annie Tan receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Annie Tan is a Portfolio Manager and Manager of ESG Implementation at Aperio Group, LLC. Annie Tan provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Annie Tan should be directed to Robert Tymoczko, Director of Portfolio Management, at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Bill Tantalla, CIPM

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Bill Tantalla*, *CIPM* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Bill Tantalla*, *CIPM* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Bill Tantalla, CIPM*

Please see below for a detailed description of the CIPM designation

Date of Birth: 06/1989

Educational Background:

Temple University, Philadelphia, PA, BA 2014

Business Background:

2021-Present	Aperio Group, LLC, Associate Portfolio Manager
2018-2021	Miller Investment Management, Assistant Portfolio Manager
2018-2015	Logan Capital Management, Associate

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Bill Tantalla.

ITEM 4 OTHER BUSINESS ACTIVITIES

Bill Tantalla is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Bill Tantalla receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Bill Tantalla is an Associate Portfolio Manager at Aperio Group, LLC. Bill Tantalla provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Bill Tantalla should be directed to Lucas Reisdorf, Lead Portfolio Management at 415-275-8645.

* CIPM DESIGNATION

The Certificate in Investment Performance Measurement (CIPM®) is an internationally recognized accreditation offered by the CFA Institute. The purpose of the CIPM is to train professionals to accurately calculate and communicate investment performance figures.

The CIPM Program leverages the expertise of CFA Institute, the respected global leader in investment education, ethics, and standards, to deliver practice-based approaches and develop skills for effective investment performance evaluation and manager selection. The Certificate in Investment Performance Measurement (CIPM®) Program leverages the global expertise of CFA Institute, the respected global leader in investment education, ethics, and standards, to deliver practice-based approaches and develop skills for effective investment performance evaluation, manager selection, and investment reports steeped in accountability.

High Ethical Standards

The CFA Institute Code of Ethics and Standards of Professional Conduct, enforced through an active professional conduct program, require CIPM certificate holders to:

- Place their clients' interests ahead of their own
- Maintain independence and objectivity
- Act with integrity
- Maintain and improve their professional competence
- Disclose conflicts of interest and legal matters

Qualifications

To obtain the CIPM designation, candidates must have at least two years of professional experience in roles specifically related to calculating and reporting investment performance figures. Candidates can also meet this requirement by demonstrating four years of experience in a broader set of roles within the financial industry.

Once accepted into the program, successful candidates must complete two examinations. All candidates must agree to abide by the CIPM Code of Ethics and Standards of Professional Conduct, while also maintaining ongoing education requirements after obtaining the CIPM. Historically, about 50% of candidates pass the exam, with successful candidates often enjoying enhanced employment prospects within the financial sector.

To learn more about the CIPM designation, visit www.cfainstitute.org.

(Part 2B of Form ADV)

March 14, 2022

Robert Tymoczko

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Robert Tymoczko* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Robert Tymoczko* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Robert Tymoczko

Date of Birth: 02/1970

Educational Background:

University of Chicago, Graduate School of Business, MBA, 1997 Stanford University: B.A. Quantitative Economics, 1992

Business Background:

2012-Present	Aperio Group, LLC, Director of Portfolio Management
2002-2011	AlphaStream Capital Management, LLC, Managing Partner
1997-2002	Zurich Scudder Investments, Senior Vice President
1992-1995	Law & Economics Consulting Group, Research Associate

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Robert Tymoczko.

ITEM 4 OTHER BUSINESS ACTIVITIES

Robert Tymoczko is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Robert Tymoczko receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Robert Tymoczko is Director of Portfolio Management. Questions regarding the supervision of Robert Tymoczko should be directed to Ran Leshem, Chief Investment Officer and Co-Head of Aperio Group, LLC at 415-339-4317.

(Part 2B of Form ADV)

March 14, 2022

Simge Ulucam

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Simge Ulucam* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Simge Ulucam* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Simge Ulucam

Date of Birth: 08/1978

Educational Background:

University of California, Berkeley, Master of Financial Engineering Yildiz Technical University, BSc in Mathematical Engineering

Business Background:

2019-Present Aperio Group, LLC, Quantitative Researcher

2016-2019 Aperio Group, LLC, Portfolio Manager - Research Lead

2014-2016 Aperio Group, LLC, Lead Performance Analyst

2014-2014 Aperio Group, LLC, Performance Analyst

2012-2014 Aperio Group, LLC, Portfolio Accountant

2004-2012 Mathematica Capital Management, LLC, Sr. Quantitative Analyst / Portfolio Manager

2002-2003 Citibank NA, Client Representative

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Singe Ulucam.

ITEM 4 OTHER BUSINESS ACTIVITIES

Simge Ulucam is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Simge Ulucam receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Simge Ulucam is a Quantitative Researcher at Aperio Group, LLC. She works primarily in Research assessing current investment strategies; developing new tax-efficient, factor, and ESG offerings; and creating brand-enhancing academic articles. Questions regarding the supervision of Simge Ulucam should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Julie VanDervort

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Julie VanDervort* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Julie VanDervort* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Julie VanDervort

Date of Birth: 03/26/1984

Educational Background:

Monmouth University, West Long Branch, NJ, BA 2006 Loyola Marymount University, Los Angeles, CA MBA 2012

Business Background:

2021-Present Aperio Group, LLC, Associate Portfolio Manager 2018 – 2021 Fisher Investments, Portfolio Evaluation Analyst 2014-2018 LPL Financial, Overlay Portfolio Analyst

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Julie VanDervort.

ITEM 4 OTHER BUSINESS ACTIVITIES

Julie VanDervort is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Julie VanDervort receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Julie VanDervort is an Associate Portfolio Manager at Aperio Group, LLC. Julie VanDervort provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Julie VanDervort should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

(Part 2B of Form ADV)

March 14, 2022

Chris Vinyard, CFA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301

www.aperiogroup.com

This brochure supplement provides information about *Chris Vinyard*, *CFA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please

contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Chris Vinyard*, *CFA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Chris Vinyard, CFA*

Please see below for a detailed description of the CFA designation

Date of Birth: 08/1981

Educational Background:

School: San Francisco State University, San Francisco, CA: BS, Financial Services/ Corporate Finance 2005

Business Background:

2019-Present	Aperio Group, LLC, Associate Portfolio Manager
2015-2019	FactSet, Senior ETF Analyst/Product Development Analyst, ETFs
2013-2015	ETF.com, Junior ETF Specialist
2006-2011	Lockheed Martin Corp., Associate Cost Proposal Analyst
2005-2006	Washington Mutual Corporate, Pricing Coordinator

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Chris Vinyard.

ITEM 4 OTHER BUSINESS ACTIVITIES

Chris Vinyard is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Chris Vinyard receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Chris Vinyard is an Associate Portfolio Manager at Aperio Group, LLC. Chris Vinyard provides portfolio management, trading and analytical support for client portfolios. Questions regarding the supervision of Chris Vinyard should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

* CFA DESIGNATION

The Chartered Financial Analyst (CFA) charter is a globally respected, graduate-level investment credential established in 1962 and awarded by CFA Institute—the largest global association of investment professionals.

There are currently more than 175,000 CFA charterholders working in 165 countries. To earn the CFA charter, candidates must: 1) pass three sequential, six-hour examinations; 2) have at least four years of qualified professional investment experience; 3) join CFA Institute as members; and 4) commit to abide by, and annually reaffirm, their adherence to the CFA Institute Code of Ethics and Standards of Professional Conduct.

High Ethical Standards

The CFA Institute Code of Ethics and Standards of Professional Conduct, enforced through an active professional conduct program, require CFA charterholders to:

- Place their clients' interests ahead of their own
- Maintain independence and objectivity
- Act with integrity
- Maintain and improve their professional competence
- Disclose conflicts of interest and legal matters

Global Recognition

Passing the three CFA exams is a difficult feat that requires extensive study (successful candidates report spending an average of 300 hours of study per level). Earning the CFA charter demonstrates mastery of many of the advanced skills needed for investment analysis and decision making in today's quickly evolving global financial industry. As a result, employers and clients are increasingly seeking CFA charterholders—often making the charter a prerequisite for employment.

Additionally, regulatory bodies in 19 countries recognize the CFA charter as a proxy for meeting certain licensing requirements, and more than 170 colleges and universities around the world have incorporated a majority of the CFA Program curriculum into their own finance courses.

Comprehensive and Current Knowledge

The CFA Program curriculum provides a comprehensive framework of knowledge for investment decision making and is firmly grounded in the knowledge and skills used every day in the investment profession. The three levels of the CFA Program test a proficiency with a wide range of fundamental and advanced investment topics, including ethical and professional standards, fixed-income and equity analysis, alternative and derivative investments, economics, financial reporting standards, portfolio management, and wealth planning.

The CFA Program curriculum is updated every year by experts from around the world to ensure that candidates learn the most relevant and practical new tools, ideas, and investment and wealth management skills to reflect the dynamic and complex nature of the profession.

To learn more about the CFA charter, visit www.cfainstitute.org.

(Part 2B of Form ADV)

March 14, 2022

Dorian Young, CFA, CAIA

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301

www.aperiogroup.com

This brochure supplement provides information about *Dorian Young*, *CFA*, *CAIA* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Dorian Young, CFA, CAIA* is available on the SEC's website at www.adviserinfo.sec.gov.

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Dorian Young, CFA, CAIA*

Please see below for a detailed description of the CFA and CAIA designations

Date of Birth: 05/1964

Educational Background:

University of Chicago, Booth School of Business, Chicago, IL: MBA, 1992 Harvard University, Cambridge, MA: AB Applied Mathematics, 1986

Business Background:

2015-Present	Aperio Group, LLC, Senior Investment Strategist
2013-2015	Milliman, Senior Investment Consultant
2009-2013	Portfolio DNA, Independent Investment Strategist & Consultant
1995-2009	RCM Capital Management, Head of Quantitative Analytics & Risk Strategy
1992-1994	Vestek Systems, Project Manager – Backtesting/Simulating Research Consulting
1988-1991	A.T. Kearney, Management Consultant – Logistics & Transportation
1986-1988	United Parcel Service, Supervisor – Operations Research Group

NASAA Series 65 (Uniform Investment Adviser Law Exam), 8/2014, not current.

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Dorian Young.

ITEM 4 OTHER BUSINESS ACTIVITIES

Dorian Young is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Dorian Young receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Dorian Young is a Senior Investment Strategist at Aperio Group, LLC. Questions regarding the supervision of Dorian Young should be directed to Ran Leshem, Chief Investment Officer and Co-Head of Aperio Group, LLC at 415-339-4317.

* CFA DESIGNATION

The Chartered Financial Analyst (CFA) charter is a globally respected, graduate-level investment credential established in 1962 and awarded by CFA Institute—the largest global association of investment professionals.

There are currently more than 175,000 CFA charterholders working in 165 countries. To earn the CFA charter, candidates must: 1) pass three sequential, six-hour examinations; 2) have at least four years of qualified professional investment experience; 3) join CFA Institute as members; and 4) commit to abide by, and annually reaffirm, their adherence to the CFA Institute Code of Ethics and Standards of Professional Conduct.

High Ethical Standards

The CFA Institute Code of Ethics and Standards of Professional Conduct, enforced through an active professional conduct program, require CFA charterholders to:

- Place their clients' interests ahead of their own
- Maintain independence and objectivity
- Act with integrity
- Maintain and improve their professional competence
- Disclose conflicts of interest and legal matters

Global Recognition

Passing the three CFA exams is a difficult feat that requires extensive study (successful candidates report spending an average of 300 hours of study per level). Earning the CFA charter demonstrates mastery of many of the advanced skills needed for investment analysis and decision making in today's quickly evolving global financial industry. As a result, employers and clients are increasingly seeking CFA charterholders—often making the charter a prerequisite for employment.

Additionally, regulatory bodies in 19 countries recognize the CFA charter as a proxy for meeting certain licensing requirements, and more than 170 colleges and universities around the world have incorporated a majority of the CFA Program curriculum into their own finance courses.

Comprehensive and Current Knowledge

The CFA Program curriculum provides a comprehensive framework of knowledge for investment decision making and is firmly grounded in the knowledge and skills used every day in the investment profession. The three levels of the CFA Program test a proficiency with a wide range of fundamental and advanced investment topics, including ethical and professional standards, fixed-income and equity analysis, alternative and derivative investments, economics, financial reporting standards, portfolio management, and wealth planning.

The CFA Program curriculum is updated every year by experts from around the world to ensure that candidates learn the most relevant and practical new tools, ideas, and investment and wealth management skills to reflect the dynamic and complex nature of the profession.

To learn more about the CFA charter, visit www.cfainstitute.org.

* CAIA DESIGNATION

The Chartered Alternative Investment Analyst (CFA) Charter is the globally recognized credential for professionals managing, analyzing, distributing, or regulating alternative investments. The CAIA Charter designation is the highest standard of achievement in alternative investment education and provides deep knowledge, demonstrated expertise, and global credibility in alternatives.

Established in 2002, the CAIA Charter is a comprehensive program comprised of a two-tier exam process through which you may become a CAIA Charter Holder. The Level I exam assesses your understanding of various alternative asset classes and your knowledge of the tools and techniques used to evaluate the risk-return attributes of each one. The Level II exam assesses how you would apply the knowledge and analytics learned in Level I within a portfolio management context. Both levels include segments on ethics and professional conduct.

The CAIA Charter provides a framework for evaluating expertise in alternative investments. Global banks, leading asset management firms, consultants, hedge funds, professional service firms, as well as regulators recognize that CAIA Charter Program provides the education that is essential to success in alternative investments.

Once candidates have passed the Level II exam and met membership requirements, they are eligible to join the CAIA Association, which includes over 10,000 members in more than 80 countries.

BROCHURE SUPPLEMENT

(Part 2B of Form ADV)

March 14, 2022

Chris Zweigle

APERIO GROUP, LLC

Three Harbor Drive, Suite 204 Sausalito, CA 94965 Phone: (415) 339-4300 Fax: (415) 339-4301 www.aperiogroup.com

This brochure supplement provides information about *Chris Zweigle* that supplements the Aperio Group, LLC's brochure. You should have received a copy of that brochure. Please contact our Head of Compliance at (415) 339-4300 if you did not receive a copy of the brochure or if you have any questions about the contents of this supplement. Thank you.

Additional information about *Chris Zweigle* is available on the SEC's website at www.adviserinfo.sec.gov.

ITEM 1 COVER PAGE

Please see previous page.

ITEM 2 EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE

Chris Zweigle

Date of Birth: 05/02/1985

Educational Background:

University of Washington, Seattle, WA, BA 2007 Seattle University, Seattle, WA, MBA 2016

Business Background:

2020-present	Aperio Group, LLC, Portfolio Trader
2017-2020	Russell Investments, Securities Trading Analyst
2016-2017	Data Analyst, Fovea Services, LLC
2013-2015	Commissions Accountant, Windermere Real Estate

ITEM 3 DISCIPLINARY INFORMATION

There is no disciplinary information to report about Chris Zweigle

ITEM 4 OTHER BUSINESS ACTIVITIES

Chris Zweigle is not engaged in any other investment-related or other business activities.

ITEM 5 ADDITIONAL COMPENSATION

Chris Zweigle receives no additional compensation for providing advisory services.

ITEM 6 SUPERVISION

Chris Zweigle is a Portfolio Trader at Aperio Group, LLC. Chris Zweigle provides portfolio management, trading, and analytical support for client portfolios. Questions regarding the supervision of Chris Zweigle should be directed to Robert Tymoczko, Director of Portfolio Management at 415-339-4587.

FACTS

WHAT DOES APERIO GROUP, LLC DO WITH YOUR PERSONAL INFORMATION?

Why?

Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.

What?

The types of personal information we collect and share depend on the product or service you have with us. This information can include:

- Social Security number and income
- Assets and account balances
- Investment experience and risk tolerance
- Tax planning information
- Information about your beneficiaries

When you are *no longer* our customer, we continue to share your information as described in this notice.

How?

All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Aperio Group, LLC chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	Does Aperio Group share?	Can you limit this sharing?
For our everyday business purposes—		
such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes— to offer our products and services to you	Yes	No
For joint marketing with other financial companies	No	We do not share
For our affiliates' everyday business purposes— information about your transactions and experiences	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness	No	We do not share
For our affiliates to market to you	No	We do not share
For nonaffiliates to market to you	No	We do not share

Questions?

Go to www.aperiogroup.com

Who we are				
Who is providing this notice?	Aperio Group, LLC ("Aperio"), which is an indirect wholly-owned subsidiary of BlackRock, Inc.			
What we do				
How does Aperio protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings.			
How does Aperio collect my personal information?	 We collect your personal information, for example, when you Open an account or enter into an investment advisory contract Give us your income information or provide employment information Tell us about your investment portfolio or give us your contact information We also collect your personal information from other companies. 			
Why can't I limit all sharing?	 Federal law gives you the right to limit only sharing for affiliates' everyday business purposes—information about your creditworthiness affiliates from using your information to market to you sharing for nonaffiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See below for more on your rights under certain state law. 			

Definitions		
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies.	
	 BlackRock Investment Management, LLC and other companies with the BlackRock name are affiliates of Aperio Group. 	
Nonaffiliates	Companies not related by common ownership or control. They can be financial and nonfinancial companies.	
	Aperio Group doesn't share with non-affiliates so they can market to you.	
Joint marketing	A formal agreement between nonaffiliated financial companies that together market financial products or services to you.	
	Aperio Group doesn't jointly market.	

Other important information

<u>Vermont residents</u>: We will not share information we collect about you with nonaffiliated third parties, except as permitted by law, including, for example, with your consent or to service your account.

<u>California residents</u>: In accordance with California law, we will not share information we collect about you with nonaffiliates, unless the law permits it. For example, we may share information with your consent or to service your account. We will limit sharing among our affiliated companies to the extent required by California law.

<u>Nevada residents</u>: Nevada law requires us to disclose that you may request to be placed on our "do not call" list at any time by calling 415-339-4300. To obtain further information, contact the Bureau of Consumer Protection, Office of the Nevada Attorney General at 555 E. Washington Ave., Suite 3900, Las Vegas, NV 89101; phone 1-702-486-3132; or email <u>BCPINFO@ag.state.nv.us</u>.



BlackRock Client and Vendor Privacy Notice

BlackRock is committed to processing personal information in line with all applicable privacy and data protection laws. For more information on the collection, use and disclosure of personal information by BlackRock including Aperio, please see the BlackRock Client and Vendor Privacy Notice which is available at:

https://www.blackrock.com/corporate/compliance/privacy-policy



Aperio Group, LLC, Proxy Voting Policy

1.1 Background

Rule 206(4)-6 under the Investment Advisers Act of 1940 (the "Rule") requires every investment advisor who exercises voting authority with respect to client securities to adopt and implement written policies and procedures reasonably designed to ensure that an advisor votes proxies in the best interest of its clients. The procedures must address material conflicts that may arise in connection with proxy voting. The Rule further requires an advisor to provide a concise summary of the advisor's proxy voting process and offer to provide copies of the complete proxy voting policy and procedures to clients upon request. Lastly, the Rule requires that the advisor disclose to clients how they may obtain information on how the advisor voted their proxies.

Aperio (the "Advisor") has written agreements with its Clients that generally grant us authority to vote all proxies on behalf of the Client accounts it advises. In exercising voting authority, Aperio has adopted the principles of BlackRock's proxy voting policy in the BlackRock Compliance Manual and, as a general matter, BlackRock's Global Corporate Governance and Engagement Principles. Aperio will vote proxies for Clients in each Client's best interest, following the proxy guideline profile the Client selects.

Clients who delegate proxy voting authority to Aperio are able to select from either Aperio's Proxy Voting Guidelines (the "Proxy Guidelines") implemented by a third-party proxy service provider, Broadridge Financial Solutions ("Broadridge") or select established proxy voting guidelines with Institutional Shareholder Services ("ISS"), another third-party proxy service provider with whom Aperio has contracted.

Aperio, in its Form ADV, discloses general information about these policies and procedures and how Clients may obtain information on how the Advisor voted their proxies, when applicable. At any time, a Client may contact Aperio to request information about how and whether it voted proxies for their securities.

1.2 Proxy Voting Committee

Aperio's Proxy Voting Policy is evaluated and maintained by the Aperio Proxy Voting Committee, which oversees proxy voting activities for Clients who have delegated such authority to Aperio. The Proxy Voting Committee maintains this proxy voting policy,



monitors for potential conflicts of interest, and monitors our third-party proxy service providers. The Proxy Voting Committee must approve any changes to the Proxy Guidelines or selection of other third-party proxy service providers.

Aperio instructs Client custodians to deliver proxy materials for accounts for which we have voting authority to our third-party proxy service providers. All proxies and ballots are logged electronically using our third-party voting services and voted according to our Proxy Guidelines with Broadridge or according to a Client-selected, values-aligned proxy guideline profile with ISS. The voting agents provide the reporting capability to verify that all proxies have been voted and are able to produce reports necessary to document that all proxies have been voted and how they were voted.

Unless the power to vote proxies for a Client is reserved to that Client (or in the case of an employee benefit plan, the plan's trustee or other fiduciaries), the Proxy Voting Committee will designate an Aperio employee to coordinate with our third-party proxy service providers to ensure voting of all proxies in line with each account's proxy guideline profile.

Periodically, the Proxy Voting Committee, through a designated person, will ensure that a review is conducted to:

- Verify that all required proxies for the securities held in Clients' accounts managed by Aperio have been received and voted in a manner consistent with the Proxy Voting Policy or Client-selected ISS proxy guideline profile;
- Review the electronic files available from the voting agent to verify that records of the voting of the proxies have been properly maintained;
- Periodically reconcile holdings and ballots, with reports presented to the Proxy Voting Committee, to reveal any failure to deliver ballots for Client holdings; and
- Periodically perform a due diligence review of the third-party service providers to help ensure that all potential and actual material conflicts have been disclosed to Aperio.

1.3 Proxy voting procedures for non-values-aligned proxy services

Aperio has retained Broadridge to assist in coordinating and voting Client proxies for non-values-aligned Client accounts. Members of the Proxy Voting Committee have collaboratively established the Aperio Proxy Voting Guidelines for these accounts. The Proxy Guidelines are reviewed at least annually but also as new issues arise or circumstances change.



Absent special circumstances, Aperio will exercise its proxy voting discretion in accordance with the Proxy Guidelines, which apply both to all portfolios that have selected non-values-aligned proxy guidelines and to the voting of domestic and global proxies. It is intended that the Proxy Guidelines will be applied with a measure of flexibility. Accordingly, except as otherwise provided in these policies and procedures, Aperio may vote a proxy contrary to the Proxy Voting Guidelines, if it is determined that such action is in the best interests of the Client.

1.4 Procedures for values-aligned proxy services

For Client accounts with values-aligned strategies (or those Client accounts where the Client has selected values-aligned proxy voting guidelines), including ESG (environmental, social, and governance) and SRI (socially responsible investing), proxies are voted using Client-selected specific SRI proxy voting criteria through established ISS proxy guideline profiles. Clients may select their proxy voting profile from the available proxy guideline profiles. Proxies voted through ISS may differ from proxy votes cast for other Client portfolios Aperio manages. Clients may pay additional fees for SRI proxy voting.

1.5 Shareholder proposals

Aperio makes available to its Clients a service facilitating the submission of shareholder proposals through independent third-party representatives. It is generally expected that, if our Clients sponsor shareholder proposals that are the subject of a proxy vote, such proposals will be voted consistently with the principles set forth in this proxy voting policy, including the conflict-of-interest provisions.

1.6 Conflicts of interest

Potential or actual conflicts of interest may arise in proxy voting due to business or personal relationships Aperio or BlackRock maintains with persons having an interest in the outcomes of certain votes. This can include Aperio, BlackRock and/or its affiliates, Aperio or BlackRock employees, or any service providers or their employees. For example, Aperio or its Supervised Persons¹ may have a business or personal relationship with other proponents of proxy proposals, participants in proxy contests, corporate directors, or candidates for directorships. If at any time, Aperio and/or a third-party service provider become aware of any type of potential or actual conflict of interest relating to a particular

¹ Supervised Persons includes any partner, officer, director (or other person occupying a similar status or performing similar functions), or employee of Aperio, or other person who provides investment advice on behalf of Aperio and is subject to the supervision and control of Aperio.



proxy proposal, they will promptly report such conflict to the Proxy Voting Committee and Chief Compliance Officer or Head of Compliance. Conflicts of interest will be handled in various ways depending on their type and materiality.

Aperio's general policy is to vote proxies presenting potential material conflicts as it would vote any other proxy, in a manner consistent with the relevant Proxy Guidelines and the proposal-specific criteria set forth therein and retained by the third-party proxy services. The Proxy Voting Committee will regularly review all voting of proxies identified as presenting potential material conflicts to ensure adherence to this standard and evaluate any other recommended procedures to address any conflicts of interest. Deviations from the guidelines will be documented by the Proxy Voting Committee or its designee.

Where a proxy proposal raises a material conflict between the Advisor's interests and a Client's interest, including a mutual fund Client, the Advisor will resolve such a conflict in the manner described below:

- Where the Proxy Voting Guidelines outline Aperio's voting position, as either "for" or "against" such proxy proposal, voting will generally be in accordance with the Proxy Guidelines.
- Where the Proxy Guidelines outline Aperio's voting position to be determined on a
 "case by case" basis for such proxy proposal, or such proposal is not listed in the
 Proxy Guidelines, then one of the following methods will be selected, depending
 upon the facts and circumstances of each situation:
 - Voting the proxy pursuant to Client direction to the extent that the Advisor has discretion to deviate from the Proxy Guidelines with respect to the proposal in question, the Advisor will disclose the conflict to the relevant Clients and obtain their consent to the proposed vote prior to voting the securities. The disclosure to the Client will include sufficient detail regarding the matter to be voted on and the nature of the conflict so that the Client will be able to make an informed decision regarding the vote. If a Client does not respond to such a conflict disclosure request or denies the request, the Advisor will abstain from voting the securities held in that Client's account;
 - The disclosure will include sufficient detail regarding the matter to be voted on and the nature of the conflict so that the client will be able to make an informed decision regarding the vote. If the Client does not respond to such a conflict disclosure request or denies the request, Aperio will abstain from voting the securities held by that account; or
 - A Client may, in writing, request Aperio to forward proxies for which Aperio has a material conflict of interests to an identified, independent third party for review



and recommendation. If Aperio receives such independent party's recommendation on a timely basis, it will vote the proxies accordingly. If the third party's recommendations are not received on a timely basis, Aperio will abstain from voting the securities held in that Client account.

Where BlackRock or a BlackRock affiliate is the subject of a shareholder proxy, it is anticipated that voting will generally be in accordance with the Proxy Guidelines. However, the Proxy Voting Committee will be informed of each situation where this situation arises. For any proxies that require manual review and voting, the Proxy Voting Committee will liaise with appropriate BlackRock personnel for guidance on how to address a conflict of interest involving BlackRock or a BlackRock affiliate, including, as a preferred option, hiring an independent third party for review and recommendation on how to vote the proxies. If Aperio receives such independent party's recommendation on a timely basis, it will vote the proxies accordingly. If the third party's recommendation is not received on a timely basis, Aperio will abstain from voting the BlackRock or BlackRock affiliate securities held in that Client account.

1.7 Considerations in not voting certain client proxies

These procedures are designed reasonably to ensure that Aperio votes every eligible share. In certain circumstances, however, Aperio may be unable to vote or may determine not to vote a proxy on behalf of one or more Clients. These circumstances may include, but are not limited to:

- Where a Client has informed Aperio that it wishes to retain the right to vote a proxy,
 Aperio will instruct the custodian to send the proxy material directly to the Client;
- Where Aperio deems the cost of voting would exceed any anticipated Client benefit;
- Where a proxy is received for a Client account that has been terminated; or
- Where a proxy is received for a security Aperio no longer manages (i.e., Aperio previously sold the entire position).

1.8 General voting policy for ERISA accounts

When voting proxies for ERISA Clients, Aperio will vote proxies for those accounts in accordance with the procedures outlined herein. Aperio will act in a prudent and diligent manner intended to enhance the economic value of the assets in the ERISA Client's account. Voting decisions for ERISA accounts must be based on the ultimate economic interest of the plan, viewing the plan as a separate legal entity designed to provide retirement income and security. This means analyzing the vote for its impact on the



ultimate economic value of the investment during the period in which the plan intends to hold the investment. With respect to takeovers, plans are not required to accept the deal if they judge that their plans will achieve a higher economic value by holding the shares.

Given the above obligations and objectives, Aperio has established guidelines with our voting agent that reflect our views of proxy voting decisions that will most likely maximize the ultimate value of assets under management. Specific situations and resolution language will vary, and therefore, continuing judgment must be exercised in applying the guidelines.

1.9 Maintaining records

Broadridge and/or ISS (or any other third-party service provider Aperio selects will retain a record of every proxy statement they receive for which Aperio/they have the authority to vote. Aperio will periodically archive proxy data from both proxy service providers into its books and records. Either Aperio and/or the third-party service providers will also retain: 1) a record of the matter(s) to which the proxy statement related, including either the proxy statement itself or the EDGAR reference; 2) whether they voted "yes," "no," "abstained," or "did not respond"; 3) a copy of any document they may have created that was material to making a decision how to vote proxies on behalf of a Client or that memorializes the basis for that decision; 4) a copy of each written Client request for information on how Aperio or a third-party service provider voted proxies on behalf of the Client; and 5) a copy of any written response by Aperio to any (written or oral) Client request for information on how Aperio voted proxies on behalf of the request for information on how

All books and records required to be made and described above generally will be maintained and preserved in an easily accessible place for a period of not less than six years from the end of the fiscal year during which the last entry was made on such record, the first two years in an appropriate Aperio office or with Broadridge, ISS, or other appropriate third party.

1.10 Registered investment company client records

Aperio will coordinate with all Clients registered as investment companies under the Investment Company Act of 1940 to provide information required to be filed by such funds on Form N-PX. Form N-PX will provide information concerning each matter relating to a portfolio security considered at any shareholder meeting with respect to which a mutual fund was entitled to vote. Forms N-PX are filed no later than August 31 of each year and cover all proxy votes with respect to which a mutual fund was entitled to vote for the period July 1 through June 30. Aperio will maintain and provide the following information



concerning any shareholder meetings with respect to which a mutual fund it manages was entitled to vote:

- Issuer name, CUSIP, and ticker for the portfolio security;
- Shareholder meeting date and description of the matter voted;
- Whether the issuer or a shareholder put forth the matter that is the subject of the proxy;
- Whether and how the mutual fund voted; and
- Whether the mutual fund voted for or against management.