

BOARD RESPONSE TO WRITTEN REQUESTS FOR CLARIFICATION

RELATING TO:

INVITATION TO NEGOTIATE
FOR

Liability Driven Investment Management Services

#20-01

January 28, 2020

Florida Prepaid College Board
1801 Hermitage Blvd., Suite 210
Tallahassee, Florida 32308
(850) 488-8514

Summary Information

The Stanley G. Tate Florida Prepaid College Program has a Liability Segment and an Actuarial Reserve Segment. The Liability Segment represents the Program's total liability obligations (including benefits, cancellation refunds and other expenses) less the present value of projected future premium contributions as calculated by the Actuary. Program funds in excess of the Liability Segment are considered the Actuarial Reserve Segment.

This ITN is for investment management services for funds in the Liability Segment only. Funds in the Actuarial Reserve Segment are outside of the scope of this ITN.

Funds in the Liability Segment are invested in Liability Driven Investment (LDI) fixed income investment portfolios that align participant payments and future investment returns with Program liabilities as projected by the Board's Actuary. Investment managers attempt to add value to the portfolio relative to the liabilities through modest duration and yield management and through active sector and security selection. Investment managers have investment discretion as to security selection subject to the guidelines and limitations expressed in the Comprehensive Investment Plan (CIP).

Documents

Actuarial adequacy is calculated by the Board's Actuary quarterly and an Annual Actuarial Adequacy Report is presented to the Board each year. The Annual report includes, but is not limited to, actuarial assumptions, usage patterns, and the discount rate yield curve used. **The 2019 Actuarial Adequacy Report is included as part of this response.**

The LDI benchmark is reconstituted annually. The reconstitution is documented in a letter from the Board's Investment Consultant. The letter provides the approach, guidelines, durations, allocations and specific Treasury Strips identified for the benchmark. **The 2019 benchmark reconstitution letter is included as part of this response.**

Quarterly, the Actuary provides cash flows as a result of the actuarial adequacy calculation. **The cash flows that were used for the 2019 LDI benchmark letter are included as part of this response.**

LDI Program overview

- As of June 30, 2019, the liability segment totaled **\$11 Billion**
- The funds are distributed equally among **4 LDI managers**
- Current Investment Manager fees are all less than **5 bps**

Comprehensive Investment Plan/Investment Guidelines

The Board has implemented a CIP which has been approved by the State Board of Administration, as required by Florida Statutes. The CIP established the investment goals, broadly provides authorized investment vehicles and establishes the use of investment guidelines that are subject to the approval of the Board.

The Board's Investment Guidelines set forth the specific investment strategies, limitations and targets necessary to implement the CIP including the specific authorized investment vehicles for each mandate.

The CIP and Investment Guidelines are included as part of this response.

Memorandum

To: Prospective Respondents, ITN #20-01

From: Florida Prepaid College Board

Date: January 28, 2020

Subject: Board Response to Written Requests for Clarification relating to ITN #20-01: Liability Driven Investment Management Services

Any questions concerning conditions and specifications of this ITN were required to be submitted in the form of written questions, on the Request for Clarification Form, and pursuant to the schedule in Section 2.01. Please note, if any of these requirements were not met, the questions may not be included in the answer section below.

Company Name: Northern Trust

Question	ITN Section	ITN Page	Question/Comment
1.	1.03	2	Can you please clarify which strategies you would like to see in investment? This would be a completely custom mandate and not built from sub strategies, so we just want to confirm what information you would like to see.
Please provide strategy-level information for investment components being proposed to meet the mandate. For many responses this would be an Intermediate US Corporate Bond mandate, a Long US Corporate Bond mandate, and a Long US Government Bond or STRIPS mandate (for STRIPS, whatever your firm most commonly runs is appropriate i.e. 15, 20, 25+). The mandates provided in aggregate should be reflective of the overall strategy being proposed to meet the services described in the ITN.			

Company Name: MetLife Investment Management

Question	ITN Section	ITN Page	Question/Comment
1.	Appendix A #15	12	With respect to the Indemnification clause, will the Board allow managers to negotiate the terms of indemnification within the contract?
The Indemnification language is required per Florida Statutes and cannot be negotiated.			

Question	ITN Section	ITN Page	Question/Comment
2.	Appendix A #16	13	With respect to Imprudent Investments, can you please further define Imprudent Investments?
The Investment Management Agreement currently provides that investments made in accordance with the Comprehensive Investment Plan adopted by the Board will not be considered imprudent. As the Investment Guidelines are authorized by the CIP, investments made in accordance with the Investment Guidelines will not be considered imprudent.			

Question	ITN Section	ITN Page	Question/Comment
3.	Appendix A #16	13	With respect to the Manager's obligations surviving the termination of the Agreement, will the Board agree to a 5 year limit to any survival clause?
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Company Name: Voya Investment Management

Question	ITN Section	ITN Page	Question/Comment
1.	4	8	Q 1: Would it be possible to provide cash flows reflecting current participants as well as separate cash flows for projected new participants in the future, if available
Cash flows are included as part of this response. Currently, the Board treats the program as a closed program for actuary and LDI purposes. Therefore, cash flows for projected new participants in the future are not included/available.			

Question	ITN Section	ITN Page	Question/Comment
2.	4	8	Q 1-4: Please provide detailed description of benefit structure and any changes planned for the future; e.g. are there cancellation refunds and penalties if participants choose not to attend college and, if not now, might there be in the future
The 2019 Actuarial Adequacy Report is included as part of this response. The requested information is included in the report.			

Question	ITN Section	ITN Page	Question/Comment
3.	4	8	Q 1-4: Actuarial assumptions such as discount curve and liability valuation methodology including projection assumptions such as inflation, tuition increases above inflation, etc.
As of June 30, 2019 the Board used a fixed OAS that was added to the Treasury curve as the discount rate. The June 2019 discount rate is included as part of this response. For the Benchmark established in September 2019, the Board began using an OAS curve that is calculated by the Investment Consultant. The process for determine the September 2019 discount rate is included in the 2019 benchmark reconstitution letter. In addition, The 2019 Actuarial Adequacy Report is included as part of this response. The remaining information is in the report.			

Question	ITN Section	ITN Page	Question/Comment
4.	4	8	Q 1-4: Demographic assumptions such as mortality, cancellation & refund, dropout rates, etc., as well as average age of registration for prepaid college plan
The 2019 Actuarial Adequacy Report is included as part of this response. The requested information is included in the report.			

Question	ITN Section	ITN Page	Question/Comment
5.	4	9	Q 6: How closely does the liability duration match the duration of the custom benchmark described in question 6? Is there an implied leverage by targeting a longer

			asset duration than the liability duration through this benchmark
The custom benchmark is developed to match the liability duration. The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Question	ITN Section	ITN Page	Question/Comment
6.	4	9	Q 6: What is the interest rate hedge ratio?
The target hedge ratio is 100% relative to projected liability cash flows. The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Question	ITN Section	ITN Page	Question/Comment
7.	4	9	Q6: Are you using the Bloomberg Barclays broad US STRIPS index (duration of ~17 yrs.) or more specific maturity STRIPS; e.g. US Treasury STRIPS 25+ yrs.?
The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Question	ITN Section	ITN Page	Question/Comment
8.	4	8	Q8: Please provide the current funded position of plan and on a description of the valuation basis as well as frequency of valuations
The Board's actuary performs the actuarial adequacy review quarterly with an annual report presented to the Board. The 2019 Actuarial Adequacy Report has been included as part of this response.			

Question	ITN Section	ITN Page	Question/Comment
9.			To the extent the above is in an actuarial valuation report kindly provide those reports
The 2019 Actuarial Adequacy Report has been included as part of this response.			

Question	ITN Section	ITN Page	Question/Comment
10.	Investment Guidelines	7	Are there any restrictions to the types of derivatives used; e.g. treasury futures, interest rate swaps, etc?
Derivatives are not currently used in the program. However, the CIP allows for Investment Managers to propose the use of derivatives for the Board's consideration.			

Question	ITN Section	ITN Page	Question/Comment
11.	Investment Guidelines	7	Are there explicit limits to gross and/or net notional exposure when utilizing derivatives in the portfolio?
Derivatives are not currently used in the program. However, the CIP allows for Investment Managers to propose the use of derivatives for the Board's consideration.			

Company Name: Western Asset Management Comp. LLC

Question	ITN Section	ITN Page	Question/Comment
1.	Tab 3	3	Would you like for us to use December 31, 2019 information, unless specifically noted?
December 31, 2019 data, if available, is preferred throughout the response.			

Question	ITN Section	ITN Page	Question/Comment
2.	Tab 4	9	Can you please provide the composition at 76% STRIPS allocation of the LDI benchmark?
The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Company Name: Capital International Inc.

Question	ITN Section	ITN Page	Question/Comment
1.	Appendix A, Section 16	23	With respect to section 16 of the Investment Management Agreement in Appendix A, can you please kindly explain further the Manager's potential liabilities and obligations as it pertains to imprudent investing? Are there any limits to the Manager's liabilities and obligations? For example, is the Manager's potential liability and obligation tied and limited to the amount of insufficient funds directly caused by the Manager's imprudent investing? Or alternatively, is the intended as a "right of subrogation" for the Prepaid College Board, where regardless of the direct harm the Manager's imprudent investment has caused, the Manager becomes fully liable for any and all obligations of the Board?
The Board determines this to be a broader legal discussion and as a result is not able to answer in this Q & A. However, the Board will discuss the liability with the finalists.			

Company Name: Aviva Investors

Question	ITN Section	ITN Page	Question/Comment
1.	Appendix-A-Contract 3. Scope of Services F.	5	Could we review samples of the modeling/analysis reports which are mentioned on Page 5? F. Provide modeling/analysis of how well the LDI investments are matching the Program liabilities as projected by the Board's Actuary?
These reports are unique to each manager and a specific format is not required. We view this as a way an Investment Manager can add value by assisting the Board in determining how well the benchmark and related investments are matching the liabilities.			

Question	ITN Section	ITN Page	Question/Comment
2.	Appendix-A-Contract 16. Imprudent Investing	13	Can the language be modified to reflect (1) compliance with the Investment Guidelines as an exclusion from the definition of imprudent and (2) a time limit in liability such that liability will no longer attach to AIA?
<p>The Investment Management Agreement currently provides that investments made in accordance with the Comprehensive Investment Plan adopted by the Board will not be considered imprudent. As the Investment Guidelines are authorized by the CIP, investments made in accordance with the Investment Guidelines will not be considered imprudent.</p> <p>If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.</p>			

Question	ITN Section	ITN Page	Question/Comment
3.	Appendix- A- Contract 23. Public access to records and confidentiality C.	16	Section C mentions "confidential information" multiple times. Could you please provide your definition of confidential information?
Generally, sections 1009.981(6) and 1009.98(6), Florida Statutes, provide that all information that identifies the benefactors or qualified beneficiaries of the Board's programs is confidential.			

Question	ITN Section	ITN Page	Question/Comment
4.	Active-LDI- ITN 3. Description of Services	3	Item 4, ...prepare written monthly, quarterly, and fiscal year-end reports in a format as required by the Board. Can we please obtain details/samples of the required format including deadline details and delivery method?
<ul style="list-style-type: none"> The monthly reports provide Investment Manager performance information vs the benchmark plus commentary on the performance. These reports are due 15 days after month end. Quarterly reports may include additional information such as updates to investment philosophy/process, any changes to investment personnel, and discussion on any compliance issues. These reports are due 30 days after quarter end. The annual report is typically a presentation to the Board at a designated Board meeting (typically held in Tallahassee, FL). The annual report includes the above plus any additional information reasonably requested by the Board or the Investment Manager. Reports are typically in a .pdf format and delivered via e-mail with the exception of the annual presentation to the Board. 			

Company Name: Neuberger Berman

Question	ITN Section	ITN Page		Question/Comment
1.	Appendix B	2		<p>In regards to the ownership and assets under management ("AUM") information requested in questions 1 - 3. The firm reports ownership, firm AUM and strategy AUM on a quarterly basis. This is pursuant to the firm's policy regarding reporting to external parties - i.e., bond holders, clients and marketing collateral, which we believe is customary as an industry standard practice.</p> <p>As such, we would appreciate if you could please confirm if you would prefer this information as of September 30, 2019 or December 31, 2019?</p>
Please provide the information as of December 31, 2019.				

Question	ITN Section	ITN Page	Question/Comment
2.	4.02	4	<p>In regards to completing the eVetment Alliance database for the proposed strategy prior to the submission (information as of November 30, 2019), it is our understanding that the only eVestment Alliance database fields that can be updated on a monthly basis are as follows: AUM & Accounts, Performance, Performance Disclosures. We would be happy to provide the Performance and Performance Disclosures as of the requested date. However, the firm reports firm AUM and strategy AUM on a quarterly basis. This is pursuant to the firm's policy regarding reporting to external parties - i.e., bond holders, clients and marketing collateral, which we believe is customary as an industry standard practice.</p> <p>Given that the majority of the fields can only be updated on a quarterly basis, would you prefer these fields to be completed as of September 30, 2019 or December 31, 2019 (or for organizations to provide information both as of November 30th and one of the two quarter ends)?</p>
Please provide the information as of December 31, 2019			

Company Name: Aberdeen Standard Investments

Question	ITN Section	ITN Page	Question/Comment
1.	IMA	IMA Section 3(H):	Please clarify whether questions submitted by all respondents regarding the ITN, and answers thereto, will be incorporated by reference into the IMA, or whether only questions submitted by the contracting respondent to the IMA regarding the ITN, and answers thereto, will be incorporated by reference into the IMA.
All clarifying questions would be expressly incorporated by reference into the IMA			

Question	ITN Section	ITN Page	Question/Comment
2.	IMA	IMA Section 16:	Please clarify how the Board interprets the following: "If moneys in the Florida Prepaid College Trust Fund fail to offset the Board's obligations...as a result of imprudent investing by the Manager, the Manager agrees to be liable for the Board's obligations." Does the Board interpret this to mean that the Manager would be liable only for shortfalls directly caused by this mandate in the event such shortfalls are caused by the Manager's imprudent investing, or does the Board interpret this to mean that the Manager would be liable for all shortfalls in the event any shortfall is caused by the Manager's imprudent investing, including shortfalls caused by mandates managed by other third party managers?
The Investment Manager's potential liability is limited to insufficient funds as a result of the Manager's imprudent investing.			

Question	ITN Section	ITN Page	Question/Comment
3.	IMA	IMA Section 21(A):	Please clarify what work produced for distribution by the Manager is contemplated under this provision.
This section is not intended for investment decisions. From time to time, the Board may request information from the Investment Managers related to the LDI program. Examples include asset/liability study input, benchmark evaluation, assessment of discount rates, and assessment of liability match. Before the information is finalized and presented to any outside parties, the Board would like to review and approve.			

Question	ITN Section	ITN Page	Question/Comment
4.	IMA	IMA Section 21(B):	Please clarify "[e]ach phase of the services provided by the Manager will require the approval of the Board or the Board's representative." What approvals does the Board contemplate the Manager would be required to receive in the ordinary course of providing the services?
For the examples provided in # 3 above, the project may be in phases which may require individual approval.			

Question	ITN Section	ITN Page	Question/Comment
5.	IMA	IMA Section 23(C):	Please provide a copy of the applicable Board Information Technology Security procedure and policies.
Due to security reasons, the Board only shares the Information Technology Security procedure and policies with exiting vendors and ITN finalists. Please note that most, or all, of the information shared with Investment Managers is not considered confidential and therefore is not subject to the Boards Information Technology Security procedure and policies.			

Company Name: Wellington Management Company LLC

Question	ITN Section	ITN Page	Question/Comment
1.	Appendix B, Tab 4, Q6	Appendix B, pg. 9	For the current customized benchmark, could you provide detail on the US Treasury STRIPS component? For example, is this allocation tied to specific market benchmark(s) or constructed with individual cusips?
The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Question	ITN Section	ITN Page	Question/Comment
2.	General Mandate Question		Could you provide the projected liability cash flows for the Prepaid program, with associated discount factors, as well as the duration and partial durations?
The June 2019 cash flows are included as part of this response. As of June 30, 2019 the Board used a fixed OAS that was added to the Treasury curve as the discount rate. The June 2019 discount rate is included as part of this response. For the Benchmark established in September 2019, the Board began using an OAS curve that is calculated by the Investment Consultant. The process for determine the September 2019 discount rate is included in the 2019 benchmark reconstitution letter.			

Question	ITN Section	ITN Page	Question/Comment
3.	General Mandate Question		Could you provide details on the discount rate used to value the liability and how it is determined?
As of June 30, 2019 the Board used a fixed OAS that was added to the Treasury curve as the discount rate. The June 2019 discount rate is included as part of this response. For the Benchmark established in September 2019, the Board began using an OAS curve that is calculated by the Investment Consultant. The process for determine the September 2019 discount rate is included in the 2019 benchmark reconstitution letter.			

Company Name: Income Research & Management

Question	ITN Section	ITN Page	Question/Comment
1.	Tab 2 – Minimum Qualifications	2	<p>Can you please clarify what strategies you would like us to populate in eVestment?</p> <ul style="list-style-type: none"> •Our understanding is that the services provided as a result of this ITN would lead to a custom actively managed LOI fixed income portfolio. We do not typically populate/market custom strategies in eVestment. We can provide strategy-level information for the three components of the current custom LDI portfolio benchmark referenced in Tab 4 of Appendix B: STRIPS, Intermediate US Corporate, and Long US Corporate; will this meet your needs? If not, can you please clarify what you would like us to populate instead? •Similarly, for the STRIPS component of your custom LDI benchmark, we understand that you have a custom US STRIPS Index. Will it meet your needs if we populate eVestment using our most commonly used STRIPS Strategy, which is benchmarked to the US STRIPS 20+ Year Index? If not, can you please clarify what you would like us to populate instead?
Please provide strategy-level information for investment components being proposed to meet the mandate. For many responses this would be an Intermediate US Corporate Bond mandate, a Long US Corporate Bond mandate, and a Long US Government Bond or STRIPS mandate (for STRIPS, whatever your firm most commonly runs is appropriate i.e. 15, 20, 25+). The mandates provided in aggregate should be reflective of the overall strategy being proposed to meet the services described in the ITN.			

Question	ITN Section	ITN Page	Question/Comment
2.	Tab 4 – Investment Philosophy and Strategy		We are interested in learning more about the Florida Prepaid College Plan. We do not need to have this information in order to submit our response, but we believe that having a better understanding will aid us in considering the Plan's unique circumstances as we craft our submission. To that end, are you willing and/or able to share any of the following?

			<ul style="list-style-type: none"> •The most recent actuarial valuation report issued by Milliman •Liability cash flows and duration •What is the Plan's most recently calculated funded status, and are there any thresholds around its funded status whereby the State Florida is required to contribute assets or issue refunds? <ul style="list-style-type: none"> • We saw the recent news that the Plan intends to provide\$1.3 billion in savings to participants who will receive refunds and lower rates; how might this impact the Plan's funded status, asset allocation, investment strategies, etc.? •Is the Plan following an LDI glide path? If so, can you please provide any information around how it is structured and managed?
The 2019 Actuarial Adequacy Report and cash flows are included as part of this response.			

Company Name: Loomis, Sayles & Company

Question	ITN Section	ITN Page	Question/Comment
1.	II. Asset Allocation Target	1	Is this portfolio to be managed holistically within the risk/return objectives vs the custom blended benchmark or is the expectation to have sleeves managed against their respective indices (int corp and long Corp)? There are guidelines related to allocations along the curve (+/- 10% to intermediate and long pieces) that seem difficult to impose within a commingled portfolio, unless relative market weight constraints to particular duration bands is defined.
The portfolio is to be managed holistically within the risk/return objectives vs the custom blended benchmark.			

Question	ITN Section	ITN Page	Question/Comment
2.	II. Asset Allocation Target	1	To what extent is this portfolio intended to match cash flows versus produce relative return against the custom benchmark?
The Board's investment goals are, listed in order of priority: 1) Safety – ability to meet future liabilities, 2) Liquidity - provide cash flows as needed 3) Yield – after safety and liquidity are met, maximize investment returns.			

Question	ITN Section	ITN Page	Question/Comment
3.	4.02 Response Format and Content	6	Where do you want us to list the product name(s) of the proposed LDI strategy and/or sub-strategies that make up the LDI strategy that are in eVestment Alliance?
Please include the names of the proposed LDI strategy (and/or sub-strategies that make up the LDI strategy) beneath the Experience section of Appendix B (Written Response Packet) Tab 2 (Minimum Qualifications). Following the affirmation that the eVestment Alliance Database has been completed for these strategies.			

Company Name: Parametric Portfolio Associates LLC

Question	ITN Section	ITN Page	Question/Comment
1.			Could you please provide a copy of the most recent actuarial report?
The 2019 Actuarial Adequacy report is included as part of this response.			

Company Name: TCW

Question	ITN Section	ITN Page	Question/Comment
			As outlined below, would the Board be willing to consider the following comments and clarifications?
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
1.	Appendix A - Contract	2	1.C. Representations and Warranties: Manager It is a <u>corporation limited liability company</u> duly organized, validly existing, and in good standing under the laws of the United States and the State of <u>Delaware</u> and has the power and authority to carry on its business as now being conducted and has the power and authority to execute, deliver, and perform this Agreement; and
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
2.	Appendix A - Contract	10	9.D. Insurance: Upon request of the Board, the Manager will provide to the Board evidence that the premiums therefor have been paid. <u>Certificates of Insurance as evidence that the coverage is in effect.</u>
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
3.	Appendix A - Contract	10	10.B. Consideration: If the Manager <u>in the future</u> enters <u>into</u> any agreement or contract with any other similar customer by which the Manager agrees to provide equivalent services <u>for an account utilizing similar investment objectives and guidelines for an account of similar size,</u> for a lower fee or price, or additional services for a comparable fee or

			price, the Manager will provide written notice thereof to the Board within thirty (30) days of the date the Manager enters such agreement or contract with another customer and will agree to amend the Agreement, resulting from the ITN to provide the equivalent fee or price or additional service to the Board. <u>For purposes of this section, subadvisory or multi-manager accounts, and accounts with performance-based fee schedules are excluded.</u>
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
4.	Appendix A - Contract	12-13	<p>15.A. and 15.B. Indemnifications:</p> <p>A. The Manager will act as an independent contractor and not as an employee of the Board in the performance of the tasks and duties which are the subject of this contract. The Manager shall be liable, and agrees to be liable for, and shall indemnify, defend, and hold the Board harmless from all claims, suits, judgments, or damages (including litigation costs and reasonable attorney's fees)—<u>arising resulting</u> from the Manager's fraud, negligence or misconduct, or any subcontractor's fraud, negligence or misconduct, <u>of in performing</u> the tasks and duties which are the subject of this Agreement, including, but not limited to:</p> <p>(i) Obtaining consent of any nature whatsoever;</p> <p>(ii) Protecting the Board against claims for the unauthorized use of name or likeness of any person, libel, slander, defamation, disparagement, piracy, plagiarism, unfair competition, idea misappropriation, infringement of copyright title, patent, slogan or other property rights and any invasion of the right of privacy. Misconduct" shall mean any violation of <u>Federal securities laws and, to the extent the Manager is informed by the Board of the same, any</u> Florida law, Board rules, or directives, state or federal securities laws and regulations implementing same, or the Board's Comprehensive Investment Plan; and</p> <p>(iii) Actions arising under Chapter 119, F.S.</p> <p>The Manager will notify the Board in writing immediately of any claim or suit against the Manager arising from or related to the Manager's tasks and duties which are the subject of this Agreement.</p> <p>The Manager shall not, <u>on behalf of the Board or the State</u> settle, compromise, mediate, agree to dismiss, or voluntarily agree to the entry of any judgment,</p>

			temporary injunction or permanent injunction, in any claim or suit against the Manager arising from or related to the Manager's tasks and duties which are the subject of this contract without the prior written authorization of the Board. Nothing in this Agreement authorizes the Manager to waive the Board's immunity from suit under the Eleventh the United States Constitution.
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
5.	Appendix A - Contract	13	16. Imprudent Investing If moneys in the Florida Prepaid College Trust Fund fail to offset the Board's obligations to qualified beneficiaries of the Stanley G. Tate Florida Prepaid College Program as a result of imprudent investing by the Manager, the Manager agrees to be liable for the Board's obligations. Investments made in accordance with the Comprehensive Investment Plan adopted by the Board will not be considered imprudent. The agreement and obligation of the Manager under this provision shall survive the termination of this Agreement. <u>For purposes of this section, Manager's liability for losses incurred by the Florida Prepaid College Trust Fund is solely limited to those losses caused by the Manager's imprudent investing, and not to losses due to other factors, such as underfunding.</u>
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
6.	Appendix A - Contract	13-14	17. Personnel The Board may interview the personnel assigned by the Manager to perform the services required under this Agreement. The Board may require the replacement of any personnel of the Manager believed to be unable to carry out the responsibilities of the contract at any time. The Manager shall warrant that personnel assigned to <u>be principally responsible for performing the</u> tasks under the Agreement will not be replaced or reassigned except as <u>is reasonably necessary.</u>
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
7.	Appendix A - Contract	16	<p>23.C. Public Access to Records and Confidentiality: As it relates to the following statement within this above mentioned section, "Manager agrees to abide by all applicable Board Information Technology Security procedures and policies,"</p> <p>Can a copy of the Board's IT Security Procedures and Policies be provided for review purposes given contract negotiations takes place separate from the Written Request for Clarification?</p>
If selected, an Investment Manager will have the opportunity to review the Investment Management Agreement (IMA) with the Board. While not preferred, IMA language may be modified if the change does not violate Florida Law and both the Board and the Investment Manager's attorneys agree the change is appropriate.			

Question	ITN Section	ITN Page	Question/Comment
8.	Appendix D-CIP		Please specify the Board's benchmark components for and weights as specified by "policy weighted by security selection" for US Government backed securities.
The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Question	ITN Section	ITN Page	Question/Comment
9.	Appendix D-CIP		Please share the target weights and constituents of the benchmark, and any historical data on volatility of funding status that the Board considers important for their LDI management.
The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark. Since inception, the Program has been over 100% funded.			

Question	ITN Section	ITN Page	Question/Comment
10.	Appendix D-CIP		Please clarify whether just the specific security or issuer (within similar security) must be within the benchmark?
The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Question	ITN Section	ITN Page	Question/Comment
11.	Appendix D-CIP		For Actively-Managed LDI, what are the current factors the Florida Prepaid College Board (Board) considers important to achieve an optimal portfolio amongst multiple managers.
The Board's investment goals are, listed in order of priority: 1) Safety – ability to meet future liabilities, 2) Liquidity - provide cash flows as needed 3) Yield – after safety and liquidity are met, maximize investment returns.			

Question	ITN Section	ITN Page	Question/Comment
12.	Appendix D-CIP		Please share the current and historical Benchmark Total Duration and Average Credit Quality that the Board uses.
The 2019 benchmark reconstitution letter is included as part of this repose and provides details on the development of the benchmark.			

Question	ITN Section	ITN Page	Question/Comment
13.	Appendix D-CIP		Please clarify whether ex-ante or ex-post tracking error will be used by the Board.
Ex-post tracking error is used by the Board.			

Question	ITN Section	ITN Page	Question/Comment
14.	Appendix D-CIP		For risk metrics listed, does the Board have specified targets for Actively Managed LDI or will this be specified by the manager depending on their specific strategy?
Excess returns and tracking error targets are specified by the Investment Manager and subject to Board approval.			

Question	ITN Section	ITN Page	Question/Comment
15.	Appendix D-CIP		Are there any additional guidelines within the Comprehensive Investment Plan (CIP) that would be important for the LDI Actively Managed portfolios?
Both the CIP and Investment Guidelines have been included in this response.			

Question	ITN Section	ITN Page	Question/Comment
16.	Appendix D-CIP		Do investment guidelines apply at time of purchase or at all times for the LDI portfolios?
The investment guidelines apply at all times for the LDI portfolios.			

Question	ITN Section	ITN Page	Question/Comment
17.	Appendix D-CIP		Please specify whether the five business day guideline or the monthly rebalancing guideline would apply for actively managed portfolios.
While the specified section does not apply to LDI Investment Managers, the Liability Segment is reviewed for rebalancing periodically. If directed by the Board, LDI Investment Managers will be required to provide or receive funds within a timeframe set by the Board.			

Company Name: Goldman Sachs Asset Management L.P.

Question	ITN Section	ITN Page	Question/Comment
1.	Appendix B - Tab 4	8-10	Please provide the latest actuarial report that includes liability values, methods and assumptions
The 2019 Actuarial Adequacy report is included as part of this response.			

Question	ITN Section	ITN Page	Question/Comment
2.	Appendix B - Tab 4	8-10	Please describe how the split between the Liability Segment and the Actuarial Reserve Segment is determined for asset allocation (if not included in the actuarial report)
The 2019 Actuarial Adequacy report is included as part of this response.			

Question	ITN Section	ITN Page	Question/Comment
3.	Appendix B - Tab 4	8-10	Pease describe how the discount rate for liability valuation is determined (if not included in the actuarial report)
As of June 30, 2019 the Board used a fixed OAS that was added to the Treasury curve as the discount rate. The June 2019 discount rate is included as part of this response. For the Benchmark established in September 2019, the Board began using an OAS curve that is calculated by the Investment Consultant. The process for determine the September 2019 discount rate is included in the 2019 benchmark reconstitution letter.			

Question	ITN Section	ITN Page	Question/Comment
4.	Appendix B - Tab 4	8-10	Please provide the cash flows used to derive the liability in the actuarial report as well as any information readily available on the impact that changes in education inflation have on the cash flows and/or liability.
The cash flows have been included as part of this response. The education inflation assumptions are included in the 2019 Actuarial Adequacy report.			

Question	ITN Section	ITN Page	Question/Comment
5.	Appendix B - Tab 4	8-10	When we review the Comprehensive Investment Plan are there additional asset classes we can consider suggesting as part of the investment strategy for the Actuarial Reserve Segment
The investment strategy for the Actuarial Reserve Segment is outside of the scope for this ITN. Suggestions for additional asset classes for the LDI strategy can be provided by respondents in Appendix B: Written Response Packet, Tab 4, Question # 12.			



Florida Prepaid College Board

2019 Actuarial Adequacy Report

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Executive Summary

A. Summary of Key Valuation Results

	<u>Adequacy Valuation as of:</u>	
	<u>June 30, 2018</u>	<u>June 30, 2019</u>
Resources		
Invested Assets at Fair Market Value	\$11,539,000,000	\$12,602,000,000
Present Value of Projected Future Premium Contributions	<u>2,178,000,000</u>	<u>2,388,000,000</u>
Total Resources	\$13,717,000,000	\$14,990,000,000
Obligations		
Present Value of Projected Future:		
Program Benefits*	\$9,837,000,000	\$10,322,000,000
Cancellation Refunds	647,000,000	705,000,000
Certain Expenses**	<u>249,000,000</u>	<u>266,000,000</u>
Total Liability Obligations	\$10,733,000,000	\$11,293,000,000
Actuarial Adequacy Reserve		
Actuarial Adequacy Reserve (Resources Less Obligations)	\$2,984,000,000	\$3,697,000,000
Adequacy Reserve as a % of Total Obligations	27.8%	32.7%
Other Metric		
Single Effective Discount Rate for Total Obligations Calculation	3.17%	2.45%

* Figures include \$5 million and \$8 million of projected “hold harmless” obligations using adequacy valuation assumptions in 2018 and 2019, respectively

** Asset management, records administration, administrative budget, lockbox

B. Actuarial Discussion and Analysis

A comprehensive adequacy valuation of the Stanley G. Tate Florida Prepaid College Program (the “Program”) is conducted annually, with interim valuation updates quarterly, to analyze the ability of projected Program resources to fully meet projected Program contract obligations and Program expenses. Consistent with Section 1009.98(1) of Florida Statutes, the actuarial adequacy reserve is the amount, stated in present value terms, by which the expected value of Program assets (resources) exceeds the expected value of Program liabilities, including expenses (obligations). The calculation is done as of a single point in time, using a single set of actuarial assumptions and methods as approved by the Florida Prepaid College Board (the “Board”).

While the adequacy analysis uses a single set of actuarial assumptions, actual future Program experience will differ from the assumptions used in the adequacy valuation’s calculations. Given that, use of assumptions which in combined effect include a margin of conservatism to account for potential adverse actual future Program experience is prudent. Per its statutory role, final decisions regarding the assumptions used in the adequacy valuation and the appropriate margin of conservatism to include in those assumptions resides with the Board.

With exceptions as noted in this report, the valuation was conducted using the same actuarial assumptions and methods used in the adequacy valuation conducted as of June 30, 2018. The assumptions used were approved by the Board, based on the Board’s review of Program experience and economic conditions.

C. Program Experience

“Experience” encompasses the performance of the Program during the year, including investment performance, along with the effects of changes in the discount rate yield curve, tuition, fees, and the Program’s contract data.

The Program experience during the year is quantified through changes in the actuarial adequacy reserve. The year-to-year changes in the reserve are detailed in Exhibit 7 of the report. The adequacy reserve increased by \$713 million during the year. As noted in Exhibit 7, the three factors that made significant contributions to the increase in the reserve were:

- \$163 million – positive return on reserve assets
- \$141 million – positive impact of the immunized fixed income strategy
- \$670 million – actual one-year tuition, fee, and dormitory cost were less as compared to valuation assumption

The above increase factors were partially offset by a \$229 million decrease in the reserve due to new contract sales during the year. Additionally, the reserve decreased \$36 million to the effect of near-term payments still owed to participants and the Florida Prepaid College Foundation (the “Foundation”) as of June 30, 2019. Near-term payables of that nature have been incorporated into the adequacy valuation after consultation with Program staff. Finally, the reserve increased \$4 million due to all other sources not otherwise discussed on this page (primarily contract usage behavior different than assumption).

The impact of the immunized fixed income strategy combines the effects on the reserve from changes to the market value of fixed income securities and changes to the discounted present value of Program obligations and future premium payments due to discount rate yield curve shifts and the passage of time. The magnitude of this change is the outcome of an asset/liability immunization policy, where fixed income assets are invested in such a manner that decreases (or increases) in Program liabilities due to yield curve shifts will be mirrored to a significant extent by decreases (or increases) in the market value of the Program’s liability hedge fixed income investments.

D. Changes in Actuarial Assumptions and Methods

The actuarial assumptions and methods used in this valuation are the same as those used in the valuation conducted as of June 30, 2018 except as summarized below, with more details in Appendix A:

- Discount rate yield curve updated to reflect changes in capital market conditions between valuation dates.

Please see [Appendix A](#) for a more detailed summary of this valuation's actuarial assumptions and methods.

E. Changes in Program Provisions

There have been no changes in Program provisions that affect actuarial calculations since the prior valuation. Please see [Appendix B](#) for a summary of principal Program provisions.

Exhibits

Exhibit 1

Market Value of Assets

The fair market value of assets as of June 30, 2018 and June 30, 2019 is shown below, and was provided by Program administrative staff.

	June 30, 2018	June 30, 2019
1. Liability hedge fixed income	\$9,651,000,000	\$9,690,000,000
2. Core fixed income	0	716,000,000
3. Domestic equity	1,517,000,000	1,788,000,000
4. International equity	347,000,000	429,000,000
5. Cash / short term investments*	24,000,000	15,000,000
6. Near-term payables	<u>0</u>	<u>(36,000,000)</u>
7. Market value of assets*	\$11,539,000,000	\$12,602,000,000

*Includes unrealized gains/losses on securities lending activity

Exhibit 2

Change in Market Value of Assets

The change in the market value of assets from June 30, 2018 to June 30, 2019 is shown below, and was provided by Program administrative staff.

1. Market value of assets as of June 30, 2018	\$11,539,000,000
2. Premium contributions	564,000,000
3. Total disbursements (including near-term payables)	(601,000,000)
4. Net transfers in/(out)	0
5. Investment performance	
a. Dividend and interest income	167,000,000
b. Realized gains / (losses)	251,000,000
c. Unrealized gains / (losses)	677,000,000
d. Net securities lending income	<u>5,000,000</u>
e. Total net investment performance	1,100,000,000
6. Net increase / (decrease) in market value of assets [(2) + (3) + (4) + (5e)]	1,063,000,000
7. Market value of assets as of June 30, 2019 [(1) + (6)]	\$12,602,000,000

Exhibit 3

Projected Fiscal Year-by-Fiscal Year Program Benefit Payments, Cancellations and Expenses

Projections are based on the assumptions and methods used in this year's adequacy reserve valuation, including the effect of applying "catch-up" inflation assumptions to projected 2020-2021 costs. Figures represent payments from contracts currently in force as of the valuation date, with no projections for payments due to contracts purchased subsequent to the valuation date. Results are shown in \$ millions and years in the chart represent the respective Program year end (e.g., the "2020" entry represents projected Program benefit payments, cancellations and expenses for the 2019-2020 Program year).

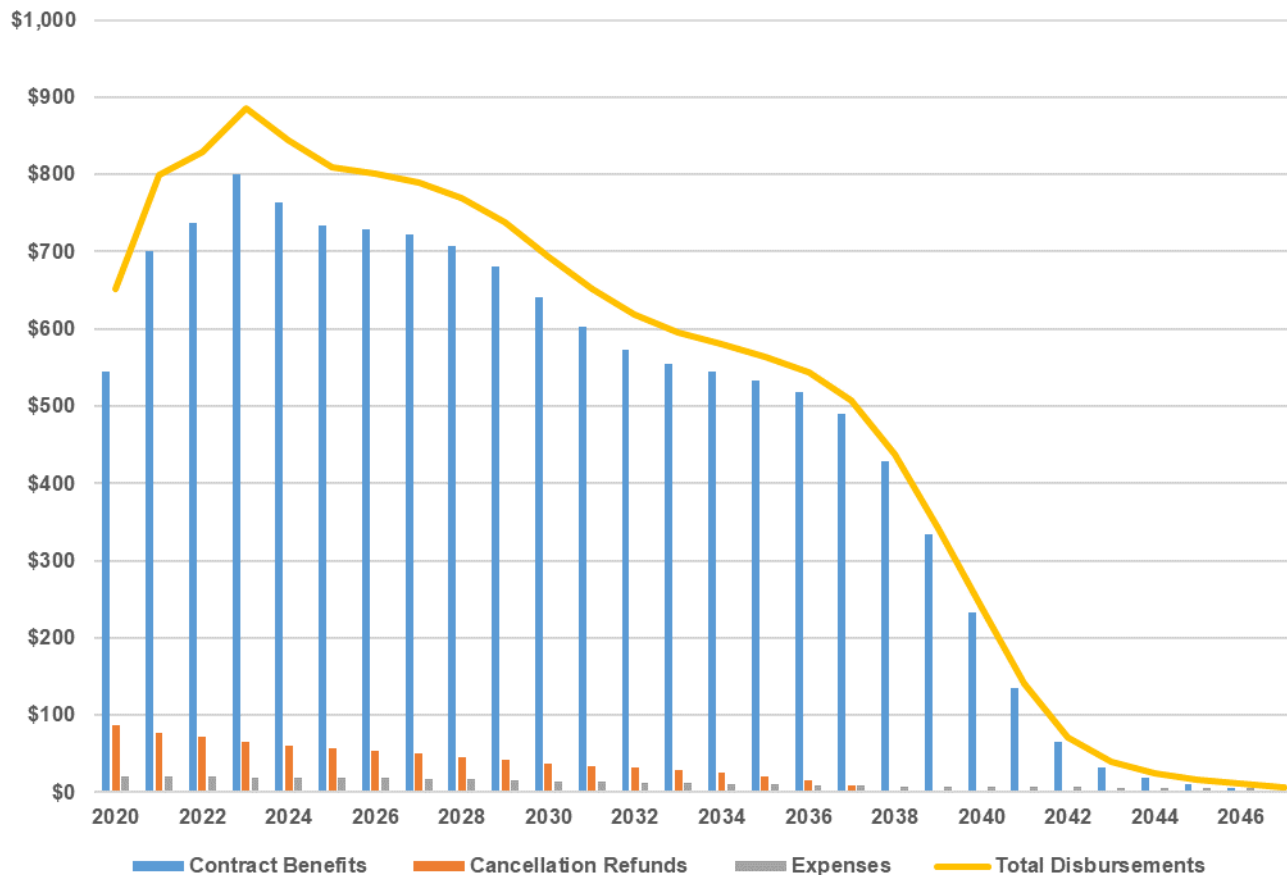


Exhibit 4

Projected Fiscal Year-by-Fiscal Year Total Disbursements Less Premium Payments

The green line on the graph below shows the projected difference fiscal year-by-fiscal year between total disbursements (yellow line) and contract premium payments (blue line). A proxy for an immunization-style fixed income investment policy would be to match projected fixed income proceeds to the green line. The projections below are based on the assumptions and methods used in this year's adequacy reserve valuation, and represent contributions and disbursements from contracts currently in force as of the valuation date, with no projections for contributions or disbursements for contract purchases subsequent to the valuation date. Projections included the effect of applying "catch-up" inflation assumptions in 2020-2021. Amounts are shown in \$ millions and years in the chart represent the respective Program year end (e.g., the "2020" entry represents projected total disbursements and premium payments for the 2019-2020 Program year).

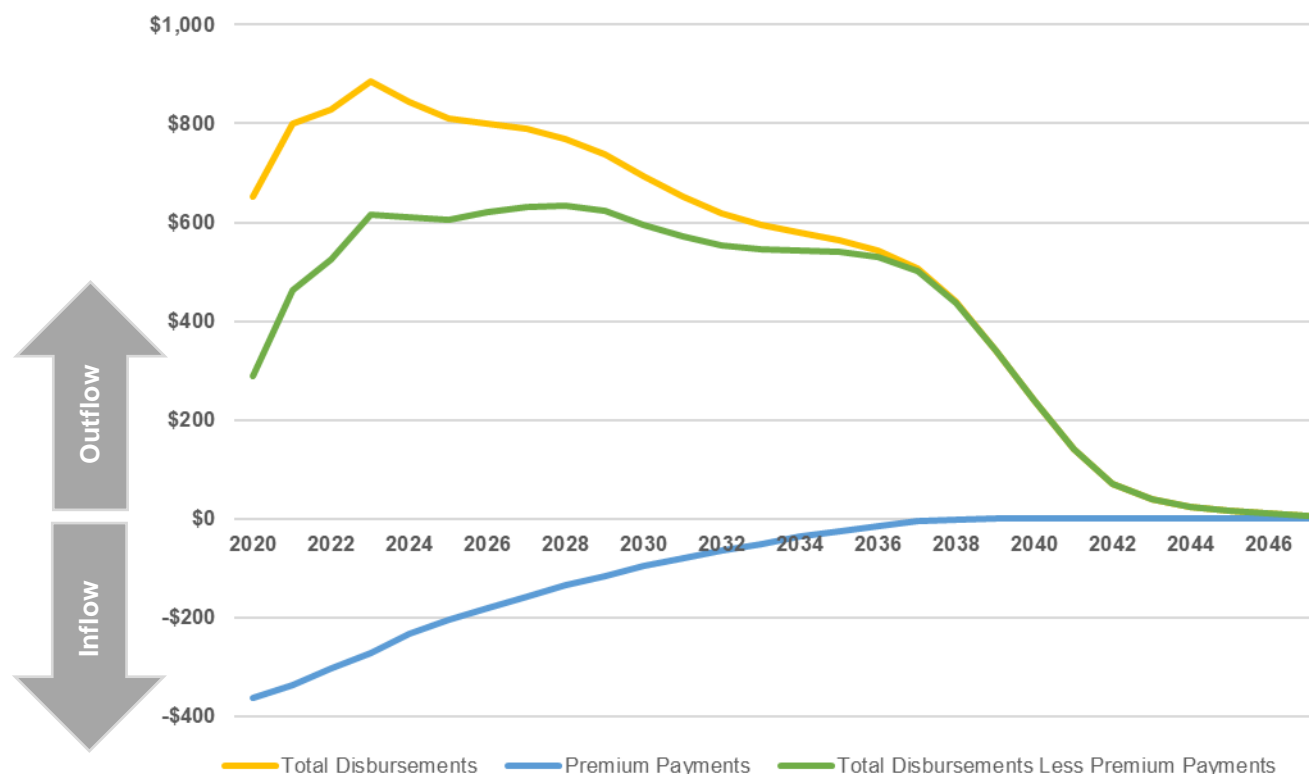


Exhibit 5

Discount Rate Yield Curves Used in Current and Prior Valuations

The present values of Program obligations and projected future premium contributions are calculated using discount rate yield curves developed by the Program's investment consultant and provided to Milliman by Program staff. The yield curve is based on US Treasury spot rates increased by an option adjusted spread determined by the Program's investment consultant. The US Treasury spot rates as of the two most recent annual valuation dates, followed by the discount rate yield curves used in the current and prior valuations are shown below. The equivalent single effective interest rate used to determine Total Program Obligations as calculated by Milliman decreased 72 basis points from 3.17% in the June 30, 2018 valuation to 2.45% in this June 30, 2019 valuation.

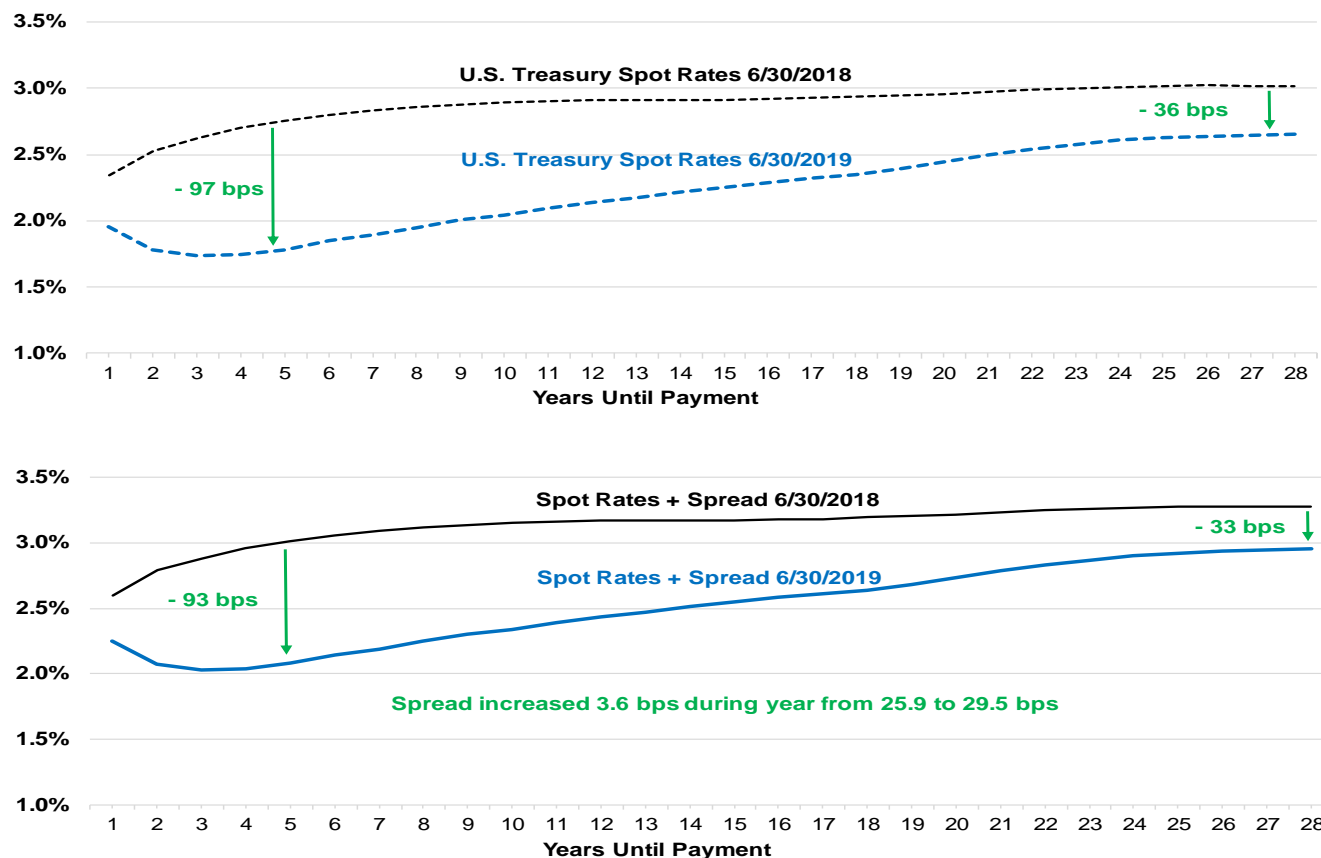


Exhibit 6

Actuarial Adequacy Reserve as of June 30, 2019

Consistent with Section 1009.98(1) of Florida Statutes, the actuarial adequacy reserve is the amount, stated in present value terms, by which the expected value of Program assets (resources) exceeds the expected value of Program liabilities, including expenses (obligations). The calculation is done as of a single point in time, using a single set of actuarial assumptions and methods approved by the Program's Board. Present values are calculated using the discount rate yield curve shown in Exhibit 5.

1. Assets at fair market value as of June 30, 2019	\$12,602,000,000
2. Present value of expected future premium contributions (Exhibit 4*)	<u>2,388,000,000</u>
3. Total projected Program resources [(1) + (2)]	\$14,990,000,000
4. Present value of projected future Program benefits and refunds (Exhibit 3*)	\$10,322,000,000
5. Present value of projected future cancellation refunds (Exhibit 3*)	705,000,000
6. Present value of certain** projected future expenses (Exhibit 3*)	<u>266,000,000</u>
7. Total projected Program obligations [(4) + (5) + (6)]	\$11,293,000,000
8. Actuarial adequacy reserve as of June 30, 2019 [(3) - (7)]	\$3,697,000,000
9. Adequacy reserve as a percentage of total projected Program obligations [(8) ÷ (7)]	32.7%

* Figures shown here are present values of the year-by-year projected amounts shown in the cited exhibits

** Asset management, records administration, administrative budget, lockbox

Exhibit 7

Change in Actuarial Adequacy Reserve from June 30, 2018 to June 30, 2019

A number of factors contributed to the year-to-year change in the actuarial adequacy reserve, as quantified below.

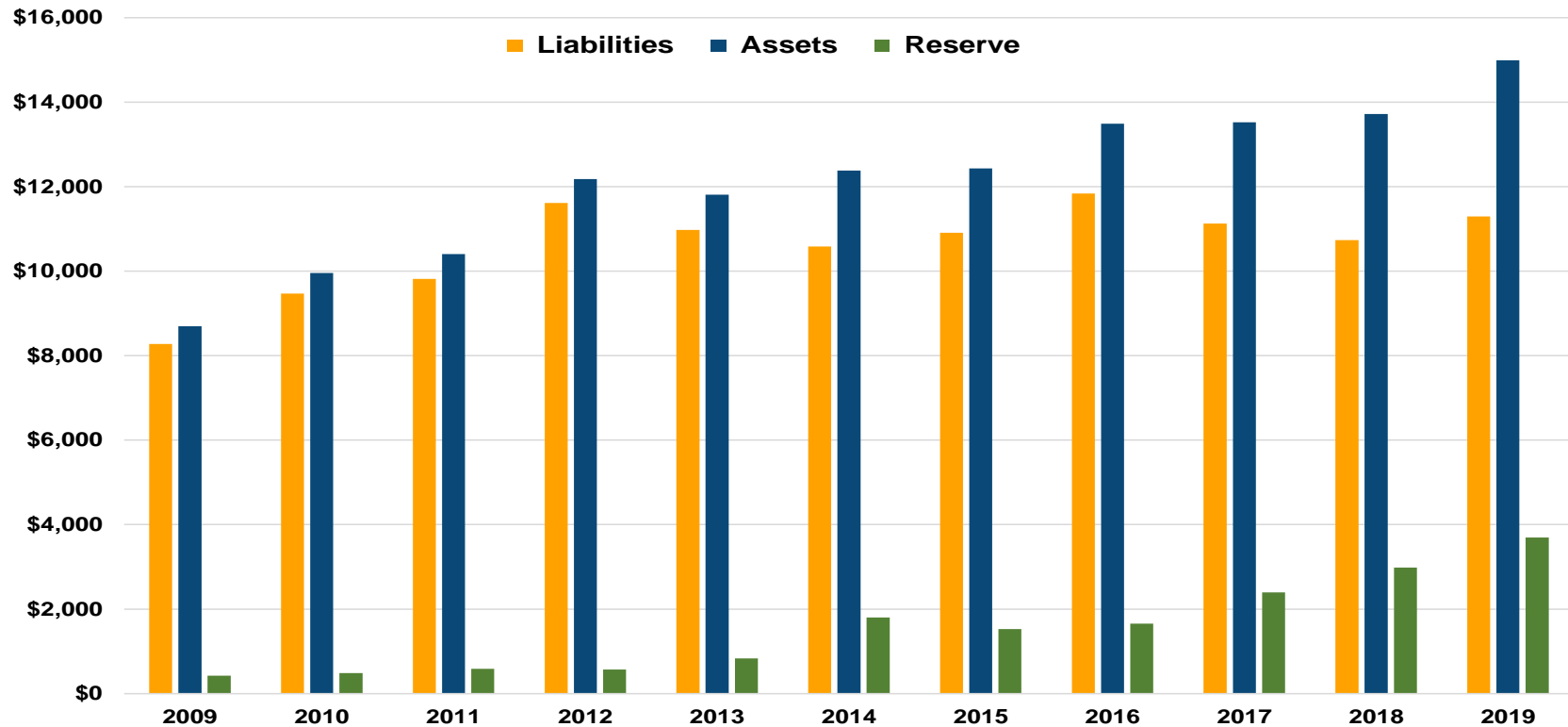
1. Actuarial adequacy reserve as of June 30, 2018	\$2,984,000,000
Increase/(decrease) in reserve from June 30, 2018 to June 30, 2019 due to:	
2. Returns on reserve assets	163,000,000
3. Immunization	141,000,000
4. Actual 2019-2020 tuition and fee policy*	670,000,000
5. Near-term payables	(36,000,000)
6. New sales	(229,000,000)
7. Actual contract usage/cancellation behavior*, and all other sources	<u>4,000,000</u>
8. Total increase/(decrease) in actuarial adequacy reserve during the year	713,000,000
9. Actuarial adequacy reserve as of June 30, 2019	\$3,697,000,000

*Compared to that assumed in the prior valuation as of June 30, 2018

Immunization reflects the combined effects of changes to the present values of fixed income investments, Program obligations, and projected future premium payments due changes in the discount rate yield curve and the passage of time between June 30, 2018 and June 30, 2019.

Exhibit 8

History of Actuarial Adequacy Reserve Actuarial Adequacy Reserve (\$millions)



Reserve:

In \$ millions	\$ 422	\$ 483	\$ 589	\$ 569	\$ 834	\$ 1,799	\$ 1,527	\$ 1,657	\$ 2,397	\$ 2,984	\$ 3,697
As % of liability	5.1%	5.1%	6.0%	4.9%	7.6%	17.0%	14.0%	14.0%	21.5%	27.8%	32.7%

Exhibit 9

Program Termination Liability as of June 30, 2019

Program termination liability is calculated in accordance with Florida Statutes and guidance from the Board. In the Program termination liability calculation the contract population is divided into two subsets, with differing liability determination methods applied to each subset.

In this valuation, Subset A consists of contracts with a projected enrollment year of 2023 or earlier. Subset A contracts are valued assuming that premium payments continue (where applicable) and that all purchased contract benefits are paid after matriculation.

In this valuation, Subset B consists of contracts with a projected enrollment year of 2024 or later. Subset B contracts are valued assuming a refund of all past premium payments, including interest at passbook rates.

1. Subset A liability	
a. Present value of projected future Program benefit payments	\$5,313,000,000
b. Present value of projected future premium payments	<u>241,000,000</u>
c. Subset A liability [(1a) - (1b)]	\$5,072,000,000
2. Subset B liability	
a. Refund of past premium payments	\$ 2,535,000,000
b. Interest due on past payments	<u>9,000,000</u>
c. Subset B liability [(2a) + (2b)]	\$2,544,000,000
3. Program termination liability as of June 30, 2019 [(1c) + (2c)]	\$7,616,000,000

Certification

Caveats and Limitations of Use

The actuarial valuation of the Stanley G. Tate Florida Prepaid College Program (the “Program”) as of June 30, 2019 has been completed in accordance with our understanding of Program provisions as specified by Florida Statutes using assumptions and methods as approved by the Florida Prepaid College Board (the “Board”). It also has been completed in accordance with our understanding of any applicable guidance or interpretations provided by the Program’s administrative staff. The valuation results contained in this report are based on the actuarial assumptions and methods ([Appendix A](#)), principal Program provisions ([Appendix B](#)), and contract data ([Appendix C](#), [Appendix D](#)) summarized in the appendices.

Purpose of the Valuation

The adequacy reserve portion of the actuarial valuation assesses, as of a single point in time, the estimated sufficiency of Program resources (assets currently held and estimated future premium contributions for contracts currently in force) to satisfy Program obligations (estimated future Program benefit payments and administrative expenses). The adequacy reserve valuation uses assumptions and methods approved by the Board.

The Program termination portion of the actuarial valuation assesses, as of a single point in time, the estimated level of Program termination liability using parameters as specified by Section 1009.98(8) of Florida Statutes and by the Board.

Assumptions and Methods

All liabilities shown in this report have been determined on the basis of actuarial assumptions and methods set forth in Appendix A and as approved by the Board. The assumptions are based on recent Board reviews of Program experience and economic conditions. The assumptions and methods used in this valuation are unchanged from those used in the prior valuation as of June 30, 2018, except as noted in this report.

Limited Use

We believe the assumptions and methods used in this report for purposes of calculating the adequacy reserve and Program termination liability are reasonable for the purposes of the measurements. The results of this report are dependent upon future experience conforming to the assumptions disclosed in this report. Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: Program experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in Program provisions and/or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. Determinations for purposes other than meeting those requirements referenced above may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Reliance

In preparing our report we relied, without audit, on information (some oral and some written) supplied by the Board. This information includes, but is not limited to, statutory provisions, contract data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

This actuarial valuation was prepared and completed by us and those under our direct supervision, and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate. In

our professional opinion, the techniques and assumptions used are reasonable. To the best of our knowledge, there is no benefit provision or related expense to be provided by the Program and/or paid from the Program's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation, and there were no known events that were not taken into account in the valuation.

Milliman's work product was prepared exclusively for the internal business use of the Board, for a specific and limited purpose. It is a complex technical analysis that assumes a high level of knowledge concerning the Program's operations, and uses Program data which Milliman has not audited. To the extent that Milliman's work is not subject to disclosure under applicable public record laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

- (a) The Board may provide a copy of Milliman's work, in its entirety, to the Program's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Program.
- (b) The Board may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the Program sponsor. We are not aware of any relationship that would impair the objectivity of our work.

Certification

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with Actuarial Standards of Practice, the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



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Principal & Consulting Actuary



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Principal & Consulting Actuary

Appendices

Appendix A – Actuarial Assumptions and Methods

PROGRAM BENEFIT COST ASSUMPTIONS

Program Assumed Benefit Costs

For projected Program benefits paid during 2019-2020, actual cost rates were used. Both an annual inflation assumption and a one-time catch-up (or buffer) assumption are applied to 2019-2020 cost rates to develop 2020-2021 projected rates used in the valuation. In years after that, an annual inflation assumption is applied to the prior year's projected cost rates. Rates for the first three years, along with the one-time catch up and annual inflation assumptions, are shown in the tables below.

Costs per Hour (per Semester for Dormitory)	2019-2020	2020-2021	2021-2022
University Tuition	\$116.67	\$143.99	\$154.13
University TDF (weighted average)	45.11	46.46	47.86
University Local Fees	37.38	45.96	48.72
College Tuition (Upper Division)	109.10	133.35	142.35
College Local Fees (Upper Division)	12.86	15.72	16.78
College Tuition (Lower Division)	95.27	116.45	124.31
College Local Fees (Lower Division)	11.09	13.56	14.47
Dormitory (per semester)	\$3,229.63	\$3,628.81	\$3,846.54

Cost Increase Assumptions	One-time Catch-up Increase	Annual Inflation
University Tuition	16.00%	6.00%
University TDF (weighted average)	0.00%	3.00%
University Local Fees	16.01%	6.00%
College Tuition (Upper Division)	14.50%	6.75%; capped at 95% of university tuition
College Local Fees (Upper Division)	14.50%	6.75%
College Tuition (Lower Division)	14.50%	6.75%; capped at 85% of university tuition
College Local Fees (Lower Division)	14.50%	6.75%
Dormitory (per semester)	6.00%	6.00%

ASSUMED CONTRACT USAGE AND EARLY SURRENDER PATTERNS

Assumed Annual Usage Pattern for Contract Benefits

In 2014, a study to assess 10-year usage patterns for various benefit types was conducted. As an outcome of that study, the following expected 10-year assumed usage patterns were approved by the Board for use in the valuation. The usage patterns in the table below are applied to all benefits for contracts where the matriculation year is the valuation year or later. For contracts where the matriculation year is prior to the valuation year with remaining unused benefits, the schedule below is applied to the amount of future benefits assumed to be remaining at the time of valuation per the ten-year schedule.

Year	4-Year University	4-Year College	2+2 Plans	2-Year College	1-Year University	All Dormitory Plans
1 st	12.50%	7.80%	7.80%	20.70%	0.00%	49.16%
2 nd	23.40%	16.55%	16.55%	39.20%	0.00%	28.71%
3 rd	22.90%	23.70%	23.70%	17.40%	23.33%	11.03%
4 th	22.30%	25.15%	25.15%	8.70%	76.67%	5.67%
5 th	11.50%	13.25%	13.25%	4.80%	0.00%	2.83%
6 th	3.50%	6.00%	6.00%	3.00%	0.00%	1.07%
7 th	1.70%	3.00%	3.00%	2.30%	0.00%	0.61%
8 th	1.00%	1.95%	1.95%	1.40%	0.00%	0.44%
9 th	0.70%	1.40%	1.40%	1.20%	0.00%	0.30%
10 th	0.50%	1.20%	1.20%	1.30%	0.00%	0.21%

To the extent that the amount of unused benefits actually remaining differs from the amount of unused benefits assumed to be remaining, the difference is assumed to be used over a forward-looking 10-year period commencing on the valuation date. That usage is assumed to follow the ten-year usage pattern shown above.

Assumed Monthly Usage Pattern

In addition to modeling assumed annual usage levels as noted above, the usage by month is also modeled. Within a given academic year, the usage by month follows the pattern shown in the table below.

Month	Tuition	Dormitory
July	7.5%	12.5%
August	5.4%	13.9%
September	30.9%	13.3%
October	6.0%	12.6%
November	3.2%	10.2%
December	0.8%	9.5%
January	25.2%	8.9%
February	12.9%	9.4%
March	2.9%	3.3%
April	0.4%	1.5%
May	2.9%	0.9%
June	1.9%	4.0%

Assumed Contract Early Surrender Rates through Expected Matriculation Year

Assumed contract surrender rates vary by contract type, payment option selected, and the amount of time that has passed since contract purchase. The two tables below show the rates that were applied in the valuation.

Contract Early Surrender Rates - Tuition and Fee Plans			
Year of contract purchase / matriculation	Lump Sum	Payment Type	
		55-Month	Monthly
Year of purchase	1.0%	1.5%	1.7%
1 st year after purchase	3.0%	7.9%	12.4%
2 nd year after purchase	0.4%	3.5%	5.5%
3 rd year after purchase	0.4%	2.3%	3.7%
4 th year after purchase	0.3%	1.5%	2.7%
5 th year after purchase	0.3%	1.0%	2.0%
6 th , and each subsequent year, after purchase	0.2%	0.3%	0.9%
Year immediately prior to matriculation*	1.0%	1.2%	2.5%
Year of matriculation*	1.4%	1.8%	2.8%

*When a contract is in the year of projected enrollment or the year immediately prior, the applicable projected enrollment year-specific rate is used, rather than the rate related to year of purchase.

Contract Early Surrender Rates - Dormitory Plans			
Year of contract purchase / matriculation	Lump Sum	Payment Type	
		55-Month	Monthly
Year of purchase	3.9%	5.7%	7.5%
1 st year after purchase	5.3%	10.0%	16.0%
2 nd year after purchase	0.6%	3.4%	5.6%
3 rd year after purchase	0.5%	2.4%	3.9%
4 th year after purchase	0.4%	1.5%	2.8%
5 th year after purchase	0.3%	0.9%	2.2%
6 th , and each subsequent year, after purchase	0.2%	0.3%	0.9%
Year immediately prior to matriculation*	2.6%	3.0%	3.9%
Year of projected matriculation*	5.7%	5.8%	6.8%

*When a contract is in the year of projected enrollment or the year immediately prior, the applicable projected enrollment year-specific rate is used, rather than the rate related to year of purchase.

Assumed Contract Surrender after Projected Enrollment Year

No surrender is assumed to occur after the projected enrollment year. As an example, in this valuation contracts with projected enrollment years of 2018 and earlier are assumed to use all remaining benefits rather than having some benefits go unused and/or be refunded via surrender/cancellation.

ECONOMIC ASSUMPTIONS

Discount Rates

Valuation calculations use a discount rate yield curve provided by the Board as displayed in Exhibit 5. The yield curve is based on US Treasury spot rates increased by an incremental return determined by the Program's investment consultants.

CHANGES IN ASSUMPTIONS AND METHODS SINCE PRIOR VALUATION

Discount rate yield curves: The discount rate yield curve was updated as shown in this report, reflecting changes in capital market conditions between valuation dates.

Appendix B – Summary of Principal Program Provisions

This summary of principal Program provisions is intended to only describe the essential features of the Program. All eligibility requirements and benefits shall be determined in strict accordance with governing statutes and Program administrative policies as adopted by the Board.

Eligibility for Contract Purchase

Contracts can be purchased during the annual open enrollment period. The Board establishes pricing for offered plans.

Premium Payment Options

Three premium payment options are offered to purchasers:

- Single lump sum
- 55 level monthly payments
- Level monthly payments until October of the projected enrollment year

Contract Types Available to Purchasers in the 2018-2019 Open Enrollment Period

Bundled Plans	Add-on Plans
2 + 2 Florida Plan	Dormitory Plan
4 Year Florida College Plan	4 Year University TDF Plan
2 Year Florida College Plan	2 + 2 TDF Plan
4 Year Florida University Plan	4 Year University Local Fee Plan
1 Year Florida University Plan	2 + 2 Local Fee Plan
	2 Year Florida College Local Fee Plan

Contract Types Available to Purchasers in Prior Open Enrollment Periods

Until 2010, the legacy 4-Yr Florida University Tuition Plan, 2+2 Tuition Plan and 2-Yr Florida College Tuition Plan (formerly the two-year community college tuition plan) were offered. In addition, until 2014 Florida University dormitory benefits were sold in multi-year increments.

Contract Cancellation / Early Surrender

For contracts which are cancelled, the purchaser will received a refund of the total payments made minus all fees, including late fees owed at the time of cancellation. A cancellation fee of no greater than \$50 may also be deducted from the refund amount in certain circumstances.

Changes in Principal Program Provisions since Prior Valuation

None.

Appendix C – Summary Contract Data - Matriculation 2019 and Prior

4 Year University Tuition Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	6,192	4,925	6,081	7,257	8,628	10,925	15,250	20,500	20,306	20,482	20,844	141,390
Total Hours Remaining	290,509	212,006	274,474	336,840	405,282	535,342	722,294	1,130,451	1,577,975	2,050,022	2,495,238	10,030,433
Avg. Hours per Contract	46.9	43.0	45.1	46.4	47.0	49.0	47.4	55.1	77.7	100.1	119.7	70.9

4 Year Florida University Plan, Bundled, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	-	-	1	22	49	75	188	468	737	981	1,469	3,990
Total Hours Remaining	-	-	63	1,445	2,703	4,304	7,751	23,207	56,297	96,016	176,139	367,925
Avg. Hours per Contract	-	-	63.0	65.7	55.2	57.4	41.2	49.6	76.4	97.9	119.9	92.2

4 Year University Local Fees Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	1,045	1,694	2,262	2,722	3,347	3,976	5,755	8,175	8,448	8,721	8,654	54,799
Total Hours Remaining	59,871	82,031	117,011	145,798	182,351	226,785	313,685	490,556	681,757	883,927	1,037,037	4,220,809
Avg. Hours per Contract	57.3	48.4	51.7	53.6	54.5	57.0	54.5	60.0	80.7	101.4	119.8	77.0

4 Year University TDF Fees Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	4	-	17	63	144	296	439	677	776	862	951	4,229
Total Hours Remaining	83	-	1,305	3,338	8,423	17,006	24,986	38,947	62,441	85,809	114,117	356,455
Avg. Hours per Contract	20.8	-	76.8	53.0	58.5	57.5	56.9	57.5	80.5	99.5	120.0	84.3

2 + 2 Tuition Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	2,941	1,823	2,268	2,484	3,121	3,440	3,773	4,228	4,216	3,999	3,694	35,987
Total Lower Hours Remaining	37,853	21,881	29,036	32,326	50,431	64,403	59,943	72,700	106,382	165,064	219,772	859,791
Avg. Lower Hours per Contract	12.9	12.0	12.8	13.0	16.2	18.7	15.9	17.2	25.2	41.3	59.5	23.9
Upper Hours Remaining	114,277	71,048	90,996	101,848	134,533	150,571	162,919	194,705	238,986	238,178	221,220	1,719,281
Avg. Upper Hours per Contract	38.9	39.0	40.1	41.0	43.1	43.8	43.2	46.1	56.7	59.6	59.9	47.8

2 + 2 Florida College Plan, Bundled, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	-	-	-	9	17	47	61	169	228	418	518	1,467
Total Lower Hours Remaining	-	-	-	300	137	688	1,094	2,967	4,212	16,112	30,935	56,445
Avg. Lower Hours per Contract	-	-	-	33.3	8.1	14.6	17.9	17.6	18.5	38.5	59.7	38.5
Upper Hours Remaining	-	-	-	414	644	2,252	2,775	7,986	11,841	24,906	31,055	81,873
Avg. Upper Hours per Contract	-	-	-	46.0	37.9	47.9	45.5	47.3	51.9	59.6	60.0	55.8

2 + 2 Local Fees Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	614	431	551	652	740	829	977	1,193	1,442	1,460	1,324	10,213
Total Lower Hours Remaining	10,991	4,507	6,296	7,406	10,882	11,964	15,747	25,112	31,798	52,409	79,135	256,247
Avg. Lower Hours per Contract	17.9	10.5	11.4	11.4	14.7	14.4	16.1	21.0	22.1	35.9	59.8	25.1
Upper Hours Remaining	27,284	18,325	22,611	28,624	33,911	38,139	45,930	59,094	71,594	83,616	79,401	508,529
Avg. Upper Hours per Contract	44.4	42.5	41.0	43.9	45.8	46.0	47.0	49.5	49.6	57.3	60.0	49.8

2 Year University TDF Fee Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	-	-	2	13	38	63	97	87	123	162	115	700
Total Hours Remaining	-	-	120	497	1,962	3,188	4,819	4,533	6,738	8,752	6,900	37,509
Avg. Hours per Contract	-	-	60.0	38.2	51.6	50.6	49.7	52.1	54.8	54.0	60.0	53.6

4 Year Florida College Plan, Bundled, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	-	-	-	6	17	57	190	258	383	473	645	2,029
Total Lower Hours Remaining	-	-	-	1	160	1,203	3,828	5,428	9,425	17,821	38,555	76,421
Avg. Lower Hours per Contract	-	-	-	0.2	9.4	21.1	20.1	21.0	24.6	37.7	59.8	37.7
Upper Hours Remaining	-	-	-	146	688	2,722	8,711	12,645	18,915	28,158	38,679	110,664
Avg. Upper Hours per Contract	-	-	-	24.3	40.5	47.8	45.8	49.0	49.4	59.5	60.0	54.5

2 Year Florida College Tuition Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	411	369	390	477	494	480	495	566	610	793	902	5,987
Total Hours Remaining	12,844	10,712	12,333	16,273	17,293	16,804	18,539	21,419	25,103	36,128	53,962	241,410
Avg. Hours per Contract	31.3	29.0	31.6	34.1	35.0	35.0	37.5	37.8	41.2	45.6	59.8	40.3

2 Year Florida College Plan, Bundled, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	1	-	46	452	56	138	212	679	1,097	1,375	2,183	6,239
Total Hours Remaining	60	-	1,496	17,356	1,756	3,948	7,713	26,716	44,692	61,455	130,885	296,077
Avg. Hours per Contract	60.0	-	32.5	38.4	31.4	28.6	36.4	39.3	40.7	44.7	60.0	47.5

2 Year Foundation Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	51	14	29	6	2	12	7	9	13	-	-	143
Total Hours Remaining	1,476	672	1,345	246	57	216	239	394	836	-	-	5,481
Avg. Hours per Contract	28.9	48.0	46.4	41.0	28.5	18.0	34.1	43.8	64.3	-	-	38.3

2 Year Foundation Plan, Bundled, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	-	-	-	33	24	38	-	4	1	39	32	171
Total Hours Remaining	-	-	-	1,771	973	2,054	-	241	9	2,168	2,304	9,520
Avg. Hours per Contract	-	-	-	53.7	40.5	54.1	-	60.3	9.0	55.6	72.0	55.7

2 Year Florida College Local Fee Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	26	30	48	70	50	66	76	83	86	111	117	763
Total Hours Remaining	904	892	1,705	2,536	1,778	2,595	2,880	3,602	3,396	5,619	7,014	32,921
Avg. Hours per Contract	34.8	29.7	35.5	36.2	35.6	39.3	37.9	43.4	39.5	50.6	59.9	43.1

72 Hour Local Fee Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	2	-	-	-	-	2	-	1	4	-	-	9
Total Hours Remaining	61	-	-	-	-	84	-	46	226	-	-	417
Avg. Hours per Contract	30.5	-	-	-	-	42.0	-	46.0	56.5	-	-	46.3

1 Year Florida University Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	-	-	-	-	-	-	1	40	100	221	479	841
Total Hours Remaining	-	-	-	-	-	-	30	701	2,112	5,206	14,370	22,419
Avg. Hours per Contract	-	-	-	-	-	-	30.0	17.5	21.1	23.6	30.0	26.7

1 Year Dormitory Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	210	161	218	273	321	403	492	631	759	1,195	2,822	7,485
Total Semesters Remaining	399	294	401	512	593	756	906	1,177	1,441	2,265	5,639	14,383
Avg. Semesters per Contract	1.9	1.8	1.8	1.9	1.8	1.9	1.8	1.9	1.9	1.9	2.0	1.9

2 Year Dormitory Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	239	235	260	388	366	494	628	755	873	1,544	1,504	7,286
Total Semesters Remaining	777	717	802	1,179	1,090	1,553	1,941	2,326	2,675	4,489	5,992	23,541
Avg. Semesters per Contract	3.3	3.1	3.1	3.0	3.0	3.1	3.1	3.1	3.1	2.9	4.0	3.2

3 Year Dormitory Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	5	9	7	6	11	18	22	28	42	42	38	228
Total Semesters Remaining	15	35	25	20	52	69	87	133	147	209	228	1,020
Avg. Semesters per Contract	3.0	3.9	3.6	3.3	4.7	3.8	4.0	4.8	3.5	5.0	6.0	4.5

4 Year Dormitory Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	101	106	131	178	193	243	354	481	593	608	698	3,686
Total Semesters Remaining	661	594	760	1,042	1,099	1,383	1,992	2,365	3,473	4,222	5,580	23,171
Avg. Semesters per Contract	6.5	5.6	5.8	5.9	5.7	5.7	5.6	4.9	5.9	6.9	8.0	6.3

5 Year Dormitory Plan, by Matriculation Year

	<u><=2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>Totals</u>
Contracts	2	2	9	6	7	8	17	13	24	18	23	129
Total Semesters Remaining	9	8	67	42	48	64	117	90	188	170	230	1,033
Avg. Semesters per Contract	4.5	4.0	7.4	7.0	6.9	8.0	6.9	6.9	7.8	9.4	10.0	8.0

Appendix D – Summary Contract Data – Matriculation 2020 and Later

4 Year University Tuition Plan, by Matriculation Year and Payment Option

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	5,269	5,217	4,713	4,333	3,496	2,844	2,010	1,324	392	23	8	2	29,631
55-Month	5,417	5,470	4,948	4,305	3,639	3,038	2,394	1,656	487	9	15	3	31,381
Monthly	8,427	8,607	8,035	7,606	7,041	6,369	5,576	4,139	1,329	18	8	5	57,160
Total	19,113	19,294	17,696	16,244	14,176	12,251	9,980	7,119	2,208	50	31	10	118,172

4 Year Florida University Plan, Bundled, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	
Lump Sum	759	809	844	975	1,037	1,096	1,145	1,170	1,457	
55-Month	234	379	442	559	612	716	715	846	1,217	
Monthly	966	1,379	1,607	2,052	2,447	2,906	3,271	3,749	5,244	
Total	1,959	2,567	2,893	3,586	4,096	4,718	5,131	5,765	7,918	
	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>Totals</u>
Lump Sum	1,488	1,396	1,366	1,396	1,327	1,153	1,030	897	349	19,694
55-Month	1,250	1,040	1,069	1,020	954	824	712	657	294	13,540
Monthly	5,797	5,207	5,012	5,203	4,979	4,591	4,225	3,671	1,674	63,980
Total	8,535	7,643	7,447	7,619	7,260	6,568	5,967	5,225	2,317	97,214

2 + 2 Tuition Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	615	523	427	378	300	237	158	104	30	3	3	-	2,778
55-Month	865	805	685	557	451	340	274	189	70	12	7	1	4,256
Monthly	1,800	1,697	1,437	1,268	1,190	1,082	857	560	177	4	3	1	10,076
Total	3,280	3,025	2,549	2,203	1,941	1,659	1,289	853	277	19	13	2	17,110

2 + 2 Florida College Plan, Bundled, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	
Lump Sum	238	252	216	233	225	167	180	169	252	
55-Month	78	66	99	97	101	116	136	119	183	
Monthly	342	455	556	730	875	982	1,088	1,179	1,572	
Total	658	773	871	1,060	1,201	1,265	1,404	1,467	2,007	
	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>Totals</u>
Lump Sum	297	183	143	163	156	134	107	75	29	3,219
55-Month	181	158	153	136	144	92	63	81	31	2,034
Monthly	1,628	1,594	1,476	1,500	1,368	1,183	1,082	884	364	18,858
Total	2,106	1,935	1,772	1,799	1,668	1,409	1,252	1,040	424	24,111

4 Year Florida College Plan, Bundled, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	
Lump Sum	312	311	306	235	168	206	94	100	120	
55-Month	52	75	89	93	91	82	99	113	139	
Monthly	378	428	524	667	725	789	854	938	1,161	
Total	742	814	919	995	984	1,077	1,047	1,151	1,420	
	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>Totals</u>
Lump Sum	157	93	89	72	39	35	35	24	5	2,401
55-Month	166	125	109	80	63	44	51	33	20	1,524
Monthly	1,312	1,228	987	750	648	521	529	434	190	13,063
Total	1,635	1,446	1,185	902	750	600	615	491	215	16,988

2 Year Florida College Tuition Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>≥2031</u>	<u>Totals</u>
Lump Sum	141	107	78	109	75	51	41	25	9	1	1	-	638
55-Month	120	143	118	106	82	72	48	26	14	-	-	1	730
Monthly	382	362	381	308	279	260	206	153	50	-	-	-	2,381
Total	643	612	577	523	436	383	295	204	73	1	1	1	3,749

2 Year Florida College Plan, Bundled, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	
Lump Sum	1,344	1,279	1,415	1,029	552	178	119	93	90	
55-Month	77	86	106	132	141	136	115	115	126	
Monthly	473	641	682	797	947	989	1,054	1,037	1,246	
Total	1,894	2,006	2,203	1,958	1,640	1,303	1,288	1,245	1,462	
	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>Totals</u>
Lump Sum	139	91	74	95	131	62	60	47	18	6,816
55-Month	148	111	113	114	99	70	70	70	16	1,845
Monthly	1,217	1,158	1,091	979	983	868	804	672	271	15,909
Total	1,504	1,360	1,278	1,188	1,213	1,000	934	789	305	24,570

2 Year Foundation Plan, Bundled, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>Totals</u>
Lump Sum	65	36	52	26	9	-	-	-	-	188
55-Month	-	-	-	-	-	-	-	-	-	-
Monthly	-	-	-	-	-	-	-	-	-	-
Total	65	36	52	26	9	-	-	-	-	188

2 Year Foundation Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	-	-	-	-	1	-	-	-	-	-	-	-	1
55-Month	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	1	-	-	-	-	-	-	-	1

1 Year Florida University Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	
Lump Sum	199	181	201	312	281	298	337	312	319	
55-Month	73	100	172	162	191	150	123	118	148	
Monthly	458	544	725	746	881	938	1,053	1,013	1,085	
Total	730	825	1,098	1,220	1,353	1,386	1,513	1,443	1,552	
	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>Totals</u>
Lump Sum	364	350	361	366	513	387	220	169	65	5,235
55-Month	158	148	157	218	211	138	133	106	39	2,545
Monthly	1,120	1,151	1,169	1,241	1,061	1,014	894	748	255	16,096
Total	1,642	1,649	1,687	1,825	1,785	1,539	1,247	1,023	359	23,876

4 Year University Local Fees Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	2,555	2,607	2,354	2,146	1,829	1,448	1,016	713	206	5	2	-	14,881
55-Month	2,291	2,356	2,196	1,937	1,633	1,353	1,046	724	180	2	3	-	13,721
Monthly	3,064	3,279	3,175	2,995	2,849	2,528	2,066	1,624	493	4	2	3	22,082
Total	7,910	8,242	7,725	7,078	6,311	5,329	4,128	3,061	879	11	7	3	50,684

4 Year University TDF Fees Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	324	320	341	351	471	883	933	627	174	1	-	-	4,425
55-Month	252	290	344	375	413	804	954	682	192	-	-	-	4,306
Monthly	493	569	612	676	854	1,614	1,984	1,527	480	1	2	2	8,814
Total	1,069	1,179	1,297	1,402	1,738	3,301	3,871	2,836	846	2	2	2	17,545

2 + 2 Local Fees Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	253	228	161	178	154	107	71	51	14	1	2	-	1,220
55-Month	327	297	252	216	182	116	104	66	17	4	1	-	1,582
Monthly	565	562	479	468	400	334	278	163	66	1	-	1	3,317
Total	1,145	1,087	892	862	736	557	453	280	97	6	3	1	6,119

2 Year University TDF Fee Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	27	25	27	40	49	69	53	51	10	-	-	-	351
55-Month	19	24	29	36	50	65	86	50	16	1	-	-	376
Monthly	96	87	82	90	98	189	232	163	60	-	-	-	1,097
Total	142	136	138	166	197	323	371	264	86	1	-	-	1,824

2 Year Florida College Local Fee Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	75	85	99	71	68	58	44	29	7	-	-	-	536
55-Month	-	-	1	-	-	-	1	-	-	-	-	-	2
Monthly	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	75	85	100	71	68	58	45	29	7	-	-	-	538

1 Year Dormitory Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>				
Lump Sum	966	948	925	850	771	659	522	422	327				
55-Month	679	768	689	689	562	504	401	352	276				
Monthly	1,342	1,427	1,412	1,543	1,505	1,519	1,526	1,401	1,281				
Total	2,987	3,143	3,026	3,082	2,838	2,682	2,449	2,175	1,884				
	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>Totals</u>			
Lump Sum	278	287	232	253	271	264	225	177	82	8,459			
55-Month	195	155	152	182	146	132	120	129	55	6,186			
Monthly	1,100	1,087	954	1,120	1,317	1,208	1,049	1,012	478	22,281			
Total	1,573	1,529	1,338	1,555	1,734	1,604	1,394	1,318	615	36,926			

2 Year Dormitory Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	365	332	290	217	208	145	105	69	34	38	20	19	1,842
55-Month	376	328	328	256	222	165	120	75	50	30	26	24	2,000
Monthly	617	616	590	504	470	397	289	248	153	137	68	55	4,144
Total	1,358	1,276	1,208	977	900	707	514	392	237	205	114	98	7,986

3 Year Dormitory Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	9	6	8	3	6	1	3	-	1	1	-	-	38
55-Month	11	11	4	8	5	2	2	3	-	1	1	2	50
Monthly	12	13	19	14	13	9	14	2	3	4	-	2	105
Total	32	30	31	25	24	12	19	5	4	6	1	4	193

4 Year Dormitory Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	196	176	148	113	98	65	51	35	18	18	3	15	936
55-Month	149	116	130	83	61	51	41	35	25	14	8	11	724
Monthly	249	254	253	237	222	151	120	122	81	54	38	40	1,821
Total	594	546	531	433	381	267	212	192	124	86	49	66	3,481

5 Year Dormitory Plan, by Matriculation Year

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>>=2031</u>	<u>Totals</u>
Lump Sum	6	7	6	6	-	1	-	2	1	-	-	1	30
55-Month	4	7	9	4	3	3	5	3	-	-	-	-	38
Monthly	15	12	14	9	4	12	8	5	2	-	-	-	81
Total	25	26	29	19	7	16	13	10	3	-	-	1	149

Expected Return Differential Calculation for 6/30/2019

6/28/2019	% of Benchmark	% of Total Portfolio	Average Effective Duration	Effective Duration Contribution	Percent Duration Contribution	Market-Weighted:		Duration-Weighted:	
						OAS (bp)	Yield	OAS (bp)	Yield
U.S. STRIPS	76%	63%	9.02	6.86	83.59%	8.6	2.09%	12.0	2.21%
All Spread Products	24%	20%	5.61	1.35	16.41%	85.9	2.99%	118.7	3.46%
Fixed Rate MBS	10%	8%	2.81	0.28	3.42%	43.4	2.71%	47.2	3.02%
Corporate	14%	12%	7.61	1.07	12.99%	116.3	3.18%	137.6	3.57%
Total Benchmark	100%	82%	8.20	8.20	100.0%	27.2	2.30%	29.5	2.42%
Aon Liability Proxy¹			8.44						2.48%

Return Differential for Fixed Income Segment Only: **29.5**

Equity Allocation 18%

Total Portfolio 100%

	Assumptions ²	Premium Weighted by Equity Allocation	Premium Contribution of Equity Allocation by Segment
Expected Equity Return	6.72%		
Expected Fixed Income Return	3.05%		
Assumed Premium for 10 Years	3.67%		
Premium over U.S. Treasury STRIPS	4.51%	0.792	66.2
Premium over Spread Segment	3.26%	0.573	9.4
Total Equity Premium			75.6

Return Differential for Equity Segment Only: **75.6**

Total Expected Return Differential (for information only) **105.1**

Totals may not sum due to rounding

Duration data represents the average reported values from four fixed income managers

¹ Aon Liability Proxy using Treasury STRIPS yield curve plus the determined spread, applied to net cash flows from Milliman's actuarial valuation as of 12/31/18, rolled-forward to the calculation date

² Return assumptions using Aon's 2Q 2019 capital market assumptions for the equity and fixed income portfolios as benchmarked (see appendix for details)

September 26, 2019

Mr. Kevin Thompson
Executive Director
Florida Prepaid College Program
1801 Hermitage Boulevard
Suite 210
Tallahassee, FL 32308

Dear Kevin,

This letter contains Aon's proposed construction of the benchmark against which the immunized fixed income portfolio will be measured for the twelve-month period beginning October 1, 2019 and ending September 30, 2020.

Aon determined the benchmark and the fixed income managers provided feedback. For your records, this letter outlines the methodology used and the resulting benchmark. Attachments A and B to this letter contain the final benchmark.

Milliman, the program actuary, determined the liabilities and actuarial reserves. Milliman also provided projected net cash flows as of June 30, 2019, which Aon used as the basis for the benchmark determination. Effective September 30, 2019, the benchmark determination is based on projected net cash flows including one year of projected contract sales.

Projected net cash flows are discounted using a full yield curve of Treasury STRIPS yields and corporate spreads for various maturities to determine the present value and effective duration of program obligations. Attachments C, D, and E to this letter contain the yield curves and supporting methodologies.

Aon constructed the benchmark according to the following guidelines:

- Interim allocations of 76% Treasuries / 24% Corporates
- Hedge the present value of projected net cash flows including one year of projected contract sales, discounted using an OAS curve
- Target "hedge ratio" (defined as ratio of dollar duration of assets to dollar duration of liabilities) of 100% relative to projected liability cash flows
- Target "key rate duration" ("KRD") hedge ratios of 100% relative to projected liability cash flows with maturities 0-5 years, 5-10 years, 10-15 years, 15-20 years, and 20+ years



- Use market value weighting of securities within each maturity group described above
- Exclude securities maturing before September 30, 2020

Attachment F to this letter demonstrates Aon's approach to constructing the benchmark.

In accordance with past practice, the securities will be priced monthly by Northern Trust. They will produce a blended performance benchmark return including the corporate and treasury components.

If you have any questions regarding the benchmark construction process, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Parker'.

Richard Parker
Associate Partner, Asset-Liability Management

Attachment

Cc: Will Thompson, Florida Prepaid
Bert Wilkerson, Florida Prepaid
Kristen Doyle, Aon
Dave Keil, Aon
Phil Kivarkis, Aon
Mike McCormick, Aon
Melissa Cahill, BlackRock
Samira Mattin, Insight
Thanos Bardas, Neuberger Berman
Mike Chico, Northern Trust
Jamie Hernandez, Northern Trust

Attachment A – Total LDI Benchmark Construction, Index-Level

Index	Asset Allocation		Portfolio Metrics					Key Rate Duration Distribution					
	% Alloc	\$ Alloc	YTM	OAS	Duration	Ratio	Convexity	0-5	5-10	10-15	15-20	20+	
Intermediate US Corporate	5.5%	\$492	2.75%	0.91%	4.3	2%	0.2	1.7	2.5	0.1	0.0	0.0	
Long US Corporate	18.5%	\$1,654	3.96%	1.60%	13.8	26%	2.7	0.5	1.3	2.1	3.1	6.9	
Subtotal Spread Products	24.0%	\$2,146	3.86%	1.54%	11.6	28%	2.1	0.8	1.6	1.6	2.4	5.3	
US Treasury STRIPS 0-5 yr	18.6%	\$1,663	1.85%	0.00%	2.4	5%	0.1	2.2	0.2	0.0	0.0	0.0	
US Treasury STRIPS 5-10 yr	21.2%	\$1,896	1.97%	0.06%	7.4	16%	0.6	0.3	6.7	0.4	0.0	0.0	
US Treasury STRIPS 10-15 Yr	20.4%	\$1,824	2.23%	0.11%	12.2	25%	1.6	0.0	0.6	11.0	0.6	0.0	
US Treasury STRIPS 15-20 Yr	15.8%	\$1,413	2.40%	0.11%	17.4	28%	3.1	0.0	0.0	0.6	15.5	1.3	
Subtotal Custom STRIPS	76.0%	\$6,795	2.21%	0.09%	9.5	73%	1.3	0.6	2.1	3.2	3.4	0.3	
Total Asset Exposure			\$8,941	2.67%	0.50%	10.0	100%	1.5	0.6	2.0	2.8	3.2	1.5
Total Liability Exposure			\$8,941	2.67%	0.50%	10.0		0.7	0.5	2.0	2.8	3.2	1.5
Net Funded Status Exposure			\$0	0.00%	0.00%	0.0	100%	0.8	Key Rate Duration Hedge Ratios				
									120%	100%	100%	100%	100%

Source: Bloomberg Barclays
As of 6/30/2019

Attachment B – Treasury STRIPS LDI Benchmark Construction, CUSIP-Level

Bloomberg Barclays US Treasury STRIPS Index Statistics Universe

USD

28-JUN-2019		(a)	(b)	(c) = (a) x (b) / 100	(d)	(e)	(f)	(g)	(h) = (g) / (a) * 100
CUSIP		Port. Ending Price	Port. Ending Quantity Held (Par Value)	Port. Ending Market Value (\$000s)	Port. Ending Weight (%)	Port. Ending Weight (%) - Excluding Securities Maturing Before 30-Sep-2020	Benchmark Weight (%)	Benchmark Weight (\$000s)	Benchmark Par Value (\$000s)
	Total			344,058,141	100.00				
	Years to Maturity Bin 1: > 20.0			161,705,997	47.00	47.00	--	--	
	Years to Maturity Bin 2: 15.0 - 20.0			36,238,241	10.53	10.53	20.79	1,412,713	
912803DG	0.0% 15-may-2039	62.80	2,930,889	1,840,628	0.53	0.53	1.06	71,755	114,258
912834DV	0.0% 15-may-2039	60.88	2,175,191	1,324,322	0.38	0.38	0.76	51,627	84,798
912803DF	0.0% 15-feb-2039	63.27	1,526,447	965,783	0.28	0.28	0.55	37,650	59,507
912834AU	0.0% 15-feb-2039	61.43	2,031,065	1,247,683	0.36	0.36	0.72	48,640	79,179
912834DU	0.0% 15-nov-2038	61.96	2,175,192	1,347,684	0.39	0.39	0.77	52,538	84,798
912834AT	0.0% 15-aug-2038	62.39	2,031,065	1,267,121	0.37	0.37	0.73	49,397	79,179
912803DD	0.0% 15-may-2038	65.09	1,577,095	1,026,594	0.30	0.30	0.59	40,021	61,482
912834AE	0.0% 15-may-2038	62.83	2,210,676	1,389,012	0.40	0.40	0.80	54,149	86,181
912803DC	0.0% 15-feb-2038	65.54	1,285,388	842,379	0.24	0.24	0.48	32,839	50,110
912833Z6	0.0% 15-feb-2038	63.30	2,059,183	1,303,401	0.38	0.38	0.75	50,812	80,275
912834AD	0.0% 15-nov-2037	63.81	2,210,676	1,410,699	0.41	0.41	0.81	54,995	86,181
912833Z5	0.0% 15-aug-2037	64.35	2,059,183	1,325,043	0.39	0.39	0.76	51,656	80,275
912803DA	0.0% 15-may-2037	67.24	491,508	330,480	0.10	0.10	0.19	12,883	19,161
912833Y4	0.0% 15-may-2037	64.82	2,222,964	1,440,836	0.42	0.42	0.83	56,170	86,660
912803CZ	0.0% 15-feb-2037	67.61	497,723	336,525	0.10	0.10	0.19	13,119	19,403
9128337F	0.0% 15-feb-2037	65.26	2,071,004	1,351,496	0.39	0.39	0.78	52,687	80,736
912833Y3	0.0% 15-nov-2036	65.70	2,222,964	1,460,465	0.42	0.42	0.84	56,935	86,660
9128337E	0.0% 15-aug-2036	66.15	2,071,004	1,370,011	0.40	0.40	0.79	53,409	80,736
912833Y2	0.0% 15-may-2036	66.66	2,222,963	1,481,827	0.43	0.43	0.85	57,768	86,660
912803CX	0.0% 15-feb-2036	69.23	3,871,347	2,680,017	0.78	0.78	1.54	104,478	150,921
9128335B	0.0% 15-feb-2036	67.11	2,158,109	1,448,372	0.42	0.42	0.83	56,463	84,132
912833X9	0.0% 15-nov-2035	67.59	2,222,964	1,502,501	0.44	0.44	0.86	58,574	86,660
9128335A	0.0% 15-aug-2035	68.08	2,158,109	1,469,284	0.43	0.43	0.84	57,279	84,132
912833X8	0.0% 15-may-2035	68.59	2,222,964	1,524,642	0.44	0.44	0.87	59,437	86,660
9128334Z	0.0% 15-feb-2035	69.07	2,158,109	1,490,692	0.43	0.43	0.86	58,113	84,132
9128337W	0.0% 15-nov-2034	69.59	2,222,964	1,546,961	0.45	0.45	0.89	60,307	86,660
9128334Y	0.0% 15-aug-2034	70.14	2,158,109	1,513,784	0.44	0.44	0.87	59,013	84,132



Years to Maturity Bin 3: 10.0 - 15.0				36,354,337	10.57	10.57	26.84	1,824,009	
9128337V	0.0% 15-may-2034	70.62	2,222,964	1,569,879	0.46	0.46	1.16	78,766	111,533
9128334X	0.0% 15-feb-2034	71.14	2,158,109	1,535,365	0.45	0.45	1.13	77,034	108,279
9128337U	0.0% 15-nov-2033	71.71	2,222,964	1,594,199	0.46	0.46	1.18	79,986	111,533
9128334W	0.0% 15-aug-2033	72.24	2,158,109	1,558,975	0.45	0.45	1.15	78,219	108,279
9128337T	0.0% 15-may-2033	72.76	2,222,964	1,617,473	0.47	0.47	1.19	81,154	111,533
9128334V	0.0% 15-feb-2033	73.29	2,158,109	1,581,657	0.46	0.46	1.17	79,357	108,279
9128337S	0.0% 15-nov-2032	73.83	2,222,964	1,641,170	0.48	0.48	1.21	82,343	111,533
9128334U	0.0% 15-aug-2032	74.32	2,158,109	1,603,993	0.47	0.47	1.18	80,477	108,279
9128337R	0.0% 15-may-2032	74.83	2,222,964	1,663,488	0.48	0.48	1.23	83,462	111,533
9128334T	0.0% 15-feb-2032	75.36	2,158,109	1,626,416	0.47	0.47	1.20	81,602	108,279
9128337Q	0.0% 15-nov-2031	75.86	2,222,964	1,686,318	0.49	0.49	1.25	84,608	111,533
9128334S	0.0% 15-aug-2031	76.36	2,158,109	1,647,910	0.48	0.48	1.22	82,681	108,279
9128337P	0.0% 15-may-2031	76.92	2,222,964	1,709,859	0.50	0.50	1.26	85,789	111,533
912803CK	0.0% 15-feb-2031	78.72	1,370,521	1,078,806	0.31	0.31	0.80	54,127	68,763
912833XZ	0.0% 15-feb-2031	77.46	2,194,942	1,700,136	0.49	0.49	1.26	85,301	110,127
9128337N	0.0% 15-nov-2030	77.96	2,222,964	1,733,134	0.50	0.50	1.28	86,957	111,533
912833XY	0.0% 15-aug-2030	78.56	2,194,942	1,724,412	0.50	0.50	1.27	86,519	110,127
912803CH	0.0% 15-may-2030	80.13	1,686,864	1,351,667	0.39	0.39	1.00	67,817	84,635
912833XU	0.0% 15-may-2030	79.11	2,275,678	1,800,175	0.52	0.52	1.33	90,320	114,178
912833XX	0.0% 15-feb-2030	79.59	2,194,942	1,747,042	0.51	0.51	1.29	87,654	110,127
912833XT	0.0% 15-nov-2029	80.20	2,275,678	1,825,071	0.53	0.53	1.35	91,569	114,178
912803CG	0.0% 15-aug-2029	81.59	696,279	568,066	0.17	0.17	0.42	28,502	34,934
912833XP	0.0% 15-aug-2029	80.73	2,216,266	1,789,125	0.52	0.52	1.32	89,766	111,197
Years to Maturity Bin 4: 5.0 - 10.0				50,494,632	14.68	14.68	27.89	1,895,539	
912833XS	0.0% 15-may-2029	81.26	2,275,679	1,849,262	0.54	0.54	1.02	69,420	85,428
912803BW	0.0% 15-feb-2029	82.50	187,400	154,598	0.04	0.04	0.09	5,803	7,035
912821BL	0.0% 15-feb-2029	82.49	600,000	494,928	0.14	0.14	0.27	18,579	22,524
912833XN	0.0% 15-feb-2029	81.78	2,229,060	1,822,948	0.53	0.53	1.01	68,432	83,678
912803BV	0.0% 15-nov-2028	83.00	774,769	643,089	0.19	0.19	0.36	24,141	29,084
912833WR	0.0% 15-nov-2028	82.30	2,296,048	1,889,579	0.55	0.55	1.04	70,934	86,192
912803BP	0.0% 15-aug-2028	83.50	731,605	610,890	0.18	0.18	0.34	22,932	27,464
912833RZ	0.0% 15-aug-2028	82.82	2,249,199	1,862,877	0.54	0.54	1.03	69,931	84,434
912833WQ	0.0% 15-may-2028	83.38	2,296,048	1,914,422	0.56	0.56	1.06	71,866	86,192
9128204M	0.0% 15-feb-2028	84.47	409,280	345,731	0.10	0.10	0.19	12,979	15,364
912833RY	0.0% 15-feb-2028	83.99	2,254,827	1,893,874	0.55	0.55	1.05	71,095	84,645
912803BM	0.0% 15-nov-2027	84.98	2,235,086	1,899,398	0.55	0.55	1.05	71,302	83,904
912833QB	0.0% 15-nov-2027	84.40	2,364,517	1,995,605	0.58	0.58	1.10	74,914	88,763
912803BL	0.0% 15-aug-2027	85.50	1,174,410	1,004,121	0.29	0.29	0.55	37,694	44,087
912833PE	0.0% 15-aug-2027	84.88	2,292,970	1,946,342	0.57	0.57	1.08	73,065	86,077
912833PD	0.0% 15-may-2027	85.43	2,364,517	2,019,912	0.59	0.59	1.12	75,826	88,763



912803BK	0.0% 15-feb-2027	86.47	741,131	640,819	0.19	0.19	0.35	24,056	27,822
912833PC	0.0% 15-feb-2027	85.88	2,317,560	1,990,390	0.58	0.58	1.10	74,718	87,000
912803BJ	0.0% 15-nov-2026	86.97	1,080,465	939,626	0.27	0.27	0.52	35,273	40,560
912833PB	0.0% 15-nov-2026	86.43	2,399,647	2,074,015	0.60	0.60	1.15	77,857	90,081
912803BH	0.0% 15-aug-2026	87.49	606,471	530,589	0.15	0.15	0.29	19,918	22,767
912833PA	0.0% 15-aug-2026	87.00	2,338,052	2,034,105	0.59	0.59	1.12	76,359	87,769
912833LZ	0.0% 15-may-2026	87.55	2,399,711	2,100,971	0.61	0.61	1.16	78,869	90,084
912803BG	0.0% 15-feb-2026	88.43	261,614	231,335	0.07	0.07	0.13	8,684	9,821
912833LY	0.0% 15-feb-2026	88.03	2,345,903	2,065,028	0.60	0.60	1.14	77,520	88,064
912833LX	0.0% 15-nov-2025	88.51	2,399,961	2,124,157	0.62	0.62	1.17	79,740	90,093
912803BF	0.0% 15-aug-2025	89.31	1,001,149	894,116	0.26	0.26	0.49	33,565	37,583
912833LW	0.0% 15-aug-2025	88.96	2,380,385	2,117,519	0.62	0.62	1.17	79,490	89,358
912833LV	0.0% 15-may-2025	89.53	2,399,961	2,148,805	0.62	0.62	1.19	80,665	90,093
912803BE	0.0% 15-feb-2025	90.26	618,436	558,188	0.16	0.16	0.31	20,954	23,216
912820T3	0.0% 15-feb-2025	90.31	500,401	451,907	0.13	0.13	0.25	16,964	18,785
912833LU	0.0% 15-feb-2025	89.97	2,408,966	2,167,419	0.63	0.63	1.20	81,364	90,431
912803BD	0.0% 15-nov-2024	90.78	635,610	576,988	0.17	0.17	0.32	21,660	23,860
912833LT	0.0% 15-nov-2024	90.54	2,423,803	2,194,487	0.64	0.64	1.21	82,380	90,988
912820P8	0.0% 15-aug-2024	91.29	123,076	112,355	0.03	0.03	0.06	4,218	4,620
912833LS	0.0% 15-aug-2024	91.03	2,410,428	2,194,237	0.64	0.64	1.21	82,370	90,486
Years to Maturity Bin 5: 0.0 - 5.0				59,264,934	17.23	17.23	24.47	1,663,067	
912833LR	0.0% 15-may-2024	91.50	2,423,817	2,217,890	0.64	0.91	1.30	88,065	96,242
912820L4	0.0% 15-feb-2024	92.21	272,799	251,540	0.07	0.10	0.15	9,988	10,832
912833LQ	0.0% 15-feb-2024	91.97	2,414,179	2,220,200	0.65	0.91	1.30	88,157	95,859
912820J6	0.0% 15-nov-2023	92.64	1,600,817	1,482,949	0.43	0.61	0.87	58,883	63,563
912833LP	0.0% 15-nov-2023	92.48	2,445,828	2,261,902	0.66	0.93	1.32	89,813	97,116
912803BC	0.0% 15-aug-2023	93.10	170,889	159,101	0.05	0.07	0.09	6,317	6,785
912833LM	0.0% 15-aug-2023	92.91	2,419,532	2,248,084	0.65	0.92	1.31	89,264	96,072
912820F3	0.0% 15-may-2023	93.52	194,000	181,421	0.05	0.07	0.11	7,204	7,703
912833LN	0.0% 15-may-2023	93.36	2,447,526	2,284,912	0.66	0.94	1.34	90,726	97,183
912803BB	0.0% 15-feb-2023	93.93	324,574	304,872	0.09	0.13	0.18	12,105	12,888
912833LL	0.0% 15-feb-2023	93.79	2,431,134	2,280,136	0.66	0.94	1.33	90,537	96,532
912803BA	0.0% 15-nov-2022	94.39	476,517	449,789	0.13	0.18	0.26	17,860	18,921
912833LK	0.0% 15-nov-2022	94.20	2,465,715	2,322,778	0.68	0.96	1.36	92,230	97,905
912803AZ	0.0% 15-aug-2022	94.76	653,482	619,226	0.18	0.25	0.36	24,587	25,948
912820RU	0.0% 15-aug-2022	94.70	446,385	422,740	0.12	0.17	0.25	16,786	17,724
912833LJ	0.0% 15-aug-2022	94.64	2,458,449	2,326,602	0.68	0.96	1.36	92,382	97,617
912833LH	0.0% 15-may-2022	95.05	2,466,005	2,343,864	0.68	0.96	1.37	93,067	97,917
912820ZW	0.0% 15-feb-2022	95.59	136,445	130,422	0.04	0.05	0.08	5,179	5,418
912833LG	0.0% 15-feb-2022	95.44	2,459,813	2,347,572	0.68	0.97	1.37	93,214	97,671
912803AY	0.0% 15-nov-2021	95.89	1,650,439	1,582,688	0.46	0.65	0.92	62,843	65,533



912833LF	0.0% 15-nov-2021	95.84	2,532,667	2,427,409	0.71	1.00	1.42	96,384	100,564
912803AX	0.0% 15-aug-2021	96.30	366,550	352,991	0.10	0.15	0.21	14,016	14,554
912820YT	0.0% 15-aug-2021	96.30	165,200	159,089	0.05	0.07	0.09	6,317	6,560
912833LE	0.0% 15-aug-2021	96.26	2,476,529	2,383,857	0.69	0.98	1.39	94,655	98,335
912803AW	0.0% 15-may-2021	96.69	381,507	368,871	0.11	0.15	0.22	14,647	15,148
912833LD	0.0% 15-may-2021	96.66	2,549,226	2,463,980	0.72	1.01	1.44	97,836	101,221
912803AV	0.0% 15-feb-2021	97.12	161,472	156,817	0.05	0.06	0.09	6,227	6,412
912833LC	0.0% 15-feb-2021	97.08	2,484,892	2,412,283	0.70	0.99	1.41	95,784	98,667
9128203V	0.0% 15-nov-2020	97.48	129,000	125,750	0.04	0.05	0.07	4,993	5,122
912833LB	0.0% 15-nov-2020	97.52	2,551,232	2,487,859	0.72	1.02	1.45	98,785	101,301
912820X5	0.0% 30-sep-2020	97.64	108,800	106,229	0.03	0.04	0.06	4,218	4,320
912803AU	0.0% 15-aug-2020	97.93	417,166	408,531	0.12	--	--	--	--
912820WM	0.0% 15-aug-2020	97.87	312,648	305,992	0.09	--	--	--	--
912833LA	0.0% 15-aug-2020	97.92	2,507,246	2,455,145	0.71	--	--	--	--
912803AT	0.0% 15-may-2020	98.40	480,530	472,832	0.14	--	--	--	--
912833KZ	0.0% 15-may-2020	98.38	2,573,958	2,532,234	0.74	--	--	--	--
912803AS	0.0% 15-feb-2020	98.79	379,656	375,043	0.11	--	--	--	--
912820VH	0.0% 15-feb-2020	98.72	305,940	302,021	0.09	--	--	--	--
912833KY	0.0% 15-feb-2020	98.77	2,529,396	2,498,183	0.73	--	--	--	--
912820US	0.0% 15-nov-2019	99.23	980,588	973,008	0.28	--	--	--	--
912833KX	0.0% 15-nov-2019	99.28	2,590,870	2,572,242	0.75	--	--	--	--
9128205P	0.0% 15-sep-2019	99.56	700,800	697,681	0.20	--	--	--	--
912803AR	0.0% 15-aug-2019	99.75	725,978	724,163	0.21	--	--	--	--
9128203F	0.0% 15-aug-2019	99.74	257,098	256,424	0.07	--	--	--	--
912820UD	0.0% 15-aug-2019	99.74	250,286	249,630	0.07	--	--	--	--
912833KW	0.0% 15-aug-2019	99.75	2,564,389	2,557,978	0.74	--	--	--	--

Sources: Factset, Bloomberg Barclays
As of 6/30/2019

Attachment C – Aon Yield Curve Methodology

Pricing information for Aon yield curves is sourced from Bloomberg Barclays.

Aon STRIPS yield curve includes all outstanding STRIPS in the marketplace on the measurement date, including both on-the-run and off-the-run securities. Bloomberg Barclays publishes pricing indices in one year maturity bands from which Aon calculates composite yields and durations. Aon then linearly interpolates between these data points to create a piecewise yield curve

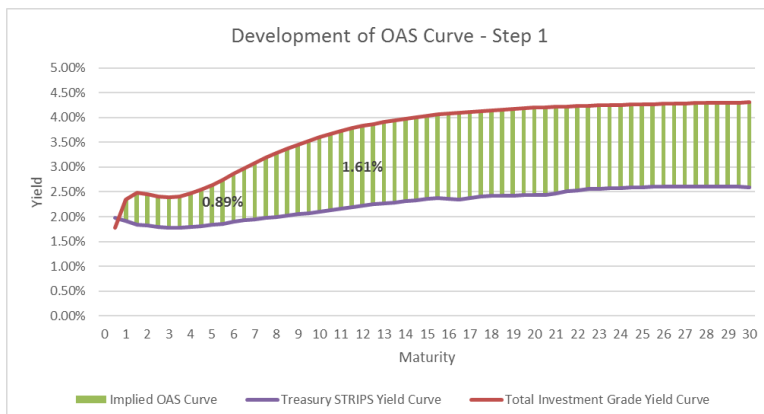
Aon Investment Grade yield curve represents the constituency of the U.S. Corporate Index. Bonds must meet the following criteria:

- Non-callable, non-putable, and non-sinkable
- At least \$300m par outstanding
- Between ½ year and 30 years maturity
- Fixed coupon payments and one principal payment at maturity

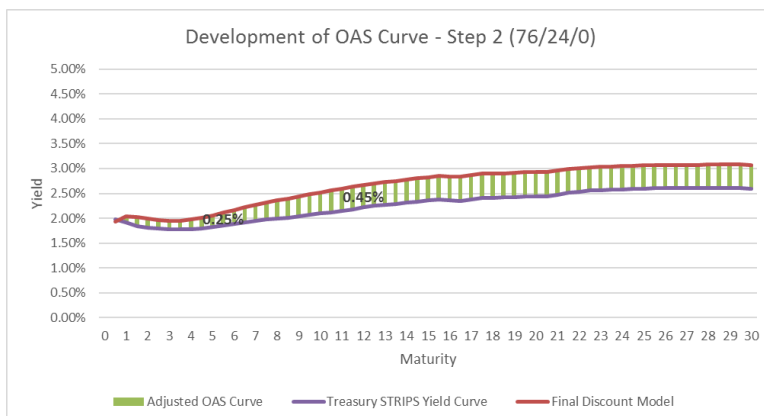
For bonds meeting the requirements, we then use non-linear regression techniques to determine the discount function that produces the smallest sum of squared errors in bond price, where those errors are weighted by amount outstanding for each of the underlying bonds. We exclude bonds that have a yield to maturity that significant deviates from the modeled yield, then re-run the regression. Resulting values from the discount function are then translated directly into equivalent forward rates which are then compounded to determine spot rates.

Attachment D – OAS Curve Methodology

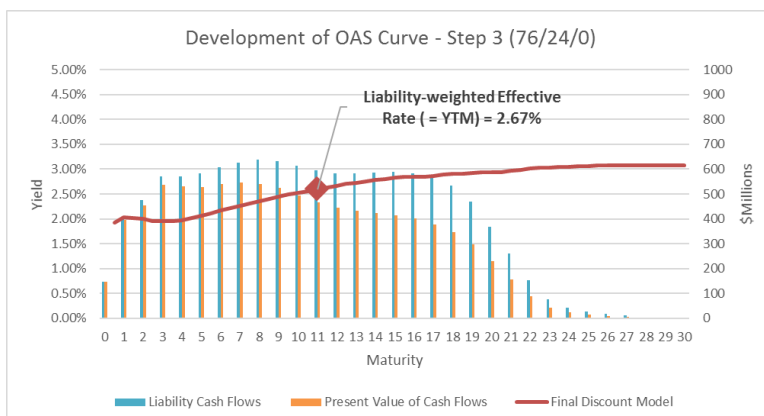
1. Start with an investment grade yield curve, subtract Treasury STRIPS yield curve to determine implied OAS curve



2. Apply a scalar adjustment to the OAS curve to account for the portfolio allocation to corporates and further adjust for differences in the duration of corporate portfolio relative to the liabilities



3. Impute the scalar adjustment in #2 needed to make the liability-weighted effective rate equal the yield-to-maturity for the hedged bond portfolio



Attachment E – Aon STRIPS and OAS Curves

Implied Spot Yield Curve
Pricing as of June 30,
2019
Based on:

OAS Curve
Pricing as of June 30,
2019
Based on:

Maturity Date	Yield to Maturity
01/01/2020	1.98%
07/01/2020	1.91%
01/01/2021	1.85%
07/01/2021	1.82%
01/01/2022	1.79%
07/01/2022	1.78%
01/01/2023	1.77%
07/01/2023	1.79%
01/01/2024	1.80%
07/01/2024	1.83%
01/01/2025	1.86%
07/01/2025	1.89%
01/01/2026	1.92%
07/01/2026	1.95%
01/01/2027	1.97%
07/01/2027	1.99%
01/01/2028	2.02%
07/01/2028	2.05%
01/01/2029	2.08%
07/01/2029	2.10%
01/01/2030	2.12%
07/01/2030	2.15%
01/01/2031	2.18%
07/01/2031	2.22%
01/01/2032	2.25%
07/01/2032	2.27%
01/01/2033	2.29%
07/01/2033	2.31%
01/01/2034	2.33%
07/01/2034	2.35%
01/01/2035	2.38%
07/01/2035	2.36%
01/01/2036	2.35%
07/01/2036	2.38%
01/01/2037	2.41%
07/01/2037	2.42%
01/01/2038	2.42%
07/01/2038	2.43%
01/01/2039	2.44%
07/01/2039	2.44%
01/01/2040	2.44%
07/01/2040	2.47%
01/01/2041	2.51%
07/01/2041	2.53%
01/01/2042	2.56%
07/01/2042	2.56%
01/01/2043	2.57%
07/01/2043	2.58%
01/01/2044	2.59%
07/01/2044	2.60%
01/01/2045	2.60%
07/01/2045	2.60%
01/01/2046	2.60%
07/01/2046	2.60%
01/01/2047	2.60%
07/01/2047	2.61%
01/01/2048	2.61%
07/01/2048	2.61%
01/01/2049	2.60%

Maturity Date	Yield to Maturity
01/01/2020	1.93%
07/01/2020	2.04%
01/01/2021	2.02%
07/01/2021	1.99%
01/01/2022	1.96%
07/01/2022	1.95%
01/01/2023	1.95%
07/01/2023	1.98%
01/01/2024	2.01%
07/01/2024	2.06%
01/01/2025	2.11%
07/01/2025	2.16%
01/01/2026	2.22%
07/01/2026	2.27%
01/01/2027	2.31%
07/01/2027	2.36%
01/01/2028	2.40%
07/01/2028	2.44%
01/01/2029	2.48%
07/01/2029	2.52%
01/01/2030	2.56%
07/01/2030	2.59%
01/01/2031	2.63%
07/01/2031	2.67%
01/01/2032	2.70%
07/01/2032	2.73%
01/01/2033	2.75%
07/01/2033	2.78%
01/01/2034	2.80%
07/01/2034	2.83%
01/01/2035	2.85%
07/01/2035	2.84%
01/01/2036	2.84%
07/01/2036	2.87%
01/01/2037	2.89%
07/01/2037	2.90%
01/01/2038	2.91%
07/01/2038	2.92%
01/01/2039	2.93%
07/01/2039	2.93%
01/01/2040	2.94%
07/01/2040	2.96%
01/01/2041	2.99%
07/01/2041	3.01%
01/01/2042	3.03%
07/01/2042	3.03%
01/01/2043	3.04%
07/01/2043	3.05%
01/01/2044	3.06%
07/01/2044	3.06%
01/01/2045	3.07%
07/01/2045	3.07%
01/01/2046	3.07%
07/01/2046	3.07%
01/01/2047	3.07%
07/01/2047	3.08%
01/01/2048	3.08%
07/01/2048	3.08%
01/01/2049	3.08%

Attachment F – Aon Approach to Portfolio Construction

Index	Asset Allocation		Portfolio Metrics					Key Rate Duration Distribution				
	% Alloc	\$ Alloc	YTM	OAS	Duration	Ratio	Convexity	0-5	5-10	10-15	15-20	20+
Intermediate US Corporate	5.5%	\$492	2.75%	0.91%	4.3	2%	0.2	1.7	2.5	0.1	0.0	0.0
Long US Corporate	18.5%	\$1,654	3.96%	1.60%	13.8	26%	2.7	0.5	1.3	2.1	3.1	6.9
Subtotal Spread Products	24.0%	\$2,146	3.86%	1.54%	11.6	28%	2.1	0.8	1.6	1.6	2.4	5.3
US Treasury STRIPS 0-5 yr	18.6%	\$1,663	1.85%	0.00%	2.4	5%	0.1	2.2	0.2	0.0	0.0	0.0
US Treasury STRIPS 5-10 yr	21.2%	\$1,896	1.97%	0.06%	7.4	16%	0.6	0.3	6.7	0.4	0.0	0.0
US Treasury STRIPS 10-15 Yr	20.4%	\$1,824	2.23%	0.11%	12.2	25%	1.6	0.0	0.6	11.0	0.6	0.0
US Treasury STRIPS 15-20 Yr	15.8%	\$1,413	2.40%	0.11%	17.4	28%	3.1	0.0	0.0	0.6	15.5	1.3
Subtotal Custom STRIPS	76.0%	\$6,795	2.21%	0.09%	9.5	73%	1.3	0.6	2.1	3.2	3.4	0.3
Total Asset Exposure		\$8,941	2.67%	0.50%	10.0	100%	1.5	0.6	2.0	2.8	3.2	1.5
Total Liability Exposure		\$8,941	2.67%	0.50%	10.0		0.7	0.5	2.0	2.8	3.2	1.5
Net Funded Status Exposure		\$0	0.00%	0.00%	0.0	100%	0.8	Key Rate Duration Hedge Ratios				
								120%	100%	100%	100%	100%

1. Determine maximum allocation to Long US Corporate without over-hedging liability 20+ key rate duration
2. Remaining corporate allocation goes to Intermediate US Corporate
3. Build custom STRIPS portfolio to wrap around corporate portfolio and hedge remaining maturities at 100%

COMPREHENSIVE INVESTMENT PLAN

STANLEY G. TATE FLORIDA PREPAID COLLEGE PROGRAM

Effective Date: September 24, 2019

I. OVERVIEW

The Stanley G. Tate Florida Prepaid College Program (Program) was created pursuant to Section 1009.98, Florida Statutes, to provide a medium through which the cost of enrollment in a state postsecondary institution may be paid in advance at a rate lower than the projected corresponding cost at the time of actual enrollment. Payments are combined and invested in a manner that yields, at a minimum, sufficient earnings to generate the difference between the prepaid amount and the cost of enrollment. Program funds are held in the Florida Prepaid College Trust Fund (Fund), established by Section 1009.972, Florida Statutes, within the State Board of Administration. The Fund may be invested pursuant to Section 215.47, Florida Statutes. Pursuant to Section 1009.972(4), Florida Statutes, the Fund is exempt from the investment requirements of Section 17.57.

II. GOVERNANCE

The Program is administered by the Florida Prepaid College Board (Board) which was created pursuant to Section 1009.97, Florida Statutes.

In accordance with Section 1009.973, Florida Statutes, the Board has established this Comprehensive Investment Plan (CIP), subject to approval by the State Board of Administration. This CIP formally documents the investment policy and strategies employed by the Board to meet the projected Program liabilities.

The Board has the necessary powers and duties to carry out the provisions of Section 1009.97, Florida Statutes. This includes, but is not limited to, the responsibility to administer the Program in an actuarially sound manner to defray its obligations and invest funds not required for immediate disbursement in accordance with this CIP. The Board may delegate responsibility for administration of this CIP to a committee of the Board or to a person duly chosen by the Board.

The Executive Director serves at the pleasure of the Board as the chief administrative and operational officer of the Board. The Executive Director is responsible for managing and executing the investment and debt responsibilities of the Board. This includes developing and implementing Investment Guidelines, as approved by the Board, which reflect the goals and objectives of this CIP.

III. CONTRACTUAL RELATIONSHIPS

The Executive Director shall manage all external contractual relationships in accordance with the fiduciary responsibilities of the Board.

Pursuant to Section 1009.971, Florida Statutes, the Board solicits proposals and contracts for investment consultant, trustee, and investment management services. The Board also contracts for actuarial services. There may be more than one provider for each service; their respective responsibilities are summarized below.

Actuary

The Actuary shall perform periodic valuations of the Program to determine actuarial soundness and provide projections for future asset and liability patterns. The Actuary also conducts special experience and other Program studies to support Program valuation assumptions and policy considerations.

Investment Consultant

The Investment Consultant shall review the performance of the Investment Managers and advise the Board on investment management, performance matters, portfolio design and structure, asset allocation issues, and investment policy, including the contents of this CIP and the Investment Guidelines.

Trustee

The Trustee is responsible for the safekeeping of Program investment assets and management of the securities lending program.

Pursuant to Section 1009.971(5)(c), the Trustee shall agree to meet the obligations of the Board to qualified beneficiaries if moneys in the Fund fail to offset the obligations of the Board as a result of imprudent selection or supervision of investment programs by the Trustee.

Investment Managers

The Board may hire one or more investment managers for each investment option. Investment managers will be selected as a result of a competitive procurement process as required by Section 287, Florida Statutes. Selection will be based on best value to the Board. Evaluation areas for best value shall include, but not be limited to, experience, strategy, performance and fees. Investment Managers will have investment discretion as to security selection within the requirements expressed in the CIP and Investment Guidelines.

The Investment Managers shall invest Program assets, as specified by the Board, with care, skill, prudence, and diligence. This includes promptly voting all proxies solicited in connection with securities under the investment manager's supervision and maintaining detailed records of the voting of proxies and related actions. The Investment Manager shall evidence superior performance while maintaining strict compliance with all applicable provisions of law and may exercise discretion within the bounds of this CIP and the Investment Guidelines.

Pursuant to Section 1009.971(5)(d), the Investment Manager shall:

- Be limited to authorized insurers as defined in Section 624.09, banks as defined in Section 658.12, associations as defined in Section 665.012, authorized Securities and Exchange Commission investment advisers, and investment companies as defined in the Investment Company Act of 1940.
- Have their principal place of business and corporate charter located and registered in the United States.
- Agree to meet the obligations of the Board to qualified beneficiaries if moneys in the Fund fail to offset the obligations of the Board as a result of imprudent investing by the Investment Manager.

IV. CONFLICTS OF INTEREST

The Board, its designees, and any service provider operating on behalf of the Board has a duty and obligation to disclose conflicts of interest. The Board shall require timely and sufficient disclosure of conflicts of interest that may exist between the Board, service providers, potential service providers, investments, potential investments, and other entities or transactions.

The Investment Consultant and the Trustee shall annually certify that no conflicts of interest exist relative to the services provided for the Program.

V. INVESTMENT OBJECTIVE AND STRATEGY

The principal objective of the Fund is to meet the projected liability obligations of the Program while earning incremental income on the funds that exceed the liabilities. To achieve this, the Fund is divided into two segments: Liability and Actuarial Reserve.

The liability segment employs a liability driven investment strategy that (1) mitigates the risk of funding status deficiency and (2) maintains appropriate liquidity to address projected Program liability cash flows.

The actuarial reserve segment is invested to seek incremental yield within appropriate risk levels.

VI. INVESTMENT GOALS

To support the Fund objective, the Board has established the following investment goals, listed in order of priority.

Safety

The primary investment priority is to position the Program to meet future liabilities. The Fund shall be maintained with sufficient diversification among security issues and market sectors such that the performance of one security or sector will not have an excessive impact on the Fund.

Liquidity

Program investments must provide adequate liquidity to meet the future liabilities of the Program. Consideration will be given to investment maturities, investment income, and fund receipts.

Yield

After meeting safety and liquidity requirements, the Board aims to maximize investment returns within appropriate levels of risk.

VII. COMPREHENSIVE INVESTMENT PLAN

The Comprehensive Investment Plan (CIP) includes the investment policies utilized by the Board in its administration of the Program. Investment policies included in the CIP provide direction intended to set the framework for the Program's investments. Per Section 1009.973, Florida Statutes, the CIP is subject to the approval of the State Board of Administration.

VIII. INVESTMENT GUIDELINES

Investment Guidelines are intended to set forth the specific investment strategies, limitations and targets necessary to implement the CIP. Investment Guidelines are subject to the approval of the Board.

IX. ASSET/LIABILITY STUDY

An asset/liability study shall be conducted at least once every five years. The asset/liability study will provide a fundamental review of the strategic relationship between the overall investment program and the liabilities for which they serve. The focus will be to provide the Board with the information required to manage the risk associated with the Prepaid Plan. It will relate the risk/reward trade-offs of various investment programs to the liabilities relative to the interest rate risk and tuition inflation scenarios. The process will guide the Board to an investment structure which balances the objective of surplus growth with the concern for surplus volatility.

X. ASSET ALLOCATION

Asset allocation refers to the strategic deployment of assets among investment types. Assets are allocated to Fund Segments to meet the primary investment goal of positioning the Fund to meet future liabilities.

The board may maintain up to 5% of the Funds balance in cash for operating purposes. The cash shall be invested in 2a7 (actual or like) money market vehicles such as Florida Prime or an equivalent sweep vehicle provided by the Trustee.

The remaining funds shall be allocated as follows:

Fund Segment	Allocation
Liability Segment	100% of Net Actuary projected Program liabilities
Actuarial Reserve Segment	Remaining funds

XI. LIABILITY SEGMENT

The Liability Segment is established to match participant payments and future investment returns with Program liabilities as projected by the Actuary. The segment allocation shall not be less than future Program liabilities, net of projected participant payments.

The Liability Segment shall utilize an immunized fixed income investment strategy which is reconstituted periodically using the liability profile determined by the Actuary.

Authorized investment vehicles for the Liability Segment:

Cash or Cash Equivalent – Maximum allocation 10% of the Liability Segment

1. Deposit accounts and certificates of deposit in banks
2. 2a7 (actual or like) money market funds
3. Collateralized repurchase agreements for which the underlying securities are obligations of the United States Treasury or agencies of the United States Government
4. Commercial paper of prime quality
 - Must be rated the highest letter and numerical rating provided by at least two nationally recognized rating service

Obligations of the United States Treasury or Agencies – Maximum allocation 100% of the Liability Segment

1. United States Treasury bonds and notes
2. Interest and principal strips of Treasury securities
3. Treasury Inflation Protection Securities (TIPS)
4. Agencies of the United States Government
 - Not restricted to full-faith and credit obligations

Municipal securities – Maximum allocation of 20% of the Liability Segment

1. General Obligation or Revenue bonds
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
2. Build America Bonds (BABs) are permitted, but limited to 10% of the Liability Segment
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher

Corporate debt obligations – Maximum allocation of 40% of the Liability Segment

1. Registered Bonds
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
 - Convertible securities are not permitted
2. 144(a) securities (with and without registration rights) are permitted
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
3. Bank Loans

Residential Mortgage Backed Securities – Maximum allocation of 20% of the Liability Segment

1. United States Agency Mortgage backed securities
2. Privately Issued Mortgage Backed securities
 - Includes but is not limited to real estate mortgage investment conduits
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
3. Mortgage To Be Announced (TBA) securities
 - Requires a cash equivalent set aside for future settlement of the forward agreement

Other Collateralized Securities – Maximum allocation of 10% of the Liability Segment

1. Asset-backed securities
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
2. 144(a) securities (with and without registration rights) are permitted
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
3. Commercial Mortgage Backed Securities
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher

Foreign Debt Securities – Maximum allocation of 10% of the Liability Segment

1. Supranational Debt Obligations
 - Must be U.S. dollar-denominated
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
2. Sovereign Debt Obligations
 - Must be U.S. dollar-denominated
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
3. Foreign Debt Obligations
 - Must be U.S. dollar-denominated
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher

Commingled Investment Funds

1. Exchange Traded Funds (ETF's) traded on domestic exchanges

- Primarily invested in authorized investment vehicles for the Liability Segment
 - Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement
2. Commingled investment funds and mutual funds
- Primarily invested in authorized investment vehicles for the Liability Segment
 - Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement

Derivatives

1. The following uses of derivatives are authorized:
- Substitute for physical securities
 - Duration management
 - Risk control

The Program does not engage in short selling of securities.

The Board approves the target allocation for the Liability Segment. Target allocations and benchmarks are set forth in the Investment Guidelines.

Debt obligations with expected ratings are permissible as long as the rating is in compliance with the applicable rating requirement.

Securities included in an approved benchmark that are not specifically identified above are authorized with a limit of 2% above the benchmark weighting.

XII. ACTUARIAL RESERVE SEGMENT

Any amount in the Fund that exceeds the Liability Segment is the Actuarial Reserve Segment. The Actuarial Reserve Segment is invested to seek incremental yield within appropriate risk levels based on how the Program is operating. Items to consider are market conditions, tuition pricing, product offerings, etc.

Authorized investment vehicles for the Actuarial Reserve Segment:

Cash or Cash Equivalent

1. Deposit accounts and certificates of deposit in banks
2. 2a7 (actual or like) money market funds
3. Collateralized repurchase agreements for which the underlying securities are obligations of the United States Treasury or agencies of the United States Government
4. Commercial paper of prime quality
 - Must be rated the highest letter and numerical rating provided by at least two nationally recognized rating service

Obligations of the United States Treasury or Agencies

1. United States Treasury bonds and notes

2. Interest and principal strips of Treasury securities
3. Treasury Inflation Protection Securities (TIPS)
4. Agencies of the United States Government without restriction to full-faith and credit obligations

Municipal securities

1. General Obligation or Revenue bonds.
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
2. Build America Bonds (BABs) are permitted, but limited to 10% of the Liability Segment
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher

Corporate debt obligations

1. Registered Bonds
2. 144(a) securities (with and without registration rights) are permitted
3. Convertible and preferred securities
4. Bank Loans

Residential Mortgage Backed Securities

1. United States Agency Mortgage backed securities
2. Privately Issued Mortgage Backed securities
 - Includes but is not limited to real estate mortgage investment conduits
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
3. Mortgage To Be Announced (TBA) securities.
 - Requires a cash equivalent set aside for future settlement of the forward agreement

Other Collateralized Securities

1. Asset-backed securities
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
2. 144(a) securities (with and without registration rights) are permitted
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
3. Commercial Mortgage Backed Securities
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
4. Collateralized Loan Obligations and Collateralized Mortgage Obligations
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher

Foreign Debt Securities

1. Supranational Debt Obligations
2. Sovereign Debt Obligations

3. Foreign Debt Obligations

Common Stock

1. Domestic Equities
 - Traded on domestic exchanges, including over-the-counter markets and recognized third and fourth markets
2. American Depositary Receipts
 - Traded on domestic exchanges, including over-the-counter markets and recognized third and fourth markets
3. Foreign Equities
 - Foreign-domiciled companies traded on domestic or non-U.S. exchanges, including over-the-counter markets

Commingled Investment Funds

1. Exchange Traded Funds (ETF's) traded on domestic exchanges,
 - Primarily invested in authorized investment vehicles for the Actuarial Reserve Segment
 - Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement
2. Commingled investment funds and mutual funds
 - Primarily invested in authorized investment vehicles for the Actuarial Reserve Segment
 - Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement

Derivatives

1. The following uses of derivatives are authorized:
 - Substitute for physical securities
 - Duration management
 - Risk control
 - Foreign currency hedging

Real Estate

1. Equity, debt and other interests in real estate assets.

The Program does not engage in short selling of securities.

Debt obligations with expected ratings are permissible as long as the rating is in compliance with the applicable rating requirement.

Securities included in an approved benchmark that are not specifically identified above are authorized with a limit of 2% above the benchmark weighting.

The Board approves the target allocation for the Actuarial Reserve Segment. Target allocations and benchmarks are set forth in the Investment Guidelines.

XIII. ALLOCATION MONITORING AND REBALANCING

The Board shall review the Segment and Security Type allocations not less than quarterly. The Board shall adopt guidelines for rebalancing the Segment and Security Types in the Investment Guidelines.

XIV. COMPLIANCE

At a minimum, each Investment Manager shall certify compliance with this CIP and the Investment Guidelines at least quarterly. In the event of noncompliance, exceptions shall be reported to the Board with proposed actions to bring the portfolio into compliance.

XV. NON-COMPLIANT INVESTMENTS

Any investment that is not in compliance with the CIP and/or Guidelines at the time of purchase must be sold immediately. Any loss on the sale will be the responsibility of the Investment Manager.

Investments that are in compliance with the CIP and/or Guidelines at time of purchase but fall out of compliance due to a rating downgrade are not required to be immediately sold. The Investment Manager must notify the Board of such securities within 10 days of the downgrade. If an Investment Manager believes that it is in the best interest of the Board to hold the security, the Investment Manager can present a recommendation to hold the investment along with justification in writing to the Board.

If determined to be in the best interest of the Board, downgraded securities can be required to be sold immediately.

XVI. PERFORMANCE MEASUREMENT

The Investment Consultant shall calculate official performance results for the Board monthly, pursuant to the recommended guidelines of the CFA Institute, currently Global Investment Performance Standards (GIPS), where applicable, and in accordance with the Investment Guidelines.

XVII. REPORTING

The Executive Director shall create, or cause to be created, quarterly reports for the Board of investment matters including, but not limited to, investment management, investment performance, asset allocation, and rebalancing.

XVIII. SECURITIES LENDING

The Board may loan one or more securities held in the Fund. Loans must be collateralized at no less than 102% of the market value of the borrowed securities or 105% if the borrowed securities and collateral are denominated in different currencies. Collateral shall be obtained at the time the transaction is executed and maintained throughout the term of the loan. At no time, shall the market value of collateral be less than the market value of the loan.

Authorized non-cash collateral:

1. Obligations issued or guaranteed by the U.S. Government or its agencies

Authorized investment vehicles for reinvestment of cash collateral:

Cash or Cash Equivalent

1. Deposit accounts and certificates of deposit in banks

2. 2a7 (actual or like) money market funds
3. Repurchase agreements with the following collateral types:
 - Obligations of the United States Treasury or agencies of the United States Government
 - Equity securities
 - corporate bonds
 - Commercial paper and certificates of deposit
4. Commercial paper of prime quality
 - Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category
5. Asset-backed commercial paper
 - Excludes structured investment vehicles, extendable commercial notes and liquidity notes
 - Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

Obligations of the United States Treasury or Agencies

1. United States Treasury bonds and notes
2. Interest and principal strips of Treasury securities
3. Treasury Inflation Protection Securities (TIPS)
4. Agencies of the United States Government
 - Not restricted to full-faith and credit obligations

Municipal securities

1. General Obligation or Revenue bonds
 - Must be rated by at least two nationally recognized rating services A-/A3 or higher. If rated by only one nationally recognized rating service, then the rating must be AA-/Aa3 or higher
2. Build America Bonds (BABs) are permitted, but limited to 10% of the cash collateral
 - Must be rated by at least two nationally recognized rating services A-/A3 or higher. If rated by only one nationally recognized rating service, then the rating must be AA-/Aa3 or higher

Short Term Corporate debt obligations

1. Registered Bonds
 - Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category
2. 144(a) securities (with and without registration rights) are permitted

- Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

Short Term Foreign Debt Securities

1. Supranational Debt Obligations

- Must be U.S. dollar-denominated and registered with the SEC
- Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

2. Sovereign Debt Obligations

- Must be U.S. dollar-denominated and registered with the SEC
- Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

3. Foreign Debt Obligations

- Must be U.S. dollar-denominated and registered with the SEC
- Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

INVESTMENT GUIDELINES

STANLEY G. TATE FLORIDA PREPAID COLLEGE PROGRAM

Effective Date: September 26, 2019

I. OVERVIEW

The Florida Prepaid College Board (Board) has established the following Investment Guidelines to support implementation of the policy and strategy set forth in the Comprehensive Investment Plan (CIP) for the Stanley G. Tate Florida Prepaid College Program (Program). The Investment Guidelines are maintained with the CIP but they are managed separately by the Board to allow for timely response to market conditions and environmental factors that may affect the Program.

II. ASSET ALLOCATION TARGET

Where applicable, the Board has established target allocations within the fund segments. The allocation may deviate from the target allocation, within the allowable range(s) provided in the CIP.

Liability Segment

The Liability Segment represents the total liability obligations (including benefits, cancellation refunds and other expenses) less the present value of projected future premium contributions as calculated by the Actuary.

The target security type allocation for the Liability Segment of the Fund and the related benchmarks are as follows:

Security Type	Current Allocation	Range*	Long-Term Target Allocation	Benchmark Index
U.S. Government Backed Securities	76%	66 - 86%	60%	Policy weighted by security selection
Investment Grade Corporate Bonds	24%	14 - 34%	40%	Bloomberg Barclays U.S. Intermediate Corporate/ Bloomberg Barclays U.S. Long Corporate

* Actively managed portfolios are authorized to be +/- 10% for Investment Grade Corporate Bonds.

The target allocation above represents an allocation to be achieved over time. Currently, the allocation is overweight U.S. Government Backed Securities and underweight Investment Grade Corporate Bonds. The Board will direct the transition to the target based on factors including, but not limited to: (1) plan prices, (2) anticipated tuition and fee inflation, (3) the strength of the actuarial reserve, and (4) plan sales.

Performance of the Liability Segment is evaluated against a custom target-weighted blend of the benchmarks for each security type in the segment. The custom benchmark is developed to replicate the behavior of the Program liabilities; thus, mitigating volatility in the funding status.

Actuarial Reserve Segment

The target Security Type allocations for the Actuarial Reserve Segment of the Fund and the related benchmarks are as follows:

Security Type	Target Allocation	Benchmark Index
Fixed Income		
Fixed Income – Active	27%	Bloomberg Barclays U.S. Aggregate Bond Index
Fixed Income – Passive	3%	Bloomberg Barclays U.S. Aggregate Float Adjusted Index
Domestic Equity		
Large Cap Growth Equity	7%	Russell 1000 Growth
Large Cap Value Equity	7%	Russell 1000 Value
Large Cap Core Equity	28%	S&P 500
Mid Cap Equity	7%	Russell 2500
Small Cap Equity	7%	Russell 2000
International Equity		
International Equity	14%	MSCI EAFE

At least quarterly, the Board shall review the target allocations.

Each Security Type has a range of +/- 5% relative to its target allocation. In order to maintain the target allocation for each Security Type, the allocation shall be monitored monthly and rebalanced to the target when the allowable ranges are exceeded. The allocation should be brought back into compliance within five business days.

Performance of the Actuarial Reserve Segment will be evaluated at the Security Type level against the benchmark for each security type.

III. COMMINGLED ACCOUNTS AND BENCHMARKS

The Board has approved the following commingled accounts and related benchmarks:

Commingled Account	Benchmark
Total Bond Market Index	Bloomberg Barclays U.S. Aggregate Float Adjusted Index

Commingled accounts are monitored per the requirements in the Guidelines for Commingled Accounts.

IV. EXCESS RETURN AND TRACKING ERROR TARGETS

Each Investment Manager has established gross excess return and ex post tracking error targets.

Liability Segment

Investment Manager	Excess Return Target	Tracking Error Target
Neuberger Berman	20 bps	50 bps
Insight	20 bps	50 bps
BlackRock	20 bps	50 bps
Northern Trust	0 bps	10 bps

Actuarial Reserve Segment

Security Type	Investment Manager	Excess Return Target	Tracking Error Target
<i>Fixed Income</i>			
Fixed Income	Wellington	50 bps	150 bps
<i>Domestic Equity</i>			
Large Cap Growth Equity	BMO	150 bps	500 bps
Large Cap Value Equity	QMA	100 bps	400 bps
Large Cap Core Equity	AllianceBernstein	0 bps	25 bps
Mid Cap Equity	AllianceBernstein	300 bps	500 bps
Small Cap Equity	Fiduciary	200 bps	700 bps
<i>International Equity</i>			
International Equity	PanAgora	100 bps	325 bps

V. ALLOCATION MONITORING AND REBALANCING

The Board shall review the Segment and Security Type allocations not less than quarterly. At least annually, the Board shall review and consider rebalancing of the Segment allocation between the Liability and Actuarial Reserve Segments. In addition, the Board may transfer funds between Investment Managers to maintain a reasonable and appropriate distribution of funds.

VI. COMMINGLED ACCOUNT GUIDELINES

Objective

Commingled accounts will be utilized when they are determined to provide the best value to the Board.

Benchmark

Section III of these Guidelines provide the approved commingled accounts and related benchmarks.

Investment Manager

The Board may hire multiple Investment Managers for this mandate. Investment Managers will be selected as a result of a competitive procurement process. Selected Investment Managers' authority is limited to these Guidelines and the specific commingled account prospectus.

Performance

Investment Manager performance will be evaluated using the following metrics:

1. **Passive Commingled Funds:** Performance, net of fees, shall meet the benchmark for the rolling 3- and 5-year periods
2. **Active Commingled Funds:** Performance, net of fees, shall exceed the benchmark for the rolling 3 and 5 year periods

Other factors the Board may consider in evaluating an Investment Manager include:

1. Significant changes in firm ownership and/or structure
2. Loss of one or more key personnel
3. Significant loss of clients and/or assets under management
4. Shifts in the firm's philosophy or process
5. Significant and persistent lack of responsiveness to client requests

If an Investment Manager fails to meet any of these performance objectives, the Investment Consultant will review the situation and make a recommendation as to any action the Board should take. Investment Managers serve at the pleasure of the Board and may be terminated or have their funds reduced at the Board's discretion due to any qualitative or quantitative factor listed or not listed above.

VII. LIABILITY SEGMENT GUIDELINES

Objective

The investment objective of the Liability Segment is to immunize the liabilities of the Program by structuring the assets in such a way that the value of the Program's assets increase/decrease in conjunction with increases/decreases in the value of the liabilities.

Benchmark

Performance of the Liability Segment is evaluated against a custom benchmark consisting of a weighted blend of the benchmarks for the security types in the segment. Section II of these guidelines provide the individual security types and benchmarks.

Allocation

The portfolio is expected to be fully invested at all times, relying on the Investment Manager's ability to generate return primarily through security selection, sector rotation and/or curve positioning, not timing of market movements. However, cash holdings may represent an integral part of an Investment Manager's desired portfolio structure. Therefore, for these purposes the Investment Manager shall be allowed to maintain a maximum cash position of 5% of the portfolio, excluding amounts held as collateral for mortgage to be announced securities.

The portfolio is expected to be invested in securities within the benchmark. However, active management strategies are allowed to invest in out-of-benchmark authorized investment vehicles, as limited below.

The use of margin is prohibited except as may be required in the use of approved Derivatives.

Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein.

Investment Manager

The Board may hire multiple Investment Managers for this mandate. Investment Managers will be selected as a result of a competitive procurement process. Selected Investment Managers' authority is limited to these guidelines for this mandate. All references to portfolio in these guidelines refer to the market value of funds provided to each Investment Manager under this mandate.

Authorized investment vehicles for the portfolio:

Cash or Cash Equivalent – Maximum allocation 5% of the portfolio

1. Deposit accounts and certificates of deposit in banks
2. 2a7 (actual or like) money market funds
3. Collateralized repurchase agreements for which the underlying securities are obligations of the United States Treasury or agencies of the United States Government
4. Commercial paper of prime quality
 - Must be rated the highest letter and numerical rating provided by at least two nationally recognized rating service

Obligations of the United States Treasury or Agencies – Maximum allocation 100% of the portfolio

1. United States Treasury bonds and notes
2. Interest and principal strips of Treasury securities

3. Treasury Inflation Protection Securities (TIPS)
4. Agencies of the United States Government
 - Not restricted to full-faith and credit obligations

Municipal securities – Maximum allocation of 20% of the portfolio

1. General Obligation or Revenue bonds
 - Must be rated by at least two nationally recognized rating services A-/A3 or higher. If rated by only one nationally recognized rating service, then the rating must be AA-/Aa3 or higher
2. Build America Bonds (BABs) are permitted, but limited to 10% of the portfolio
 - Must be rated by at least two nationally recognized rating services A-/A3 or higher. If rated by only one nationally recognized rating service, then the rating must be AA-/Aa3 or higher

Corporate debt obligations – Maximum allocation of 40% of the portfolio

1. Registered Bonds
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher
 - Convertible securities are not permitted
2. 144(a) securities (with and without registration rights) are permitted, but limited to 10% of the portfolio
 - Must be rated by at least one nationally recognized rating services BBB-/Baa3 or higher

Residential Mortgage Backed Securities – Maximum allocation of 20% of the portfolio

1. United States Agency Mortgage backed securities
2. Privately Issued Mortgage Backed securities
 - Includes but is not limited to and real estate mortgage investment conduits
 - Must be rated AAA/Aaa by at least one nationally recognized rating service
 - Sub-prime mortgage backed securities are not permitted
 - Alt-A mortgage backed securities are not permitted
3. Mortgage To Be Announced (TBA) securities
 - Require a cash equivalent set aside for future settlement of the forward agreement

Other Collateralized Securities – Maximum allocation of 15% of the portfolio

1. Asset-backed and commercial mortgage backed securities
 - Must be rated AA/Aa2 by at least one nationally recognized rating service

2. 144(a) securities (with and without registration rights) are permitted
 - Must be rated by at least one nationally recognized rating services AA/Aa2 or higher

Foreign Debt Securities – Maximum allocation of 10% of the portfolio

1. Supranational Debt Obligations, Sovereign Debt Obligations, Foreign Debt Obligations
 - Must be U.S. dollar-denominated
 - Must be rated by at least one U.S. nationally recognized rating services A-/A3 or higher

Commingled Investment Funds

1. Exchange Traded Funds (ETF's), commingled investment funds and mutual funds
 - Traded on domestic exchanges
 - Primarily invested in authorized investment vehicles provided in this Guideline
 - Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement
 - Before a Commingled Investment Fund is used by an Investment Manager, approval must be obtained by the Board

Derivatives

1. Derivatives shall only be used to substitute for physical securities, duration management or risk control
2. Derivative strategies must demonstrate one or more of the following benefits:
 - Increase liquidity
 - Stabilize and enhance portfolio returns
 - Lower transaction costs, including market impact costs
 - Reduction in the time required to change the mix of the portfolio
3. Before a Derivative strategy is used by an Investment Manager, approval must be obtained from the Board

Other Restrictions

Maximum investment in the securities of any issuer, except Obligations of the United States Treasury or Agencies, is 2% of the portfolio.

Active and Passive management is permitted. Passive strategies shall replicate the returns of the custom benchmark for the Liability Segment.

Passive Management

1. Only securities eligible for inclusion in the benchmark indices are permitted.
2. Sector allocation shall be made consistent with the benchmark sector weights.

3. Total duration, as calculated by the manager's preferred pricing source, shall not differ from benchmark duration, plus or minus, by more than one-tenth of one year (0.10 years).
4. Tracking error to the benchmark shall be less than 10 basis points.
5. The average credit quality rating must equal the benchmark.

Active Management

1. Total duration, as calculated by the manager's preferred pricing source, shall not differ from benchmark duration, plus or minus, by more than one-half of one year (0.50 years).
2. Tracking Error to the benchmark shall be less than 70 bps.
3. Aggregate investment in obligations of the United States Treasury and Agencies shall not be less than 50% of the portfolio.
4. The average credit quality rating cannot be more than one letter rating below the benchmark.

Performance

The Board may elect to employ multiple investment managers with complementary investment skills and/or styles. As part of this structure, managers are hired for their expected contribution to the overall portfolio performance over the various market cycles based on their style, stated strategy and asset mix. As a result, non-performance information is also considered in the evaluation process.

Investment Manager performance will be evaluated using the following metrics by investment strategy.

Passive Management

Passive investment strategies will be assessed on a gross of fee basis.

1. Rolling gross performance shall meet the benchmark for the 3 and 5 year periods.
2. Tracking error shall not exceed 10 bps for the rolling 3 and 5 year periods.

Active Management

Active investment strategies will be assessed on a gross and net of fee basis. Further, while 3 and 5 year periods are used to assess performance, the Board may consider longer time periods as part of the assessment.

1. Rolling net performance shall exceed the benchmark for the 3 and 5 year periods.
2. Excess return targets shall be set for each Investment Manager. Investment Managers shall meet or exceed their excess return target for the rolling 3 and 5 year periods.
3. Rolling Alpha, calculated in accordance to the Jensen methodology, shall be positive for the 3 and 5 year periods.
4. Tracking error targets shall be set for each Investment Manager. Investment Managers shall meet or be less than their tracking error target for the rolling 3 and 5 year periods.
5. Tracking error shall not exceed 70 bps for the rolling 3 and 5 year periods.

In addition to the objectives listed above, other quantitative criteria should be considered with a focus on the interpretation of results. These criteria include risk metrics (e.g. standard deviation, downside risk, beta) and risk-adjusted performance metrics (e.g. Sharpe ratio, Treynor ratio, information ratio, excess return ratio).

Several non-performance factors may prompt the Board to re-evaluate a manager's retention. Any of the following may warrant immediate termination or further review:

- Significant changes in firm ownership and/or structure
- Loss of one or more key personnel
- Significant loss of clients and/or assets under management
- Shifts in the firm's philosophy or process
- Significant and persistent lack of responsiveness to client requests

If an Investment Manager fails to meet any of these performance objectives, the Investment Consultant will review the situation and make a recommendation to the board as to any action the Board should take. Investment Managers serve at the pleasure of the Board and may be terminated or have their funds reduced at the Board's discretion due to any qualitative or quantitative factor listed or not listed above.

VIII. ACTUARIAL RESERVE SEGMENT - FIXED INCOME GUIDELINES

Objective

The investment objective for this Segment is to bring broad exposure to the fixed income market and assist in limiting actuarial reserve volatility.

Benchmark

Section II of these guidelines provide the benchmark for this Segment.

Investment Manager

The Board may hire multiple Investment Managers for this mandate. Investment Managers will be selected as a result of a competitive procurement process. Selected Investment Managers' authority is limited to these guidelines for this mandate. All references to portfolio in these guidelines refer to the market value of funds provided to each Investment Manager under this mandate.

Allocation

The portfolio is expected to be fully invested at all times, relying on the Investment Manager's ability to generate return primarily through security selection, sector rotation and/or curve positioning, not timing of market movements. However, cash holdings may represent an integral part of an Investment Manager's desired portfolio structure. Therefore, for these purposes the Investment Manager shall be allowed to maintain a maximum cash position of 5% of the portfolio, excluding amounts held as collateral for mortgage to be announced securities.

The portfolio is expected to be invested in securities within the benchmark. However, active management strategies are allowed to invest in out-of-benchmark authorized investment vehicles, as limited below.

The use of margin is prohibited except as may be required in the use of approved Derivatives.

Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein.

Authorized investment vehicles for the portfolio:

Cash or Cash Equivalent – Maximum allocation 5% of the portfolio

1. Deposit accounts and certificates of deposit in banks
2. 2a7 (actual or like) money market funds
3. Collateralized repurchase agreements for which the underlying securities are obligations of the United States Treasury or agencies of the United States Government
4. Commercial paper of prime quality
 - Must be rated the highest letter and numerical rating provided by at least two nationally recognized rating service

Obligations of the United States Treasury or Agencies – Maximum allocation 100% of the portfolio

1. United States Treasury bonds and notes
2. Interest and principal strips of Treasury securities
3. Treasury Inflation Protection Securities (TIPS)

4. Agencies of the United States Government
 - Not restricted to full-faith and credit obligations

Municipal securities – Maximum allocation of 20% of the portfolio

1. General Obligation or Revenue bonds.
 - Must be rated by at least two nationally recognized rating services BBB-/Baa3 or higher. If rated by only one nationally recognized rating service, then the rating must be A-/A3 or higher
2. Build America Bonds (BABs) are permitted, but limited to 10% of the portfolio
 - Must be rated by at least two nationally recognized rating services A-/A3 or higher. If rated by only one nationally recognized rating service, then the rating must be AA-/Aa3 or higher

Corporate debt obligations – Maximum allocation of 70% of the portfolio

1. Registered Bonds
 - Rated by at least one nationally recognized rating services BBB-/Baa3 or higher
 - Convertible securities are not permitted
2. 144(a) securities (with and without registration rights) are permitted
 - Must be rated by at least One nationally recognized rating services BBB-/Baa3 or higher

Residential Mortgage Backed Securities

1. United States Agency Mortgage backed securities, limited to 50% of the portfolio
2. Privately Issued Mortgage Backed securities, limited to 15% of the portfolio
 - Includes but is not limited to real estate mortgage investment conduits
 - Must be rated AAA/Aaa by at least one nationally recognized rating service
 - Sub-prime mortgage backed securities are not permitted
 - Alt-A mortgage backed securities are not permitted
3. Mortgage To Be Announced (TBA) securities
 - Require a cash equivalent set aside for future settlement of the forward agreement

Other Collateralized Securities – Maximum allocation of 20% of the portfolio

1. Asset-backed and commercial mortgage backed securities
 - Must be rated AA/Aa2 by at least one nationally recognized rating service
2. 144(a) securities (with and without registration rights) are permitted
 - Must be rated by at least one nationally recognized rating services AA/Aa2 or higher
3. Collateralized Loan Obligations
 - Must be rated by at least one nationally recognized rating services AAA/Aaa or higher
 - Limited to 10% of portfolio

Foreign Debt Securities – Maximum allocation of 10% of the portfolio

1. Supranational Debt Obligations, Sovereign Debt Obligations and Foreign Debt Obligations
 - Must be U.S. dollar-denominated
 - Must be rated by at least one U.S. nationally recognized rating services BBB-/Baa3 or higher

Commingled Investment Funds – Maximum allocation of 100% of the portfolio

1. Exchange Traded Funds (ETF's), commingled investment funds and mutual funds
 - Traded on domestic exchanges
 - Primarily invested in authorized investment vehicles provided in this Guideline
 - Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement
 - Before a Commingled Investment Fund is used by an Investment Manager, approval must be obtained by the Board

Derivatives

1. Derivatives shall only be used to substitute for physical securities, duration management or risk control
2. Derivative strategies must demonstrate one or more of the following benefits:
 - Increase liquidity
 - Stabilize and enhance portfolio returns
 - Lower transaction costs, including market impact costs
 - Reduction in the time required to change the mix of the portfolio
3. Before a Derivative strategy is used by an Investment Manager, approval must be obtained by the Board

Other Restrictions

Maximum investment in the securities of any issuer, except Obligations of the United States Treasury or Agencies, is 2% of the portfolio.

Active and Passive management is permitted. Passive strategies shall replicate the returns of the benchmark.

Passive Management

1. Only securities eligible for inclusion in the benchmark indices are permitted.
2. Sector allocation shall be made consistent with the benchmark sector weights.
3. Total duration, as calculated by the manager's preferred pricing source, shall not differ from benchmark duration, plus or minus, by more than one-tenth of one year (0.10 years).
4. Tracking error to the benchmark shall be less than 10 basis points.

5. Average credit quality rating must equal the benchmark.

Active Management

1. Total duration, as calculated by the manager's preferred pricing source, shall not differ from benchmark duration, plus or minus, by more than 20% of benchmark duration.
2. Tracking Error to the benchmark shall be less than 300 bps.

Performance

The Board may elect to employ multiple investment managers with complementary investment skills and/or styles. As part of this structure, managers are hired for their expected contribution to the overall portfolio performance over the various market cycles based on their style, stated strategy and asset mix. As a result, non-performance information is also considered in the evaluation process.

Investment manager performance will be evaluated using the following metrics by investment strategy.

Passive Management

Passive investment strategies will be assessed on a gross of fee basis.

1. Rolling gross performance shall meet the benchmark for the 3 and 5 year periods.
2. Tracking error shall not exceed 10 bps for the rolling 3 and 5 year periods.

Active Management

Active investment strategies will be assessed on a gross and net of fee basis. Further, while 3 and 5 year periods are used to assess performance, the Board may consider longer time periods as part of the assessment.

1. Rolling net performance shall exceed the benchmark for the 3 and 5 year periods.
2. Excess return targets shall be set for each Investment Manager. Investment Managers shall meet or exceed their excess return target for the rolling 3 and 5 year periods.
3. Rolling Alpha, calculated in accordance to the Jensen methodology, shall be positive for the 3 and 5 year periods.
4. Tracking error targets shall be set for each Investment Manager. Investment Managers shall meet or be less than their tracking error target for the rolling 3 and 5 year periods.
5. Tracking error shall not exceed 300 bps for the rolling 3 and 5 year periods.

In addition to the objectives listed above, other quantitative criteria should be considered with a focus on the interpretation of results. These criteria include risk metrics (e.g. standard deviation, downside risk, beta) and risk-adjusted performance metrics (e.g. Sharpe ratio, Treynor ratio, information ratio, excess return ratio).

Several non-performance factors may prompt the Board to re-evaluate a manager's retention. Any of the following may warrant immediate termination or further review:

- Significant changes in firm ownership and/or structure
- Loss of one or more key personnel
- Significant loss of clients and/or assets under management
- Shifts in the firm's philosophy or process
- Significant and persistent lack of responsiveness to client requests

If an Investment Manager fails to meet any of these performance objectives, the Investment Consultant will review the situation and make a recommendation to the board as to any action the Board should take. Investment Managers serve at the pleasure of the Board and may be terminated or have their funds reduced at the Board's discretion due to any qualitative or quantitative factor listed or not listed above.

IX. ACTUARIAL RESERVE SEGMENT – DOMESTIC EQUITY GUIDELINES

Objective

The investment objective shall be to provide broad exposure to the domestic equity market for companies that offer the best combination of earnings, growth and valuation.

Benchmark

Section II of these guidelines provide the domestic equity mandates and related benchmarks.

Investment Manager

The Board may hire multiple Investment Managers for this mandate. Investment Managers will be selected as a result of a competitive procurement process. Selected Investment Managers' authority is limited to these guidelines for this mandate. All references to portfolio in these guidelines refer to the market value of funds provided to each Investment Manager under this mandate.

Allocation

The portfolio is expected to be fully invested at all times, relying on the Investment Manager's ability to generate return through security and/or sector selection, not timing of market movements. However, cash holdings may represent an integral part of an Investment Manager's desired portfolio structure. Therefore, for these purposes the Investment Manager shall be allowed to maintain a maximum cash position of 5%.

The use of margin is prohibited except as may be required in the use of approved Derivatives.

Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein.

Authorized investment vehicles for the portfolio:

Common Stock – Maximum allocation of 100% of the portfolio

1. Domestic Equities and American Depositary Receipts
 - Traded on domestic exchanges, including over-the-counter markets and recognized third and fourth markets

Commingled Investment Funds – Maximum allocation of 100% of the portfolio

1. Exchange Traded Funds (ETF's), commingled investment funds and mutual funds
 - Traded on domestic exchanges
 - Primarily invested in authorized investment vehicles provided in this Guideline
 - Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement
 - Before a Commingled Investment Fund is used by an Investment Manager, approval must be obtained by the Board

Derivatives

1. Derivatives shall only be used to substitute for physical securities or control risk
2. Derivative strategies must demonstrate one or more of the following benefits:
 - Increase liquidity
 - Stabilize and enhance portfolio returns
 - Lower transaction costs, including market impact costs
 - Reduction in the time required to change the mix of the portfolio
3. Before a Derivative strategy is used by an Investment Manager, approval must be obtained by the Board

Other Restrictions

Maximum investment in any security is the greater of 5% of the portfolio or 2% greater than the benchmark weight.

Active and Passive management is permitted. Passive strategies shall replicate the returns of the benchmark.

Passive Management

1. Only securities eligible for inclusion in the benchmark indices are permitted.
2. Sector allocation shall be made consistent with the benchmark sector weights.
3. Tracking Error to the benchmark shall be equal to or less than 25 bps.

Active Management

1. Tracking Error to the benchmark shall be equal to or less than the tracking error target.

Performance

The Board may elect to employ multiple investment managers with complementary investment skills and/or styles. As part of this structure, managers are hired for their expected contribution to the overall portfolio performance over the various market cycles based on their style, stated strategy and asset mix. As a result, non-performance information is also considered in the evaluation process.

Investment Manager performance will be evaluated using the following metrics by investment strategy.

Passive Management

Passive investment strategies will be assessed on a gross of fee basis:

1. Rolling performance shall meet the benchmark for the 3 and 5 year periods.
2. Beta, as calculated using monthly data, shall not be less than 0.98 and not more than 1.02 relative to the benchmark over any 3 year rolling period.
3. Annualized tracking error to the benchmark shall be less than 25 basis points.

Active Management

Active investment strategies will be assessed on a gross and net of fee basis. Further, while 3 and 5 year periods are used to assess performance, the Board may consider longer time periods as part of the assessment.

1. Rolling net performance shall exceed the benchmark for the 3 and 5 year periods.
2. Rolling gross performance shall rank above the median of a peer universe managing similar portfolios in a similar style for the 3 and 5 year periods.
3. Excess return targets shall be set for each Investment Manager. Investment Managers shall meet or exceed their excess return target, gross of fees, for the rolling 3 and 5 year periods.
4. Alpha, calculated in accordance to the Jensen methodology, shall be positive, net of fees for the 3 and 5 year periods.
5. Tracking error targets shall be set for each Investment Manager. Investment Managers shall not exceed their tracking error target for the rolling 3 and 5 year periods.
6. The coefficient of determination (or R-squared) relative to the benchmark, calculated using monthly data, shall not be less than 0.80 for the 3 and 5 year periods.

In addition to the objectives listed above, other quantitative criteria should be considered with a focus on the interpretation of results. These criteria include risk metrics (e.g. standard deviation, downside risk, beta) and risk-adjusted performance metrics (e.g. Sharpe ratio, Treynor ratio, information ratio, excess return ratio).

Several non-performance factors may prompt the Board to re-evaluate a manager's retention. Any of the following may warrant immediate termination or further review:

- Significant changes in firm ownership and/or structure
- Loss of one or more key personnel
- Significant loss of clients and/or assets under management
- Shifts in the firm's philosophy or process
- Significant and persistent lack of responsiveness to client requests

If an Investment Manager fails to meet any of these performance objectives, the Investment Consultant will review the situation and make a recommendation to the Board as to any action the Board should take. Additionally, Investment Managers serve at the pleasure of the Board and may have their funds reduced at the Board's discretion due to any qualitative or quantitative factor listed or not listed above.

X. ACTUARIAL RESERVE SEGMENT – INTERNATIONAL EQUITY GUIDELINES

Objective

The investment objective shall be to provide exposure to companies in developed markets outside of the United States.

Benchmark

Section II of these guidelines provide the benchmark for this mandate.

Investment Manager

The Board may hire multiple Investment Managers for this mandate. Investment Managers will be selected as a result of a competitive procurement process. Selected Investment Managers' authority is limited to these guidelines for this mandate. All references to portfolio in these guidelines refer to the market value of funds provided to each Investment Manager under this mandate.

Allocation

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through security and/or sector selection, not timing of market movements. However, cash holdings may represent an integral part of an Investment Manager's desired portfolio structure. Therefore, for these purposes the Investment Manager shall be allowed to maintain a maximum cash position of 5%.

The use of margin is prohibited except as may be required in the use of approved Derivatives.

Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein.

Authorized investment vehicles for this mandate:

Common Stock – Maximum allocation of 100% of the portfolio

1. Foreign Equities

- Foreign-domiciled companies traded on domestic or non-U.S. exchanges, including over-the-counter markets
- Securities domiciled, incorporated, or traded in a benchmark country

Commingled Investment Funds – Maximum allocation of 100% of the portfolio

1. Exchange Traded Funds (ETF's), commingled investment funds and mutual funds

- Primarily invested in authorized investment vehicles provided in this Guideline
- Compliance and monitoring shall be reviewed relative to the commingled investment funds' prospectus or participation agreement
- Before a Commingled Investment Fund is used by an Investment Manager, approval must be obtained by the Board

Derivatives

1. Derivatives shall only be used to substitute for physical securities, control risk or foreign currency hedging
2. Derivative strategies must demonstrate one or more of the following benefits:
 - Increase liquidity

- Stabilize and enhance portfolio returns
 - Lower transaction costs, including market impact costs
 - Reduction in the time required to change the mix of the portfolio
3. Before a Derivative strategy is used by an Investment Manager, approval must be obtained by the Board

Other Restrictions

Maximum investment in any security is the greater of 5% of the portfolio or 2% greater than the benchmark weight.

Active and Passive management is permitted. Passive strategies shall replicate the returns of the benchmark.

Passive Management

1. Only securities eligible for inclusion in the benchmark indices are permitted.
2. Sector allocation shall be made consistent with the benchmark sector weights.
3. Tracking Error to the benchmark shall be equal to or less than 25 bps.

Active Management

1. Tracking Error to the benchmark shall be equal to or less than the tracking error target.

Performance

The Board may elect to employ multiple investment managers with complementary investment skills and/or styles. As part of this structure, managers are hired for their expected contribution to the overall portfolio performance over the various market cycles based on their style, stated strategy and asset mix. As a result, non-performance information is also considered in the evaluation process.

Investment manager performance will be evaluated using the following metrics by investment strategy.

Passive Management

Passive investment strategies will be assessed on a gross of fee basis:

1. Rolling performance shall meet the benchmark for the 3 and 5 year periods.
2. Beta, as calculated using monthly data, shall not be less than 0.98 and not more than 1.02 relative to the benchmark over any 3 year rolling period.
3. Annualized tracking error to the benchmark shall be less than 25 basis points.

Active Management

Active investment strategies will be assessed on a gross and net of fee basis. Further, while 3 and 5 year periods are used to assess performance, the Board may consider longer time periods as part of the assessment.

1. Rolling net performance shall exceed the benchmark for the 3 and 5 year periods.
2. Rolling gross performance shall rank above the median of a peer universe managing similar portfolios in a similar style for the 3 and 5 year periods.
3. Excess return targets shall be set for each Investment Manager. Investment Managers shall meet or exceed their excess return target, gross of fees, for the rolling 3 and 5 year periods.

4. Alpha, calculated in accordance to the Jensen methodology, shall be positive, net of fees for the 3 and 5 year periods.
5. Tracking error targets shall be set for each Investment Manager. Investment Managers shall not exceed their tracking error target for the rolling 3 and 5 year periods.
6. The coefficient of determination (or R-squared) relative to the benchmark, calculated using monthly data, shall not be less than 0.80 for the 3 and 5 year periods.

In addition to the objectives listed above, other quantitative criteria should be considered with a focus on the interpretation of results. These criteria include risk metrics (e.g. standard deviation, downside risk, beta) and risk-adjusted performance metrics (e.g. Sharpe ratio, Treynor ratio, information ratio, excess return ratio).

Several non-performance factors may prompt the Board to re-evaluate a manager's retention. Any of the following may warrant immediate termination or further review:

- Significant changes in firm ownership and/or structure
- Loss of one or more key personnel
- Significant loss of clients and/or assets under management
- Shifts in the firm's philosophy or process
- Significant and persistent lack of responsiveness to client requests

If an Investment Manager fails to meet any of these performance objectives, the Investment Consultant will review the situation and make a recommendation to the Board as to any action the Board should take. Additionally, Investment Managers serve at the pleasure of the Board and may have their funds reduced at the Board's discretion due to any qualitative or quantitative factor listed or not listed above.

XI. SECURITIES LENDING GUIDELINES

Mandate

The selected Investment Manager(s) shall not exceed the authority provided within this guideline for the mandate. All references to percentages refer to the market value of funds provided to the Investment Manager under this mandate.

Objective

The investment objective shall be to provide additional income from loaning securities to third parties and reinvesting the cash collateral similar to 2a7 like money market funds.

Benchmark

The performance for the securities lending program shall be measured against the 91 day Treasury Bill Index.

Investment Manager

The Investment Managers' authority is limited to these guidelines for securities lending. All references to portfolio in these guidelines refer to the cash collateral received by the Investment Manager under this mandate.

Allocation

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through security and/or sector selection, not timing of market movements.

The use of margin is prohibited.

Authorized investment vehicles for this portfolio:

Cash or Cash Equivalent

1. Deposit accounts and certificates of deposit in banks
2. 2a7 (actual or like) money market funds
3. Repurchase agreements with the following collateral types and levels:
 - Obligations of the United States Treasury or agencies of the United States Government at 102%
 - Equity securities included in the S&P 500, Russell 1000 or Russell 3000 at a minimum of 105%
 - Investment grade Corporate bonds at a minimum of 105%
 - Commercial paper and certificates of deposits with a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category at a minimum of 102%
4. Commercial paper of prime quality
 - Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category
5. Asset-backed commercial paper

- Excludes structured investment vehicles, extendable commercial notes and liquidity notes
- Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

Obligations of the United States Treasury or Agencies

1. United States Treasury bonds and notes
2. Agencies of the United States Government
 - Not restricted to full-faith and credit obligations

Short Term Corporate debt obligations

1. Registered Bonds
 - Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category
2. 144(a) securities (with and without registration rights)
 - Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

Short Term Foreign Debt Securities

1. Supranational Debt Obligations, Sovereign Debt Obligations, Foreign Debt Obligations
 - Must be U.S. dollar-denominated and registered with the SEC
 - Must have a short term rating in the highest rating category by at least two nationally recognized rating services, or if only rated by one nationally recognized rating service, rated in the highest rating category

Other Restrictions

1. A maximum of 30% of the portfolio may be with a single borrower.
2. A maximum of 40% of the Fund may be on loan.
3. The U.S. dollar-weighted average portfolio life maturity must be 120 days or less.
4. A maximum maturity for all investments must be less than 397 days, except for variable rate United States Treasury or agencies of the United States Government securities, which shall be less than 762 days.
5. Floating and variable rate securities must have interest rates that reset at least every 97 days.
6. A minimum of 20% of the portfolio must be available each business day.
7. The rate sensitivity of the portfolio will be limited to 60 days.
8. Commercial paper, asset-backed commercial paper, certificates of deposit and time deposits must have a maturity date or demand feature not exceeding 13 months from the date of purchase.

9. Fixed rate securities must have a maturity date or demand feature not exceeding 13 months from the date of purchase.
10. A maximum of 10% of the portfolio may be invested with any one counterparty in repurchase agreements collateralized by securities other than United States Treasury or agencies of the United States Government securities.
11. A maximum of 25% of the portfolio may be invested with any one counterparty in repurchase agreements collateralized by United States Treasury or agencies of the United States Government securities.
12. Excluding overnight securities, a maximum of 40% of the portfolio may be invested in the same industry.
13. A maximum of 5% of the portfolio may be invested in any one issuer, except securities backed by the United States Treasury or agencies of the United States Government.
14. No more than 35% of the portfolio may be in repurchase agreements collateralized by securities other than those issued by the United States Treasury or agencies of the United States Government and no more than 10% of the portfolio may be in each individual type of collateral other than United States Treasury or agencies of the United States Government securities.
15. A maximum of 10% of the portfolio may be invested in a single money market fund.
16. Residual cash balances shall not be subject to diversification limits.

Performance

Investment manager performance shall be evaluated using the following metric:

1. Rolling net performance shall exceed the benchmark for the 1 and 3 year periods.

If an Investment Manager fails to meet any of these performance requirements, the Investment Consultant will review the situation and make a recommendation to the Board as to any action the Board should take. Additionally, Investment Managers serve at the pleasure of the Board and may have their funds reduced at the Board's discretion due to any qualitative or quantitative factor listed or not listed above.

To view the Florida Prepaid College Board's June 30, 2019 Adequacy Valuation Model Assumptions Cash Inflows and Outflows file (excel format), please visit the Board's website at:

<http://www.myfloridaprepaid.com/who-we-are/about-the-board/board-reports-and-plans/>