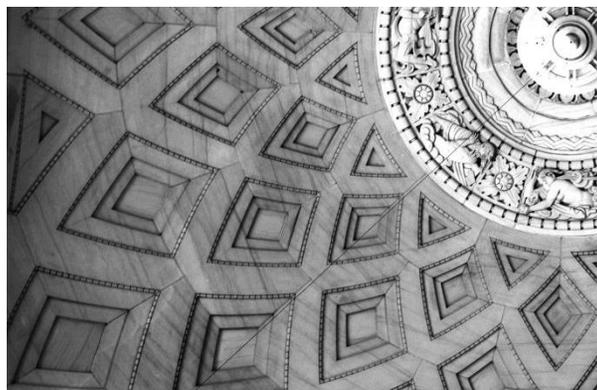




ARCHITECTS OF INVESTMENT SOLUTIONS



State of North Carolina

AUGUST 16, 2017

STATE OF NORTH CAROLINA

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SECTION I:	Galliard Capital Management Firm Update
SECTION II:	State of North Carolina Stable Value Fund Portfolio Review
APPENDIX:	Relationship Milestones & Expense Disclosure

SECTION I

GALLIARD CAPITAL MANAGEMENT

WHO WE ARE

CLIENT ALIGNED STABLE VALUE & FIXED INCOME INVESTMENT SOLUTIONS FOR OVER 20 YEARS

\$93.1 B
TOTAL AUM

\$81.0 B
TOTAL STABLE VALUE AUM
115+ stable value separate accounts

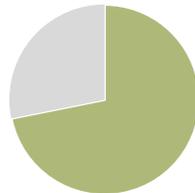
117
EMPLOYEES
ON STAFF

SENIOR PROFESSIONALS AVERAGE YEARS OF EXPERIENCE:
Stable value portfolio management team – **23**
Fixed income team – **19**
Contract management & negotiation team – **22**

STABLE VALUE & FIXED INCOME PRODUCTS • SEPARATE ACCOUNTS • COLLECTIVE FUNDS

240+
INSTITUTIONAL
CLIENTS

CLIENT RELATIONSHIP TENURE



~75% of our clients have worked with Galliard for greater than **5 years**
28 of those relationships exceeded **15 years** with Galliard

2017 NEW BUSINESS

10 new clients YTD

\$4.3 B new assets YTD

25 Fortune 100 clients

57 Fortune 500 clients

CLIENT TYPES CORPORATE • FOUNDATIONS/ ENDOWMENTS • HEALTHCARE • INSURANCE RESERVES • OPERATING FUNDS • PUBLIC ENTITIES • TAFT-HARTLEY

HIGHLIGHTS

Galliard is now a signatory to the United Nations-supported **Principles for Responsible Investment**

Galliard ranked in the **top 10** in Pensions & Investments report of largest managers of assets held by **100 largest corporate DC** plans
(The Corporate DC 100: The Largest Money Managers, published March 7, 2016)

Galliard **ranked #2** by total AUM in the Pensions & Investments rankings of stable value managers
(Largest Money Managers Report, published May 29, 2017, data as of December 31, 2016)

Data as of 6/30/17

SECTION II

STABLE VALUE PORTFOLIO REVIEW – STATE OF NORTH CAROLINA STABLE VALUE FUND

Second Quarter 2017

ANNUALIZED INVESTMENT PERFORMANCE*

Periods Ending June 30, 2017

Book Value Performance	<u>1 Mo</u>	<u>3 Mos</u>	<u>YTD</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Since Inception**</u>
Portfolio (net of all fees - NAV Level)***	0.17	0.49	0.96	1.97	1.90	2.02	---	2.29
Merrill Lynch 3 Month T-Bill + 100 bps	0.17	0.45	0.81	1.50	1.24	1.18	---	1.16
Merrill Lynch 3 Month T-Bill + 150 bps	0.21	0.58	1.06	2.00	1.75	1.69	2.10	1.67
3 Year Constant Maturity Treasury Yield	0.12	0.37	0.74	1.27	1.09	0.88	1.19	0.82

Market Value Benchmark								
Blended Benchmark****	-0.16	0.67	1.21	0.06	1.52	1.43	3.17	1.81

CALENDAR YEAR PERFORMANCE

Book Value Performance	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Portfolio (net of all fees - NAV Level)***	1.95	1.87	1.80	2.15	2.75	3.27
Merrill Lynch 3 Month T-Bill + 100 bps	1.33	1.06	1.04	1.08	1.12	1.11
Merrill Lynch 3 Month T-Bill + 150 bps	1.84	1.56	1.55	1.58	1.62	1.61
3 Year Constant Maturity Treasury Yield	1.01	1.03	0.90	0.54	0.38	0.75

Market Value Benchmark

Blended Benchmark****	1.60	0.93	2.69	-0.41	2.52	4.05
-----------------------	------	------	------	-------	------	------

Market Indices

Merrill Lynch 3 Month T-Bill	0.33	0.05	0.03	0.07	0.11	0.10
Consumer Price Index	2.07	0.73	0.76	1.51	1.74	2.96

*Returns for periods of less than one year are not annualized.

**Galliard's management of this portfolio began December 1, 2010. Periods that exceed Galliard's tenure with the portfolio include Galliard performance linked with historical portfolio returns.

***Returns are net of all fees, including plan administrative reimbursement.

****10% BofAML 3 Month U.S. T-Bills, 30% Bloomberg Barclays 1-3 Yr U.S. Govt/Credit, 60% Bloomberg Barclays Intermediate U.S. Aggregate. This blended market value benchmark approximates the asset allocation target for the State of North Carolina Stable Value Fund. It is important to note that fundamental differences arise when comparing book value performance to a market index, especially when comparing performance for periods shorter than 10 years. Market value indices immediately reflect the gains/(loses) resulting from changing market interest rates while book value performance amortizes these gains/(losses).

STATE OF NORTH CAROLINA STABLE VALUE FUND – MARKET VALUE COMPOSITE RETURNS

Second Quarter 2017

MARKET VALUE RETURNS

PERIODS ENDING JUNE 30, 2017

	<u>1 Mos*</u>	<u>3 Mos*</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>
Portfolio Market Value (Gross Return)	(0.08)	0.82	0.68	1.87	1.73
Portfolio Market Value (Net Return)	(0.08)	0.80	0.61	1.79	1.64
Benchmark Market Value (Total Return)**	(0.17)	0.64	(0.12)	1.48	1.36

CALENDAR YEAR PERFORMANCE

	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
Portfolio Market Value (Gross Return)	2.10	1.19	2.98	-0.62	3.60
Portfolio Market Value (Net Return)	2.02	1.11	2.90	-0.72	3.53
Benchmark Market Value (Total Return)	1.49	0.95	2.66	-0.51	2.39

*Returns for periods less than one year are not annualized.

**The Blended Benchmark is a composite of each fund component's respective benchmark; Galliard: Bloomberg Barclays U.S. 1-3 Yr. Gov't/Credit; Payden & Rygel: Bloomberg Barclays U.S. 1-3 Yr. Gov't/Credit; Dodge & Cox, Great-West Life, and Prudential: Bloomberg Barclays U.S. Intermediate Aggregate; Jennison: Bloomberg Barclays U.S. Intermediate Gov't/Credit. The allocation to each benchmark is rebalanced monthly to reflect the relative weighting of each fund component at the beginning of the month.

STABLE VALUE PORTFOLIO REVIEW - STATE OF NORTH CAROLINA STABLE VALUE FUND

Second Quarter 2017

PORTFOLIO CHARACTERISTICS

Total Assets	\$2,503,007,765	Blended Yield (After fees)*	1.98%
Average Holdings Quality**	A1/AA-	Effective Duration	3.00 years
Number of Contract Issuers	5	Market/Book Value Ratio	100.82%

*Blended yield is after investment management fees and wrap fees.

**The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the contracts and cash held by the portfolio as rated by S&P and Moody's.

SECTOR DISTRIBUTION

<u>PORTFOLIO DISTRIBUTION</u>	<u>CONTRACT VALUE (\$)</u>	<u>% OF PORTFOLIO 06/30/2017</u>	<u>% OF PORTFOLIO 03/31/2017</u>
Cash & Equivalents*	22,805,510	0.9	0.6
Stable Value Funds	175,599,935	7.0	7.0
Separate Account GICs	822,856,200	32.9	33.0
Intermediate Portfolio	822,856,200	32.9	33.0
Security Backed Investment Contracts	1,481,746,120	59.2	59.4
Short Portfolio	790,373,427	31.6	31.7
Intermediate Portfolio	691,372,693	27.6	27.7
Total	\$2,503,007,765	100.0%**	100.0%**

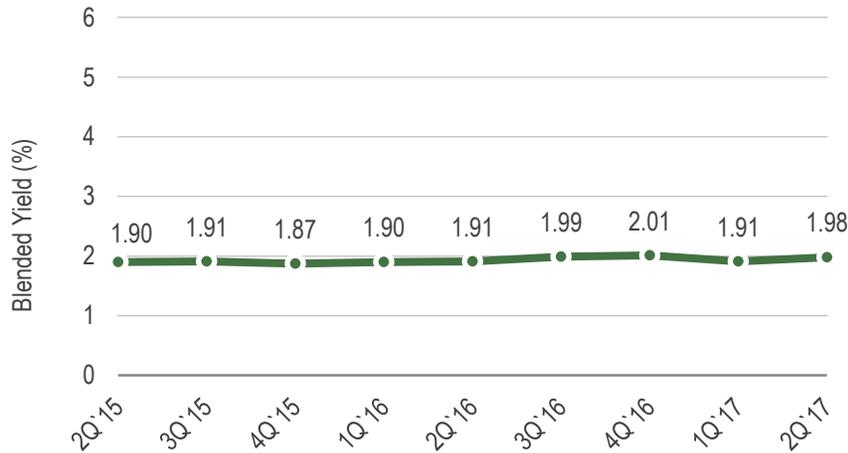
*Includes Receivables and Payables

**Total % of portfolio may not add to 100% due to rounding

STABLE VALUE PORTFOLIO REVIEW - STATE OF NORTH CAROLINA STABLE VALUE FUND

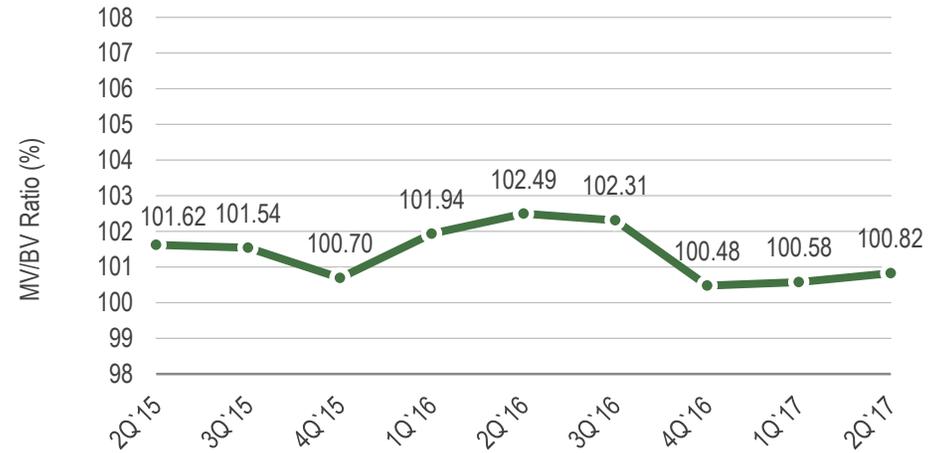
Second Quarter 2017

HISTORICAL BLENDED YIELD*

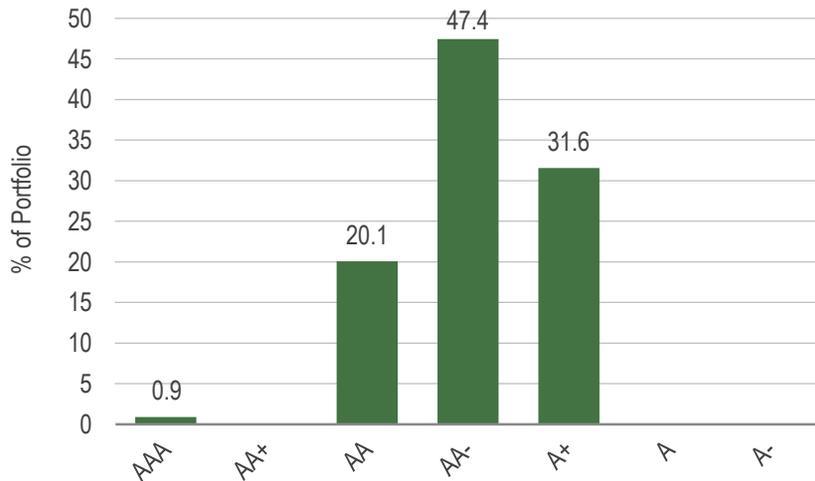


*As of quarter end. Blended yield is after investment management fees and wrap fees.

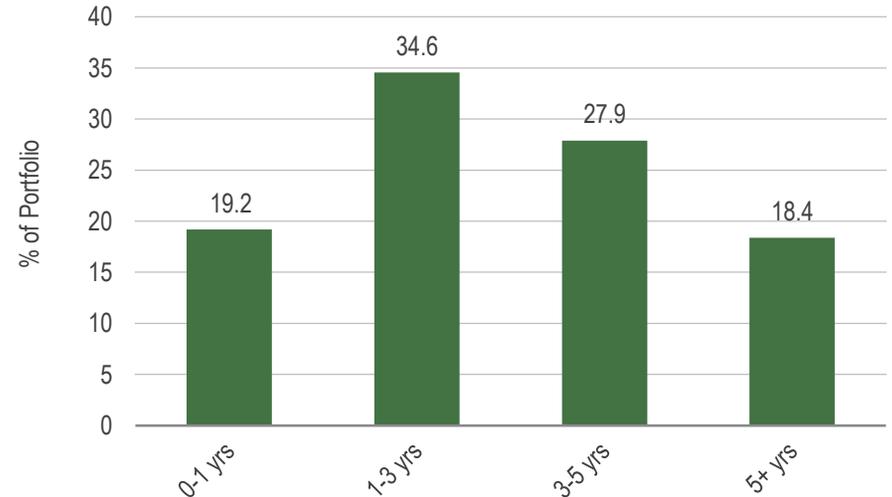
MARKET VALUE TO BOOK VALUE RATIO



CONTRACT QUALITY DISTRIBUTION*



UNDERLYING DURATION DISTRIBUTION**



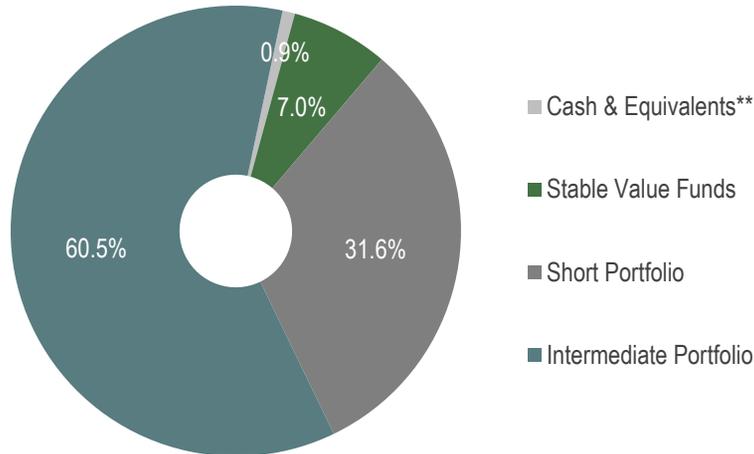
*Total % of portfolio may not add to 100% due to rounding. The quality distribution shown represents the distribution of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.

**Total % of portfolio may not add to 100% due to rounding. Duration distribution of the externally managed portfolios is provided by the external manager.

STABLE VALUE PORTFOLIO REVIEW - STATE OF NORTH CAROLINA STABLE VALUE FUND

Second Quarter 2017

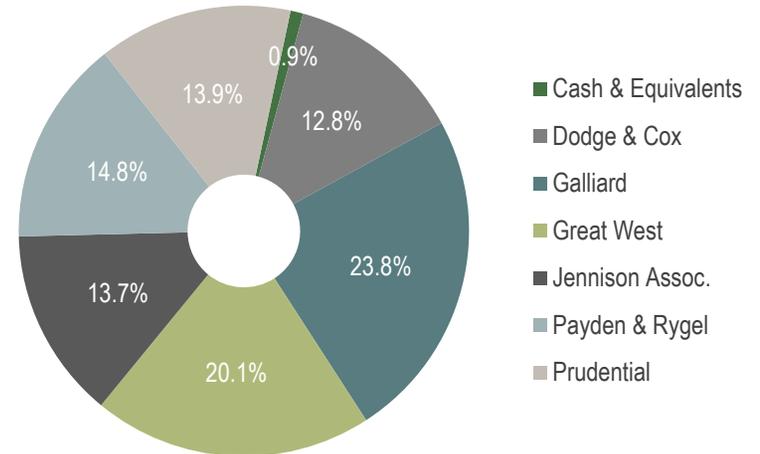
PORTFOLIO DISTRIBUTION*



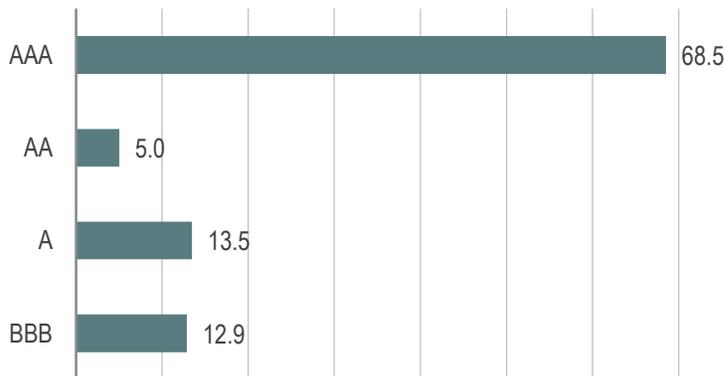
*Book value

**Includes Receivables and Payables

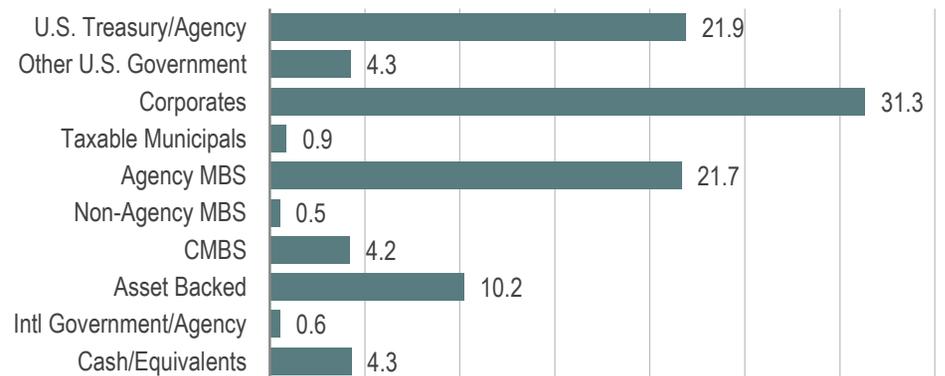
MANAGER DISTRIBUTION*



UNDERLYING FIXED INCOME CREDIT QUALITY*



UNDERLYING FIXED INCOME ASSET ALLOCATION**



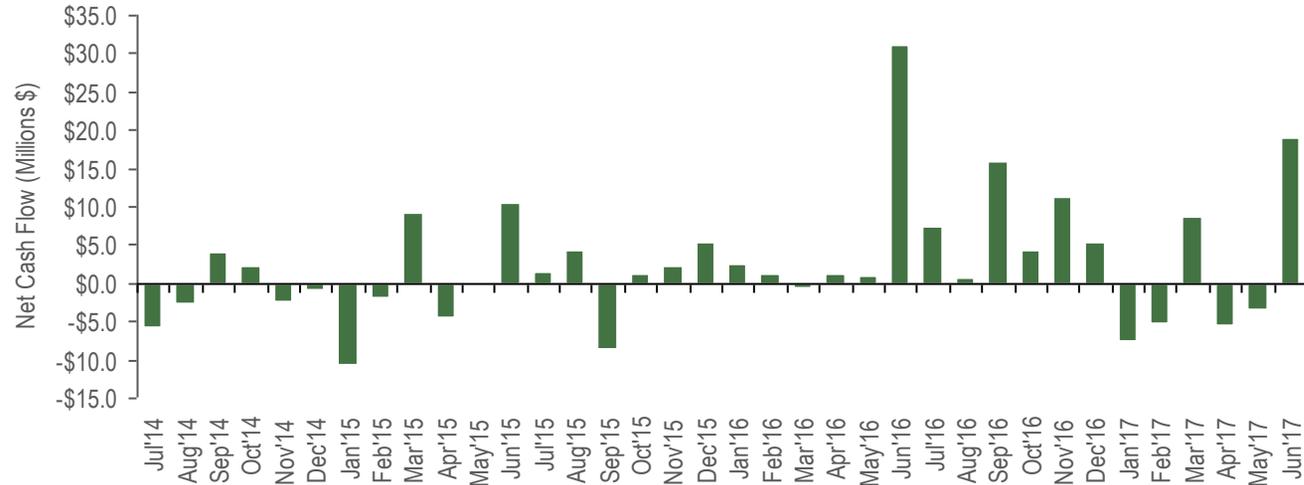
*Market value. Total % of portfolio may not add to 100% due to rounding. The quality distribution shown represents the distribution of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch. Ratings shown as NR/NA are not rated or not available security ratings. The external managers provide portfolio holdings, and the securities are classified using Galliard's analytics and methodology

**Market value. Total % of portfolio may not add to 100% due to rounding. The external managers provide portfolio holdings, and the securities are classified using Galliard's analytics and methodology for maximum comparability across managers.

STABLE VALUE PORTFOLIO REVIEW - STATE OF NORTH CAROLINA STABLE VALUE FUND

Second Quarter 2017

HISTORICAL CASHFLOWS



	YTD	2016***	2015	2014	2013
Beginning Assets	\$2,472.8	\$1,948.6	\$1,904.2	\$1,870.9	\$1,829.1
Net Cash Flow (\$)*	\$6.3	\$81.5	\$8.8	-\$0.3	\$2.4
Net Cash Flow (%)	0.25%	4.18%	0.46%	-0.02%	0.13%
Estimated Investment Earnings	\$23.9	\$46.9	\$35.7	\$33.6	\$39.4
Ending Assets**	\$2,503.0	\$2,472.8	\$1,948.6	\$1,904.2	\$1,870.9

*Contributions, Withdrawals and Investment Transfers

**Cashflows may not net to final assets due to rounding.

***Approximately \$395.8m of net inflow and transfer activity related to the 1/4/2016 merger of North Carolina 457 plan assets have been removed for illustrative purposes.

STATE OF NORTH CAROLINA STABLE VALUE FUND

MARKET VALUE PERFORMANCE SUMMARY

Short Duration

Manager	3 Months	1 Year	3 Years	5 Years	Since Inception	Inception
Payden & Rygel	0.43%	0.96%	1.13%	1.27%	2.01%	7/1/2009
Bloomberg Barclays U.S. 1-3 Yr. Govt/Credit	<u>0.31%</u>	<u>0.35%</u>	<u>0.95%</u>	<u>0.95%</u>	<u>1.44%</u>	
	0.12%	0.61%	0.18%	0.32%	0.57%	
Galliard*	0.46%	0.62%	1.37%	1.32%	1.96%	1/1/2010
Bloomberg Barclays U.S. 1-3 Yr. Government **	0.20%	<u>-0.07%</u>	0.71%	0.65%	0.98%	
Bloomberg Barclays U.S. 1-3 Yr. Gov't/Credit	<u>0.31%</u>	<u>0.35%</u>	<u>0.95%</u>	<u>0.95%</u>	<u>1.29%</u>	
	0.26%	0.69%	0.66%	0.67%	0.98%	

Intermediate Duration

Manager	3 Months	1 Year	3 Years	5 Years	Since Inception	Inception
Dodge & Cox	1.11%	1.03%	-	-	2.03%	3/1/2015
Bloomberg Barclays U.S. Intermediate Aggregate	<u>0.92%</u>	<u>-0.16%</u>	-	-	<u>1.68%</u>	
	0.19%	1.19%	-	-	0.35%	
Great-West Life***	0.92%	0.14%	2.02%	1.93%	2.26%	10/1/2011
Bloomberg Barclays U.S. Intermediate Aggregate (Ex BBB)	<u>0.83%</u>	<u>-0.51%</u>	<u>1.90%</u>	<u>1.69%</u>	<u>1.93%</u>	
	0.09%	0.65%	0.12%	0.24%	0.33%	
Jennison	1.14%	0.24%	2.27%	1.93%	2.76%	8/1/2010
Bloomberg Barclays U.S. Intermediate Govt/Credit	<u>0.94%</u>	<u>-0.21%</u>	<u>1.92%</u>	<u>1.77%</u>	<u>2.44%</u>	
	0.20%	0.45%	0.35%	0.16%	0.32%	
Prudential	1.10%	0.71%	-	-	2.61%	2/1/2016
Bloomberg Barclays U.S. Intermediate Aggregate	<u>0.92%</u>	<u>-0.16%</u>	-	-	<u>1.64%</u>	
	0.18%	0.87%	-	-	0.97%	

*Returns shown are after investment management fees.

**Index being shown for comparison purposes only, the fund is managed to a targeted duration.

***August 2015 return was revised from -0.885% to 0.238% to remove impact of writing off a receivable. Performance shown was provided by Great West. Great West does not claim compliance with GIPS.

STATE OF NORTH CAROLINA STABLE VALUE FUND
MANAGER-LEVEL CHARACTERISTICS

Segment	Manager	Period	Book Value	Market Value	MV/BV Ratio	Market Value Yield	Duration (Years)	Book Value Crediting Rate*	
Short Duration	Payden & Rygel	3/31/2017	\$ 368,487,752	\$ 368,763,567	100.1%	1.61%	1.56	1.19%	
		6/30/2017	\$ 369,952,507	\$ 370,359,047	100.1%	1.73%	1.63	1.38%	
			\$ 1,464,755	\$ 1,595,480	0.0%	0.12%	0.07	0.19%	
	Galliard	3/31/2017	\$ 418,460,011	\$ 419,049,730	100.1%	1.85%	1.89	1.56%	
		6/30/2017	\$ 420,420,920	\$ 421,015,606	100.1%	1.93%	1.88	1.68%	
			\$ 1,960,908	\$ 1,965,876	0.0%	0.08%	(0.01)	0.12%	
Intermediate Duration	Prudential	3/31/2017	\$ 346,469,552	\$ 353,040,660	101.9%	2.68%	4.27	2.64%	
		6/30/2017	\$ 348,847,133	\$ 356,966,194	102.3%	2.58%	4.14	2.61%	
			\$ 2,377,581	\$ 3,925,534	0.4%	-0.10%	(0.13)	-0.03%	
	Dodge & Cox	3/31/2017	\$ 318,497,286	\$ 321,614,754	101.0%	2.63%	4.14	2.44%	
		6/30/2017	\$ 320,488,489	\$ 325,004,196	101.4%	2.22%	3.38	2.53%	
			\$ 1,991,203	\$ 3,389,443	0.4%	-0.41%	(0.76)	0.09%	
	Great West Life	3/31/2017	\$ 499,711,547	\$ 497,010,363	99.5%	2.47%	3.84	2.11%	
		6/30/2017	\$ 502,367,711	\$ 501,328,441	99.8%	2.33%	3.40	2.15%	
			\$ 2,656,164	\$ 4,318,079	0.3%	-0.14%	(0.44)	0.04%	
	Jennison	3/31/2017	\$ 340,189,124	\$ 346,641,118	101.9%	2.04%	4.04	2.64%	
		6/30/2017	\$ 342,525,560	\$ 350,497,494	102.3%	2.10%	4.16	2.61%	
			\$ 2,336,437	\$ 3,856,376	0.4%	0.06%	0.12	-0.03%	
	Total Fund		3/31/2017	\$ 2,480,581,692	\$ 2,494,886,611	100.6%	2.18%	3.18	2.04%
			6/30/2017	\$ 2,503,007,765	\$ 2,523,576,423	100.8%	2.13%	3.00	2.11%
				\$ 22,426,073	\$ 28,689,812	0.2%	-0.05%	(0.18)	0.07%

*Gross of Galliard, Payden & Rygel, and Prudential investment management fees.

STATE OF NORTH CAROLINA STABLE VALUE FUND PORTFOLIO HOLDINGS

June 30, 2017

Asset ID	Security Description	Manager	Contract Value (\$)	Market Value (\$)	Market/Book Value Ratio (%)	% of Portfolio	Crediting Rate/ Yield (%)	Maturity*	Effective Duration (yrs)	S&P Rating	Moody's Rating	Wrap Fee (bps)
CASH & EQUIVALENTS												
FUNDAVAIL	Cash Receivable / (Payable)		-1,288,542	-1,288,542	100.0	-0.1	0.81		0.10	AAA	Aaa	
VP45600\$1	WF Adv Government Money Market		24,094,052	24,094,052	100.0	1.0	0.81		0.10	AAA	Aaa	
TOTAL CASH & EQUIVALENTS			22,805,510	22,805,510	100.0	0.9	0.81		0.10	AAA	Aaa	
STABLE VALUE FUNDS												
949907109	Wells Fargo Stable Return Fund G		175,599,935	175,599,935	100.0	7.0	1.98		2.54	AA-	Aa3	
TOTAL STABLE VALUE FUNDS			175,599,935	175,599,935	100.0	7.0	1.98		2.54	AA-	Aa3	
SEPARATE ACCOUNT GICS												
Intermediate Portfolio												
391997NH2	Great-West Life & Annuity Ins. Co.	Great West	502,367,711	501,328,441	99.8	20.1	2.15	N.S.M.	3.40	AA	Aa3	15.0
590994VM8	Metropolitan Life Ins. Co.	Dodge & Cox	320,488,489	325,004,196	101.4	12.8	2.53	N.S.M.	3.38	AA-	Aa3	20.0
Total Intermediate Portfolio			822,856,200	826,332,638	100.4	32.9	2.30		3.39	AA	Aa3	
TOTAL SEPARATE ACCOUNT GICS			822,856,200	826,332,638	100.4	32.9	2.30		3.39	AA	Aa3	
SECURITY BACKED INVESTMENT CONTRACTS												
Short Portfolio												
946996EE1	American General Life Ins. Co.	Payden & Rygel	369,952,507	370,359,047	100.1	14.8	1.38	N.S.M.	1.63	A+	A2	22.0
896994GW4	Nationwide Life Ins. Co.	Galliard	420,420,920	421,015,606	100.1	16.8	1.68	N.S.M.	1.88	A+	A1	21.0
Total Short Portfolio			790,373,427	791,374,653	100.1	31.6	1.54		1.76	A+	A1	
Intermediate Portfolio												
744999CV3	Prudential Ins. Co. of America	Jennison Assoc.	342,525,560	350,497,494	102.3	13.7	2.61	N.S.M.	4.16	AA-	A1	17.0
744999CV3	Prudential Ins. Co. of America	Prudential	348,847,133	356,966,194	102.3	13.9	2.61	N.S.M.	4.14	AA-	A1	17.0
Total Intermediate Portfolio			691,372,693	707,463,688	102.3	27.6	2.61		4.15	AA-	A1	
TOTAL SECURITY BACKED INVESTMENT CONTRACTS			1,481,746,120	1,498,838,341	101.2	59.2	2.04		2.88	A+	A1	
TOTAL PORTFOLIO			2,503,007,765	2,523,576,423	100.8	100.0	2.11		3.00	AA-	A1	

*N.S.M. = No Stated Maturity

APPENDIX

STATE OF NORTH CAROLINA STABLE VALUE FUNDS RELATIONSHIP MILESTONES

2017

- Hosted SRP staff at Galliard offices for due diligence review
-

2016

- Merged the 457 plan's Stable Value Fund into the plan's 401(k) Stable Value Fund
 - Amended the Galliard IMA to reflect relationship with the group trust. Amendment included Galliard investment management fee reduction
 - Transitioned Prudential enhanced index strategy collective trust to an active management strategy separate account. No change to benchmark (intermediate aggregate).
-

2015

- Added Dodge & Cox as sub-advisor to both the 401(k) and 457 Plan's stable value funds, replacing PIMCO
 - Facilitated closure of Great West Life open receivable
 - Negotiated lower contract fees with American General Life
-

2014

- Finalized Nationwide wrap contract to replace United of Omaha
 - Reduced Great West Life allocation to target (20%)
-

2013

- Secured wrap coverage for Payden & Rygel with American General Life
- Reduced exposure to PIMCO/Met Life to 13% target
- Allocated 15% to Jennison under Prudential wrap

STATE OF NORTH CAROLINA STABLE VALUE FUNDS RELATIONSHIP MILESTONES CONTINUED

2012

- Changed STIF to Wells Fargo Government Money Market
 - Finalize portfolio strategy recommendations
-

2011

- Changed 401(k) Plan's Prudential benchmark from Broad Market to Intermediate Aggregate
 - Transitioned PIMCO to intermediate duration strategy wrapped by MetLife and increase allocation to 15% of assets
 - Funded Galliard short duration strategy with United of Omaha Wrap
 - Began termination of State Street securities lending program in the 401(k) Plan
 - Transitioned 457 Plan's Prudential intermediate duration strategy to Galliard collective trust
 - Liquidation of GWL trading account and funding of the Wells Fargo STIF and Wells Fargo SRF liquidity buffer
 - Transitioned custody of the 401(k) Payden & Rygel portfolio to Wells Fargo
 - New guidelines established for Payden short duration strategy
 - Transition 401(k) Plan's Prudential investment to intermediate duration collective trust
 - Moved from declared rate to actual portfolio returns
-

DECEMBER 2010

- Galliard assumes oversight, daily valuations, and administration of stable value funds
- Transitioned custody of the 457 Plan Payden & Rygel portfolio to Wells Fargo

STATE OF NORTH CAROLINA EXPENSE DISCLOSURE

TOTAL ANNUAL OPERATING EXPENSES

Total Annual Operating Expenses are deducted directly from the Fund's net asset value and reduce the investment option's rate of return.

Expense	Expense Ratio (as of 6/30/17)	Per \$1000	Est. Annual Revenue
Investment Management Fees paid to Galliard	0.067%	\$0.67	\$1,676,014
Investment Management Fees paid to Non-Affiliated Investment Advisors	0.062%	\$0.62	\$1,551,043
Investment Contract Fees ¹	0.170%	\$1.70	\$4,266,642
Acquired Fund Fees ²	0.033%	\$0.33	\$835,310
-Investment Contract Fees	0.014%	\$0.14	\$349,871
-Other Acquired Fund Fees and Non-Affiliated Investment Management Fees paid to Non- Affiliated Investment Advisors ³	0.019%	\$0.19	\$485,438
12b-1 Distribution Fee	None	None	None
Other Expenses	0.027%	\$0.27	\$667,936
Total Annual Fund Operating Expense⁴	0.359%	\$3.59	\$8,996,944

¹These are fees paid to create and maintain the investments used by a stable value fund

²These are fees borne indirectly by the Fund when it acquires an interest in another fund which pays its own separate fees

³Includes audit fees for the cost of producing a report by a qualified auditor

⁴Total Annual Fund Operating Expenses are reflected daily in the Fund's net asset value (NAV)