

**STATE OF MICHIGAN
CENTRAL PROCUREMENT SERVICES**

Department of Technology, Management, and Budget
525 W. ALLEGAN ST., LANSING, MICHIGAN 48913
P.O. BOX 30026 LANSING, MICHIGAN 48909



CONTRACT CHANGE NOTICE

Change Notice Number **3**

to

Contract Number **071B6600115**

CONTRACTOR	GABRIEL ROEDER SMITH & CO
	One Town Square , Suite 800
	Southfield, MI 48076
	Louise Gates
	248-799-9000
	louise.gates@gabrielroeder.com
	CV0020797

STATE	Program Manager	John Karagoulis	DTMB
		517-284-4567	
		KaragoulisJ1@Michigan.gov	
	Contract Administrator	Courtney Flores	DTMB
		(517) 249-0452	
		floresc@michigan.gov	

CONTRACT SUMMARY

PENSION ACTUARIAL AND CONSULTING SERVICES - DTMB,

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE
August 1, 2016	July 31, 2019	2 - 1 Year	July 31, 2019
PAYMENT TERMS		DELIVERY TIMEFRAME	
NET 45		N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-Card <input type="checkbox"/> PRC <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

MINIMUM DELIVERY REQUIREMENTS

N/A

DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input checked="" type="checkbox"/>	2 - 1 Year	<input type="checkbox"/>	N/A	July 31, 2021
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$2,755,000.00	\$1,720,000.00	\$4,475,000.00		

DESCRIPTION

Effective August 1, 2019, this Contract is exercising the remaining option years and is increased by \$1,720,000.00. The revised contract expiration date is July 31, 2021.

Please note the Program Manager has been changed to Courtney Flores: Phone: 517-249-0452; Email: floresc@michigan.gov, per Section 2 and 3 of Standard Contract Terms.

All other terms, conditions, specifications, and pricing remain the same. Per Contractor and Agency agreement, DTMB Central Procurement Services approval, and State Administrative Board approval on May 21, 2019.



STATE OF MICHIGAN
ENTERPRISE PROCUREMENT
 Department of Technology, Management, and Budget
 525 W. ALLEGAN ST., LANSING, MICHIGAN 48913
 P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number 2

to

Contract Number 071B6600115

CONTRACTOR	Gabriel, Roeder, Smith & Company
	One Town Square
	Southfield, MI 48076
	Louise Gates
	(248) 799-9000
	louise.gates@gabrielroeder.com
*****1268	

STATE	Program Manager	John Karagoulis	DTMB
		(517) 284-4567	
		KaragoulisJ1@michigan.gov	
	Contract Administrator	Joshua Wilson	DTMB
		(517) 284-7027	
		wilsonj31@michigan.gov	

CONTRACT SUMMARY

PENSION ACTUARIAL AND CONSULTING SERVICES - DTMB, ORS

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
August 1, 2016	July 31, 2019	2 - 1 Year	July 31, 2019
PAYMENT TERMS		DELIVERY TIMEFRAME	
NET 45		N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-Card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

MINIMUM DELIVERY REQUIREMENTS

N/A

DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>	N/A	<input type="checkbox"/>	N/A	
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$2,250,000.00	\$505,000.00	\$2,755,000.00		

DESCRIPTION

Effective October 10, 2017, this Contract is increased by \$505,000.00 enacting Senate Bill No. 401 and House Bill No. 4647 for the Michigan Public School Employees Retirement System (MPSERS) per the attached letter from the Contractor dated June 19, 2017.

Please note that the Program Manager is hereby updated to John Karagoulis (Standard Contract Terms, Section 4. Program Manager).

All other terms, conditions, specifications and pricing remain the same per Contractor and Agency agreement, DTMB Procurement approval, and State Administrative Board approval dated October 10, 2017.

June 19, 2017

Ms. Kerrie Vanden Bosch
Director
DTMB, Office of Retirement Services
Stevens T. Mason Building
530 W. Allegan
Lansing, Michigan 48933

**Re: Michigan Public School Employees Retirement System (MPSERS)
Senate Bill No. 401, House Bill No. 4647**

Dear Ms. Vanden Bosch:

The purpose of this letter is twofold:

- (1) In accordance with your request, to provide 30-year cost estimates associated with Senate Bill No. 401 (SB 401) and House Bill No. 4647 (HB 4647). These 30-year cost estimates supplement the estimated 5-year budgetary impacts provided June 12, 2017.
- (2) To enumerate the deliverables that were provided to the Office of Retirement Services (ORS) throughout the Michigan Public School Employees Retirement System (MPSERS) reform process.

A. Summary of Senate Bill No. 401 and House Bill No. 4647

Based upon our understanding, presented below is a brief summary of the provisions of SB 401 and HB 4647 that are expected to have an effect on the annual actuarial valuation:

- (1) Individuals that become members of MPSERS on or after February 1, 2018 (sometimes referred to as new hires) will have the one-time choice between a Defined Contribution (DC) plan and a new Hybrid plan. The DC plan will have an employer contribution of 4% of payroll plus a 100% employer matching provision up to an additional 3% of a member's payroll. The new Hybrid plan will be similar in nature with the existing Hybrid plan, with the following exceptions:
 - a. The employer and member normal cost contribution rates will be based upon a 50/50 cost sharing arrangement.
 - b. The employer and member contribution rates associated with financing any unfunded actuarial accrued liabilities (UAAL) will be based upon a 50/50 cost sharing arrangement.
 - c. The MPSERS Board of Trustees will have the ability to raise the normal retirement age (currently age 60) if the life expectancy for a 65-year old (based upon a unisex blend of 50/50) increases by a certain amount. The review of the age 65 life expectancy will be based upon the mortality tables adopted as part of the normal 5-year Experience Study process. If there is a change to the normal retirement age adopted, certain members who are near the then current retirement age would not be subject to the updated normal retirement age.

- d. Increases to the UAAL will be amortized over a 10-year period using level dollar amortization.
- e. The discount rate for actuarial valuation purposes will be 6%.
- (2) The default election for a new hire is the DC plan.
- (3) If the actuarial funded ratio of the new Hybrid plan falls below 85% for two consecutive actuarial valuations, the new Hybrid plan has the potential of being closed to new hires going forward. The actuarial funded ratio will be based upon the actuarial value of assets (i.e., 5-year smoothing of investment returns).
- (4) Members hired on or after February 1, 2013 who selected the DC plan would receive the enhanced employer contribution structure of the new DC plan. Members hired before February 1, 2013 who selected the DC plan as part of the Public Act 300 (PA 300) reform do not receive the enhanced employer contribution rate structure.
- (5) Beginning with the State fiscal year ending September 30, 2018 (applicable to Non-Hybrid, old Hybrid and new Hybrid):
 - a. The normal cost contribution rate must not be less than the normal cost contribution rate in the immediately preceding State fiscal year. This provision does not apply to members participating in the new Hybrid plan.
 - b. The contribution rate associated with financing the UAAL must not be less than the contribution rate associated with financing the UAAL in the immediately preceding State fiscal year. This provision is applicable until such time as the UAAL is “paid off.” This provision does not apply to members participating in the new Hybrid plan.

In addition to the above, there are other provisions of the proposed bills that deal with reporting and administration issues.

B. Brief Summary of Deliverables Associated with the MPSERS Reform Process

Our work associated with MPSERS reform began in December, 2015. The work associated with MPSERS reform spanned three actuarial valuation years (2014 through 2016) and also encompassed a change to the investment return assumption to the Non-Hybrid plan from 8.0% to 7.5%. Given the timeframe, presented below is an attempt to enumerate the major deliverables (i.e., this list is not exhaustive) associated with the MPSERS reform process:

- (1) December, 2015:
 - a. Funding Implications of Closing the Defined Benefit Pension System to New Hires letter dated December 14, 2015 and updated February 15, 2016. These letters formed the basis of much of the “transition cost” analysis that followed.
- (2) September, 2016 through December, 2016:
 - a. MPSERS_9-30-2015 Pension Discount Sensitivity (7.00% NH & 6.00% H).pdf dated September 30, 2016.
 - b. MPSERS_9-30-2015 Pension Alternate Mortality Sensitivity_2016-10-14.pdf dated October 14, 2016.
 - c. Reasonability of Assumptions and Methods for Actuarial Valuation Purposes letter dated November 4, 2016.
 - d. Vanden Bosch 2016-11-23 (Funding Implications of Closing MPSERS,SERS, JRS to New Hires).pdf dated November 23, 2016.

(3) January, 2017:

- a. Vanden Bosch 2017-01-11 (Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 8.0% Baseline, 40 Year Amortization).pdf dated January 11, 2017.
- b. Vanden Bosch 2017-01-11 (Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 7.5% Baseline, 40 Year Amortization).pdf dated January 11, 2017.
- c. Vanden Bosch 2017-01-11 (Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - Tiered 7.5% Baseline, 40 Year Amortization).pdf dated January 11, 2017.
- d. Vanden Bosch 2017-01-24 (Pension Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 7.5% Baseline, System Amortization).pdf dated January 24, 2017.
- e. Vanden Bosch 2017-01-24 (Pension Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 8.0% Baseline, System Amortization).pdf dated January 24, 2017.
- f. Vanden Bosch 2017-01-24 (OPEB Funding Implications to MPSERS, SERS, SPRS of Closing MPSERS to New Hires - 8.0% Baseline, System Amortization).pdf dated January 24, 2017.
- g. Vanden Bosch 2017-01-24 (OPEB Funding Implications to MPSERS, SERS, SPRS of Closing MPSERS to New Hires - 7.5% Baseline, System Amortization).pdf dated January 24, 2017.

(4) May, 2017:

- a. Vanden Bosch 2017-05-05 (Pension Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 7.5% Baseline, 40 Year Amortization).pdf dated May 5, 2017.
- b. Vanden Bosch 2017-05-05 (OPEB Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 7.5% Baseline, 40 Year Amortization).pdf dated May 5, 2017.
- c. Transition Costs Projection Request from Nick_MPSERS_IncludingAmortizationScheduleTabs.xlsx dated May 11, 2017.
- d. ORSRequestedEstimatedProposals_20170516AM_DRAFT.pdf dated May 16, 2017.
- e. Vanden Bosch 2017-05-23 (OPEB Funding Implications to MPSERS, SERS, SPRS of Closing MPSERS to New Hires - 7.5% Baseline, 39 Year Amortization).pdf dated May 23, 2017.
- f. Vanden Bosch 2017-05-23 (Pension Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 7.5% Baseline, 39 Year Amortization).pdf dated May 24, 2017.
- g. Vanden Bosch 2017-05-24 (Pension Funding Implications to MPSERS, SERS, JRS of Closing MPSERS to New Hires - 7.5% Baseline, 30 Year Amortization).pdf dated May 24, 2017.
- h. Vanden Bosch 2017-05-24 (OPEB Funding Implications to MPSERS, SERS, SPRS of Closing MPSERS to New Hires - 7.5% Baseline, 30 Year Amortization).pdf dated May 24, 2017.
- i. UAALEExplanationForORS - MPSERS v2.xlsx dated May 30, 2017.

(5) June, 2017

- a. All Systems - 30-Yr Projection of ER Contributions - 5.00% - 9-30-2016 (2017-06-05).pdf dated June 5, 2017.

- b. MPSERS Hybrid NC Analysis - 2017-06-10.pdf dated June 10, 2017.
- c. MPSERS New Hybrid Projection 5-years (Updated MDD - DC PA 300) (50-50 Cost Share).xlsx dated June 12, 2017.
- d. MPSERS Alternate UAAL Amort Schedules - 2016 Val (2016-06-12).pdf dated June 12, 2017.

C. New Hybrid Plan Considerations

The purpose of this section is to analyze the impact of SB 401 and HB 4647 on the normal cost for the newly proposed Hybrid Plan. The table below shows the evolution of the total normal cost for the Hybrid Plan from the current plan to that with the proposed features in the Senate and House bills. For purposes of the actuarial valuation, we consider there to be four types of Hybrid plan employees: Part-time Teachers, Full-time Teachers, Part-time Non-Teachers, and Full-time Non-Teachers. According to the actuarial valuation, these four groups exhibit different and distinct demographic patterns. Note, in the actuarial valuation, the Hybrid normal cost displayed in the report is actually a blend of the normal costs for the four groups.

Total Normal Cost (Employer plus Employee)

SCENARIO	TEACHER		NON-TEACHER		TOTAL
	PART TIME	FULL TIME	PART TIME	FULL TIME	
2016 Valuation Basis	4.41%	8.79%	5.19%	8.82%	7.94%
Assumption Change 1	4.75%	11.11%	5.94%	10.77%	9.79%
Assumption Change 2	4.86%	11.95%	6.21%	11.46%	10.47%
Assumption Change 3	6.26%	12.50%	7.53%	12.18%	11.20%

Table Notes:

- (1) The purpose of the first row is to show the components of the total Hybrid normal cost presented in the September 30, 2016 annual actuarial valuation.
- (2) The purpose of the second row is to show the increase in the total Hybrid normal cost as a result of the proposed 6% investment return assumption.
- (3) The purpose of the third row is to estimate the increase in the total Hybrid normal cost as a result of updating the mortality in the upcoming Experience Study. Please note that other demographic assumptions may change as well. Given the plan closure trigger provision related to an 85% actuarial funded ratio, we believe that reflecting an updated mortality assumption prior to the regularly scheduled 5-year Experience Study process is appropriate.
- (4) The purpose of the fourth row is to estimate the increase in the total Hybrid normal cost as a result of fewer expected terminations in the proposed new Hybrid Plan. Fewer expected terminations would be expected since the default choice is now the DC Plan. How many fewer terminations that would occur can only be known as experience emerges. For purposes of this analysis, 50% of the withdrawal rates used for the September 30, 2016 actuarial valuation were used (both withdrawal rates applicable within the first 5 years of service and those applicable thereafter).

The purpose of the next two tables is to compare the employer/employee cost share arrangement under the current Hybrid plan provisions and the proposed 50/50 model.

Current Cost Share Arrangement

	TEACHER		NON-TEACHER		TOTAL
	PART TIME	FULL TIME	PART TIME	FULL TIME	
Total Normal Cost %	6.26%	12.50%	7.53%	12.18%	11.20%
Employee Normal Cost %	3.67%	5.37%	3.57%	5.22%	4.89%
Employer Normal Cost %	2.59%	7.13%	3.96%	6.96%	6.31%

Proposed Cost Share Arrangement

	TEACHER		NON-TEACHER		TOTAL
	PART TIME	FULL TIME	PART TIME	FULL TIME	
Total Normal Cost %	6.26%	12.50%	7.53%	12.18%	11.20%
Employee Normal Cost %	5.60%	5.60%	5.60%	5.60%	5.60%
Employer Normal Cost %	0.66%	6.90%	1.93%	6.58%	5.60%

Please note, all of the exhibits in this section are based upon the distribution of Teacher/Non-Teacher and Full-Time/Part-Time for Hybrid employees as of the September 30, 2016 annual actuarial valuation. The distribution of Hybrid employees as of the September 30, 2016 annual actuarial valuation is as follows:

Part-Time Teachers	3%
Full-Time Teachers	25%
Part-Time Non-Teachers	57%
Full-Time Non-Teachers	15%

For the purpose of establishing a preliminary employer contribution rate to start charging employers and employees on plan inception, we assumed that almost all part-time employees would elect the new DC Plan and the new Hybrid Plan would be comprised almost entirely of full-time employees. Based on a blend of the Full-Time Teacher and the Full-Time Non-Teacher total normal costs, the expected total normal cost for the new Hybrid Plan is approximately 12.4% of pay. As such, the recommended preliminary employee contribution rate is 6.2% of pay.

The actual normal cost for the new Hybrid plan will be dependent upon items such as election percentages by employment type (i.e., teacher vs. non-teacher, part-time vs. full-time), average entry ages of members electing the plan and updated actuarial assumptions as a result of the 5-year Experience Study. Given the uncertainty regarding how the new Hybrid and DC plans will alter election percentages going forward for new hires and the plan closure trigger provision, we would also recommend an initial asset infusion into the new Hybrid plan. Alternatively, if a UAAL emerges in the short term due to normal cost considerations, perhaps an asset infusion could occur to offset the uncertainty of establishing a normal cost for the new Hybrid plan.

D. Estimated 30-Year Cost Analysis

The purpose of this section is to present the estimated increase in employer contributions (\$ in millions) due to SB 401 and HB 4647 over a 30-year period.

Year	Estimated Increase in Employer Contributions
1	\$23.1
2	37.6
3	51.8
4	66.1
5	80.6
6	96.2
7	112.7
8	130.1
9	148.6
10	168.2
11	188.8
12	210.4
13	233.1
14	256.9
15	281.8
16	307.9
17	335.2
18	363.7
19	393.5
20	424.5
21	456.9
22	490.7
23	525.8
24	562.3
25	600.3
26	639.6
27	680.4
28	722.5
29	766.0
30	810.7

The estimated 30-year employer cost analysis was based upon the following assumptions:

- (1) 23,000 new entrants in each of the first three years, 20,000 new entrants thereafter
- (2) New entrants are distributed Teacher/Non-Teacher, Full-Time/Part-Time in accordance with the percentages as of the September 30, 2016 valuation
- (3) Pay profiles for new entrants were based upon the average pay characteristics for each of the four types of employees as of the September 30, 2016 valuation
- (4) Election percentages follow:
 - a. In the first five years, 5% of part-time employees and 95% of full-time employees elect the Hybrid Plan
 - b. Thereafter, 5% of part-time employees and 50% of full-time employees elect the Hybrid Plan

- (5) The employer normal cost in the proposed DC plan was assumed to be 7% of payroll.
- (6) Baseline employer contribution amounts were based upon the following:
 - a. 75% of employees elect the Hybrid plan, and
 - b. The actuarial assumptions used in the September 30, 2016 annual actuarial valuation
 - c. The employer normal cost in the current DC plan was assumed to be 3% of payroll.

Please note that the 30-year estimated cost analysis is very sensitive to the new entrant profile and election percentages. Actual cost figures will be dependent upon actual experience.

E. Transition Costs

During preliminary discussions regarding the Senate and House bills, the concept of closing the Hybrid Pension Plan to new entrants was discussed. If the MPSERS Hybrid Pension Plan were to be closed to new hires, the Bureau of Investments (BOI) would be expected to change the asset allocations of the portfolio they invest on behalf of the Systems that ORS administers due to cash flow liquidity needs. Since the assets of all of the Systems that ORS administers are pooled for investment purposes, including both pension and retiree health assets, it is expected that the closed pension plans of SERS and JRS and the effectively closed retiree health plans of MPSERS, SERS, and SPRS would also be affected if the MPSERS Hybrid Pension Plan were to be closed to new hires. The reduced expected investment return would require additional funding for the affected Systems, henceforth referred to as transition costs in the remainder of this letter.

During 2016 and 2017, GRS issued a series of letters quantifying the potential transition costs associated with a potential MPSERS Hybrid Pension Plan closure, based upon a prospective expectation of investment returns as provided by the BOI and amortizing the transition costs over various periods.

Since new hires have the option of choosing the Hybrid plan, we cannot say with certainty whether or not transition costs may arise in the future. If enough employer and employee contributions continue to be made into the new Hybrid plan, it may be that the BOI would not alter the asset allocation in the future due to net cash flow considerations. *However, if too few people elect the new Hybrid plan going forward or if the new Hybrid plan is closed due to the actuarial funded ratio 85% trigger, then transition costs may need to be reflected in future annual actuarial valuations.*

F. Disclosures

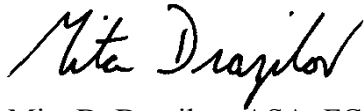
This report was prepared at the request of ORS and is intended for use by ORS and those designated or approved by ORS. This report may be provided to parties other than ORS only in its entirety and only with the permission of ORS. No statement in this report is intended to be interpreted as a recommendation in favor of the changes, or in opposition to them. This report should not be relied on for any purpose other than the purpose described in this report. GRS is not responsible for unauthorized use of this report.

The calculations are based upon assumptions regarding future events, which may or may not materialize. They are also based on the assumptions, methods, and plan provisions outlined in this report. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic

assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in the report.

Mita D. Drazilov and David T. Kausch are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Sincerely,



Mita D. Drazilov, ASA, FCA, MAAA



David T. Kausch, FSA, EA, FCA, MAAA

MDD:DTK:mdd

cc: Louise Gates (GRS)
Chris Smith (GRS)



STATE OF MICHIGAN
ENTERPRISE PROCUREMENT
 Department of Technology, Management, and Budget
 525 W. ALLEGAN ST., LANSING, MICHIGAN 48913
 P.O. BOX 30026 LANSING, MICHIGAN 48909

CONTRACT CHANGE NOTICE

Change Notice Number 1
 to
 Contract Number 071B6600115

CONTRACTOR	Gabriel, Roeder, Smith & Company
	One Town Square
	Southfield, MI 48076
	Louise Gates
	248-799-9000
	louise.gates@gabrielroeder.com
*****1268	

STATE	Program Manager	Kevin Kubacki	DTMB
		517-284-4567	
		KubackiK@Michigan.gov	
	Contract Administrator	Joshua Wilson	DTMB
		(517) 284-7027	
		wilsonj31@michigan.gov	

CONTRACT SUMMARY

PENSION ACTUARIAL AND CONSULTING SERVICES - DTMB, ORS			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
August 1, 2016	July 31, 2019	2 - 1 Year	July 31, 2019
PAYMENT TERMS		DELIVERY TIMEFRAME	
Net 45		N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-Card	<input type="checkbox"/> Direct Voucher (DV)	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

MINIMUM DELIVERY REQUIREMENTS
 N/A

DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>	N/A	<input type="checkbox"/>	N/A	
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$2,250,000.00	\$0.00	\$2,250,000.00		

DESCRIPTION

Effective April 18, 2017, Exhibit A, Statement of Work Section 3.C.12. and Exhibit C, Pricing are hereby updated per the attached letter from Contractor dated February 1, 2017. Michigan Civil Service Commission (MCSC) is hereby authorized to use this Contract for actuarial valuation of Post Retirement Life Insurance Benefits (PRLIB) services not to exceed \$33,508.00 (Exhibit C, Pricing, Life Insurance Valuation Services).

Bethany Beauchine (517-284-0086; beauchineb@michigan.gov) is hereby added as the MCSC Program Manager (Standard Contract Terms, Section 4. Program Manager).

All other terms, conditions, specifications, and pricing remain the same. Per Contractor and Agency agreement, and DTMB Procurement approval.

February 1, 2017

Ms. Lauri Schmidt
Director, Employee Benefits Division
Capitol Commons Bldg., 4th Floor
400 S. Pine Street
Lansing, Michigan 48913

Re: Supplemental Actuarial Services

Dear Lauri:

This letter summarizes the scope of services, associated fees, proposed work schedule and other issues related to the September 30, 2017 actuarial valuation of Post Retirement Life Insurance Benefits (PRLIB) provided by the state of Michigan.

SCOPE OF SERVICES

The actuarial valuation will include the following:

1. A valuation of PRLIB for eligible individuals from the following Retirement Systems (retired and active members):
 - a. State Employees Retirement System
 - b. State Police Retirement System
 - c. Judges Retirement System
 - d. Military Retirement System
2. A determination of the total plan liability as of the valuation date (September 30, 2017) using a single discount rate in accordance with Governmental Accounting Standards Board (GASB) Statement No. 75 .
3. A disclosure of the assumptions and methods used in the valuation
4. Actuarial schedules required by GASB Statement No. 75 for the Employer's reporting period ending September 30, 2018

Ms. Lauri Schmidt
February 1, 2017
Page 2

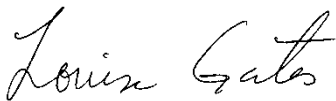
FEES FOR SERVICES

Fees for the actuarial valuation, including the items described on the previous page, will be \$33,508 as provided in our current actuarial services contract.

PROPOSED WORK SCHEDULE

We can begin work upon receipt of all requested data and information. Once we begin work, we can provide a report within approximately 10 weeks.

Sincerely,

A handwritten signature in cursive script that reads "Louise M. Gates".

Louise M. Gates
Senior Consultant and Actuary

Form No. DTMB-3522 (Rev. 10/2016)
 AUTHORITY: Act 431 of 1994
 COMPLETION: Required
 PENALTY: Contract chance will not be executed unless form is filed

STATE OF MICHIGAN
 DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET
 PROCUREMENT

325 W. ALLEGAN STREET
 LANSING, MI 48223

P.O. BOX 30026
 LANSING, MI 48269

NOTICE OF CONTRACT NO. 071B6600115

between
 THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF CONTRACTOR	PRIMARY CONTACT	EMAIL
Gabriel, Roeder, Smith & Company One Towne Square, Suite 800 Southfield, MI 48076	Louise Gates	Louise.Gates@gabrielroeder.com
	PHONE	VENDOR TAX ID # (LAST FOUR DIGITS ONLY)
	(248) 799-9000	1268

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
PROGRAM MANAGER	DTMB	Kevin Kubacki	(517) 284-4567	KubackiK@michigan.gov
CONTRACT ADMINISTRATOR	DTMB	Joshua Wilson	(517) 284-7027	WilsonJ31@michigan.gov

CONTRACT SUMMARY

DESCRIPTION: Pension Actuarial and Consulting Services – Department of Technology, Management and Budget (DTMB), Office of Retirement Services (ORS)			
INITIAL TERM	EFFECTIVE DATE	INITIAL EXPIRATION DATE	AVAILABLE OPTIONS
3 Years	August 1, 2016	July 31, 2019	2, 1-year options
PAYMENT TERMS	F.O.B.	SHIPPED TO	
NET 45	N/A	N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			
N/A			
MISCELLANEOUS INFORMATION			
THIS IS NOT AN ORDER. This Contract Agreement is awarded on the basis of our inquiring bearing RFP No. 007116B0007754. Orders for delivery will be issued directly by Departments through the issuance of a Purchase Order Form.			
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION		\$2,250,000.00	

For the Contractor:

Judith A. Kermans,
President
Gabriel, Roeder, Smith & Company

Date

For the State:

Tom Falik,
Services Division Director
State of Michigan

Date



STATE OF MICHIGAN

STANDARD CONTRACT TERMS

This STANDARD CONTRACT (“**Contract**”) is agreed to between the State of Michigan (the “**State**”) and Gabriel, Roeder, Smith & Company (“**Contractor**”), a Michigan corporation. This Contract is effective on August 1, 2016 (“**Effective Date**”), and unless terminated, expires on July 31, 2019.

The Contract may be renewed in writing by mutual agreement of the parties. The Contract may be renewed for up to two (2) additional one (1) year periods.

The parties agree as follows:

- 1. Duties of Contractor.** Contractor must perform the services and provide the deliverables described in **Exhibit A – Statement of Work** (the “**Contract Activities**”). An obligation to provide delivery of any commodity is considered a service and is a Contract Activity.

Contractor must furnish all labor, equipment, materials, and supplies necessary for the performance of the Contract Activities, and meet operational standards, unless otherwise specified in Exhibit A.

Contractor must: (a) perform the Contract Activities in a timely, professional, safe, and workmanlike manner consistent with standards in the trade, profession, or industry; (b) meet or exceed the performance and operational standards, and specifications of the Contract; (c) provide all Contract Activities in good quality, with no material defects; (d) not interfere with the State’s operations; (e) obtain and maintain all necessary licenses, permits or other authorizations necessary for the performance of the Contract; (f) cooperate with the State, including the State’s quality assurance personnel, and any third party to achieve the objectives of the Contract; (g) return to the State any State-furnished equipment or other resources in the same condition as when provided when no longer required for the Contract; (h) not make any media releases without prior written authorization from the State; (i) assign to the State any claims resulting from state or federal antitrust violations to the extent that those violations concern materials or services supplied by third parties toward fulfillment of the Contract; (j) comply with all State physical and IT security policies and standards which will be made available upon request; and (k) provide the State priority in performance of the Contract except as mandated by federal disaster response requirements. Any breach under this paragraph is considered a material breach.

Contractor must also be clearly identifiable while on State property by wearing identification issued by the State, and clearly identify themselves whenever making contact with the State.

- 2. Notices.** All notices and other communications required or permitted under this Contract must be in writing and will be considered given and received: (a) when verified by written receipt if sent by courier; (b) when actually received if sent by mail without verification of receipt; or (c) when verified by automated receipt or electronic logs if sent by facsimile or email.

<p>If to State: Joshua Wilson Constitution Hall, 1st Floor, NE 525 West Allegan St. Lansing, MI 48909 WilsonJ31@michigan.gov (517) 284-7027</p>	<p>If to Contractor: Louise Gates One Towne Square, Suite 800 Southfield, MI 48076 Louise.Gates@gabrielroeder.com (248) 799-9000</p>
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3. **Contract Administrator.** The Contract Administrator for each party is the only person authorized to modify any terms of this Contract, and approve and execute any change under this Contract (each a “**Contract Administrator**”):

State: Joshua Wilson Constitution Hall, 1 st Floor, NE 525 West Allegan St. Lansing, MI 48909 WilsonJ31@michigan.gov (517) 284-7027	Contractor: Louise Gates One Towne Square, Suite 800 Southfield, MI 48076 Louise.Gates@gabrielroeder.com (248) 799-9000
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4. **Program Manager.** The Program Manager for each party will monitor and coordinate the day-to-day activities of the Contract (each a “**Program Manager**”):

State: Kevin Kubacki 530 West Allegan St. Lansing, MI 48929 kubackik@michigan.gov (517) 284-4567	Contractor: Louise Gates One Towne Square, Suite 800 Southfield, MI 48076 Louise.Gates@gabrielroeder.com (248) 799-9000
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5. **Performance Guarantee.** Contractor must at all times have financial resources sufficient, in the opinion of the State, to ensure performance of the Contract and must provide proof upon request.

6. **Insurance Requirements.** Contractor must maintain the insurances identified below and is responsible for all deductibles. All required insurance must: (a) protect the State from claims that may arise out of, are alleged to arise out of, or result from Contractor's or a subcontractor's performance; (b) be primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State; and (c) be provided by a company with an A.M. Best rating of "A" or better, and a financial size of VII or better.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
<u>Minimal Limits:</u> \$1,000,000 Each Occurrence Limit \$1,000,000 Personal & Advertising Injury Limit \$2,000,000 General Aggregate Limit \$2,000,000 Products/Completed Operations <u>Deductible Maximum:</u> \$50,000 Each Occurrence	Contractor must have their policy endorsed to add “the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents” as additional insureds using endorsement CG 20 10 11 85, or both CG 2010 07 04 and CG 2037 07 0.
Automobile Liability Insurance	
<u>Minimal Limits:</u> \$1,000,000 Per Occurrence	Contractor must have their policy: (1) endorsed to add “the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents” as additional insureds; and (2) include Hired and Non-Owned Automobile coverage.
Workers' Compensation Insurance	
<u>Minimal Limits:</u> Coverage according to applicable laws governing work activities.	Waiver of subrogation, except where waiver is prohibited by law.
Employers Liability Insurance	

<u>Minimal Limits:</u> \$500,000 Each Accident \$500,000 Each Employee by Disease \$500,000 Aggregate Disease.	
Privacy and Security Liability (Cyber Liability) Insurance	
<u>Minimal Limits:</u> \$5,000,000 Each Occurrence \$5,000,000 Annual Aggregate	Contractor must have their policy: (1) endorsed to add “the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents” as additional insureds; and (2) cover information security and privacy liability, privacy notification costs, regulatory defense and penalties, and website media content liability.
Professional Liability (Errors and Omissions) Insurance	
<u>Minimal Limits:</u> \$3,000,000 Each Occurrence \$3,000,000 Annual Aggregate <u>Deductible Maximum:</u> \$250,000 Per Loss	

If any of the required policies provide **claims-made** coverage, the Contractor must: (a) provide coverage with a retroactive date before the effective date of the contract or the beginning of Contract Activities; (b) maintain coverage and provide evidence of coverage for at least three (3) years after completion of the Contract Activities; and (c) if coverage is canceled or not renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, Contractor must purchase extended reporting coverage for a minimum of three (3) years after completion of work.

Contractor must: (a) provide insurance certificates to the Contract Administrator, containing the agreement or purchase order number, at Contract formation and within 20 calendar days of the expiration date of the applicable policies; (b) require that subcontractors maintain the required insurances contained in this Section; (c) notify the Contract Administrator within 5 business days if any insurance is cancelled; and (d) waive all rights against the State for damages covered by insurance. Failure to maintain the required insurance does not limit this waiver.

This Section is not intended to and is not be construed in any manner as waiving, restricting or limiting the liability of either party for any obligations under this Contract (including any provisions hereof requiring Contractor to indemnify, defend and hold harmless the State).

7. **MiDEAL Administrative Fee and Reporting.** Contractor must pay an administrative fee of 1% on all MiDEAL payments made to Contractor under the Contract including transactions with the MiDEAL members, and other states (including governmental subdivisions and authorized entities). Administrative fee payments must be made by check payable to the State of Michigan and mailed to:

Department of Technology, Management and Budget
 Financial Services – Cashier Unit
 Lewis Cass Building

320 South Walnut St.
P.O. Box 30681
Lansing, MI 48909

Contractor must submit an itemized purchasing activity report, which includes at a minimum, the name of the purchasing entity and the total dollar volume in sales. Reports should be mailed to DTMB-Procurement.

The administrative fee and purchasing activity report are due within 30 calendar days from the last day of each calendar quarter.

- 8. Extended Purchasing Program.** This contract is extended to MiDEAL members. MiDEAL members include local units of government, school districts, universities, community colleges, and nonprofit hospitals. A current list of MiDEAL members is available at www.michigan.gov/mideal. Upon written agreement between the State and Contractor, this contract may also be extended to: (a) State of Michigan employees and (b) other states (including governmental subdivisions and authorized entities).

If extended, Contractor must supply all Contract Activities at the established Contract prices and terms. The State reserves the right to impose an administrative fee and negotiate additional discounts based on any increased volume generated by such extensions.

Contractor must submit invoices to, and receive payment from, extended purchasing program members on a direct and individual basis.

- 9. Independent Contractor.** Contractor is an independent contractor and assumes all rights, obligations and liabilities set forth in this Contract. Contractor, its employees, and agents will not be considered employees of the State. No partnership or joint venture relationship is created by virtue of this Contract. Contractor, and not the State, is responsible for the payment of wages, benefits and taxes of Contractor's employees and any subcontractors. Prior performance does not modify Contractor's status as an independent contractor. Contractor hereby acknowledges that the State is and will be the sole and exclusive owner of all reports, analyses, data, and other information or documents provided by Contractor to the State ("Deliverables"); provided, however, that Deliverables do not include any proprietary information, source code, internal work papers or software. Such Deliverables are works made for hire as defined in Section 101 of the Copyright Act of 1976. To the extent any Deliverables and related intellectual property do not qualify as works made for hire under the Copyright Act, Contractor will, and hereby does, immediately on its creation, assign, transfer and otherwise convey to the State, irrevocably and in perpetuity, throughout the universe, all right, title and interest in and to the Deliverables.
- 10. Subcontracting.** Contractor may not delegate any of its obligations under the Contract without the prior written approval of the State. Contractor must notify the State at least 90 calendar days before the proposed delegation, and provide the State any information it requests to determine whether the delegation is in its best interest. If approved, Contractor must: (a) be the sole point of contact regarding all contractual matters, including payment and charges for all Contract Activities; (b) make all payments to the subcontractor; and (c) incorporate the terms and conditions contained in this Contract in any subcontract with a subcontractor. Contractor remains responsible for the completion of the Contract Activities, compliance with the terms of this Contract, and the acts and omissions of the subcontractor. The State, in its sole discretion, may require the replacement of any subcontractor.
- 11. Staffing.** The State's Contract Administrator may require Contractor to remove or reassign personnel by providing a notice to Contractor.
- 12. Background Checks.** Upon request, Contractor must perform background checks on all employees and subcontractors and its employees prior to their assignment. The scope is at the discretion of the State and documentation must be provided as requested. Contractor is responsible for all costs associated with the requested background checks. The State, in its sole discretion, may also perform background checks.
- 13. Assignment.** Contractor may not assign this Contract to any other party without the prior approval of the State. Upon notice to Contractor, the State, in its sole discretion, may assign in whole or in part, its rights or responsibilities under this Contract to any other party. If the State determines that a novation of the Contract to a third party is necessary, Contractor will agree to the novation and provide all necessary documentation and signatures.
- 14. Change of Control.** Contractor will notify, at least 90 calendar days before the effective date, the State of a change in Contractor's organizational structure or ownership. For purposes of this Contract, a change in control

means any of the following: (a) a sale of more than 50% of Contractor's stock; (b) a sale of substantially all of Contractor's assets; (c) a change in a majority of Contractor's board members; (d) consummation of a merger or consolidation of Contractor with any other entity; (e) a change in ownership through a transaction or series of transactions; (f) or the board (or the stockholders) approves a plan of complete liquidation. A change of control does not include any consolidation or merger effected exclusively to change the domicile of Contractor, or any transaction or series of transactions principally for bona fide equity financing purposes.

In the event of a change of control, Contractor must require the successor to assume this Contract and all of its obligations under this Contract.

15. **Ordering.** Contractor is not authorized to begin performance until receipt of authorization as identified in Exhibit A.
16. **Acceptance.** Contract Activities are subject to inspection and testing by the State within 30 calendar days of the State's receipt of them ("**State Review Period**"), unless otherwise provided in Exhibit A. If the Contract Activities are not fully accepted by the State, the State will notify Contractor by the end of the State Review Period that either: (a) the Contract Activities are accepted, but noted deficiencies must be corrected; or (b) the Contract Activities are rejected. If the State finds material deficiencies, it may: (i) reject the Contract Activities without performing any further inspections; (ii) demand performance at no additional cost; or (iii) terminate this Contract in accordance with Section 23, Termination for Cause.

Within 10 business days from the date of Contractor's receipt of notification of acceptance with deficiencies or rejection of any Contract Activities, Contractor must cure, at no additional cost, the deficiency and deliver unequivocally acceptable Contract Activities to the State. If acceptance with deficiencies or rejection of the Contract Activities impacts the content or delivery of other non-completed Contract Activities, the parties' respective Program Managers must determine an agreed to number of days for re-submission that minimizes the overall impact to the Contract. However, nothing herein affects, alters, or relieves Contractor of its obligations to correct deficiencies in accordance with the time response standards set forth in this Contract.

If Contractor is unable or refuses to correct the deficiency within the time response standards set forth in this Contract, the State may cancel the order in whole or in part. The State, or a third party identified by the State, may perform the Contract Activities and recover the difference between the cost to cure and the Contract price plus an additional 10% administrative fee. The Contractor's financial obligation under this section shall not exceed \$750,000.

17. **Delivery.** Contractor must deliver all Contract Activities F.O.B. destination, within the State premises with transportation and handling charges paid by Contractor, unless otherwise specified in Exhibit A. All containers and packaging becomes the State's exclusive property upon acceptance.
18. **Risk of Loss and Title.** Until final acceptance, title and risk of loss or damage to Deliverables remains with Contractor. Contractor is responsible for filing, processing, and collecting all damage claims. The State will record and report to Contractor any evidence of visible damage. If the State rejects the Contract Activities, Contractor must remove them from the premises within 10 calendar days after notification of rejection. The risk of loss of rejected or non-conforming Deliverables remains with Contractor. Rejected Deliverables not removed by Contractor within 10 calendar days will be deemed abandoned by Contractor, and the State will have the right to dispose of it as its own property. Contractor must reimburse the State for costs and expenses incurred in storing or effecting removal or disposition of rejected Deliverables.
19. **Reserved.**
20. **Terms of Payment.** Invoices must conform to the requirements communicated from time-to-time by the State. All undisputed amounts are payable within 45 days of the State's receipt. Contractor may only charge for Contract Activities performed as specified in Exhibit A. Invoices must include an itemized statement of all charges. The State is exempt from State sales tax for direct purchases and may be exempt from federal excise tax, if Services purchased under this Agreement are for the State's exclusive use. Notwithstanding the foregoing, all prices are inclusive of taxes, and Contractor is responsible for all sales, use and excise taxes, and any other similar taxes, duties and charges of any kind imposed by any federal, state, or local governmental entity on any amounts payable by the State under this Contract.

The State has the right to withhold payment of any disputed amounts until the parties agree as to the validity of

the disputed amount. The State will notify Contractor of any dispute within a reasonable time. Payment by the State will not constitute a waiver of any rights as to Contractor's continuing obligations, including claims for deficiencies or substandard Contract Activities. Contractor's acceptance of final payment by the State constitutes a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still disputed.

The State will only disburse payments under this Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/cpexpress> to receive electronic fund transfer payments. If Contractor does not register, the State is not liable for failure to provide payment.

Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract.

21. Reserved.

22. Stop Work Order. The State may suspend any or all activities under the Contract at any time. The State will provide Contractor a written stop work order detailing the suspension. Contractor must comply with the stop work order upon receipt. Within 90 calendar days, or any longer period agreed to by Contractor, the State will either: (a) issue a notice authorizing Contractor to resume work, or (b) terminate the Contract or purchase order. The State will not pay for Contract Activities, Contractor's lost profits, or any additional compensation during a stop work period.

23. Termination for Cause. The State may terminate this Contract for cause, in whole or in part, if Contractor, as determined by the State: (a) endangers the value, integrity, or security of any location, data, or personnel; (b) becomes insolvent, petitions for bankruptcy court proceedings, or has an involuntary bankruptcy proceeding filed against it by any creditor; (c) engages in any conduct that may expose the State to liability; (d) breaches any of its material duties or obligations; or (e) fails to cure a breach within the time stated in a notice of breach. Any reference to specific breaches being material breaches within this Contract will not be construed to mean that other breaches are not material.

If the State terminates this Contract under this Section, the State will issue a termination notice specifying whether Contractor must: (a) cease performance immediately, or (b) continue to perform for a specified period. If it is later determined that Contractor was not in breach of the Contract, the termination will be deemed to have been a Termination for Convenience, effective as of the same date, and the rights and obligations of the parties will be limited to those provided in Section 24, Termination for Convenience.

The State will only pay for amounts due to Contractor for Contract Activities accepted by the State on or before the date of termination, subject to the State's right to set off any amounts owed by the Contractor for the State's reasonable costs in terminating this Contract. The Contractor must pay all reasonable costs incurred by the State in terminating this Contract for cause, including administrative costs, attorneys' fees, court costs, transition costs, and any costs the State incurs to procure the Contract Activities from other sources.

If the State terminates the Contract for cause under this Section, and it is determined, for any reason, that Contractor was not in breach of contract under the provisions of this section, that termination for cause must be deemed to have been a termination for convenience, effective as of the same date, and the rights and obligations of the parties must be limited to that otherwise provided in the Contract for a termination for convenience.

The Contractor may terminate this Contract if the State: (a) materially breaches its obligation to pay the Contractor undisputed amounts due and owing under the Contract, (b) breaches its other obligations under the Contract to an extent that makes it impossible or commercially impractical for the Contractor to perform the Services, or (c) does not cure the breach within the time period specified in a written notice of breach. The Contractor will provide the State with written notice of the breach and a time period (not less than 30 days) to cure the breach.

24. Termination for Convenience. The State may immediately terminate this Contract in whole or in part without penalty and for any reason, including but not limited to, appropriation or budget shortfalls. The termination notice will specify whether Contractor must: (a) cease performance of the Contract Activities immediately, or (b) continue to perform the Contract Activities in accordance with Section 25, Transition Responsibilities. If the State terminates this Contract for convenience, the State will pay all reasonable costs, as determined by the State, for State approved Transition Responsibilities.

25. Transition Responsibilities. Upon termination or expiration of this Contract for any reason, Contractor must, for a period of time specified by the State (not to exceed 90 calendar days), provide all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the Contract Activities to continue without interruption or adverse effect, and to facilitate the orderly transfer of such Contract Activities to the State or its designees. Such transition assistance may include, but is not limited to: (a) continuing to perform the Contract Activities at the established Contract rates; (b) taking all reasonable and necessary measures to transition performance of the work, including all applicable Contract Activities, training, equipment, software, leases, reports and other documentation, to the State or the State's designee; (c) taking all necessary and appropriate steps, or such other action as the State may direct, to preserve, maintain, protect, or return to the State all materials, data, property, and confidential information provided directly or indirectly to Contractor by any entity, agent, vendor, or employee of the State; (d) transferring title in and delivering to the State, at the State's discretion, all completed or partially completed deliverables prepared under this Contract as of the Contract termination date; and (e) preparing an accurate accounting from which the State and Contractor may reconcile all outstanding accounts (collectively, "**Transition Responsibilities**"). This Contract will automatically be extended through the end of the transition period.

26. General Indemnification. Contractor must defend, indemnify and hold the State, its departments, divisions, agencies, offices, commissions, officers, and employees harmless, without limitation, from and against any and all actions, claims, losses, liabilities, damages, costs, attorney fees, and expenses (including those required to establish the right to indemnification), arising out of or relating to: (a) any breach by Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable) of any of the promises, agreements, representations, warranties, or insurance requirements contained in this Contract; (b) any infringement, misappropriation, or other violation of any intellectual property right or other right of any third party; (c) any bodily injury, death, or damage to real or tangible personal property occurring wholly or in part due to action or inaction by Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable); and (d) any negligent acts or omissions of Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable).

The State will notify Contractor in writing if indemnification is sought; however, failure to do so will not relieve Contractor, except to the extent that Contractor is materially prejudiced. Contractor must, to the satisfaction of the State, demonstrate its financial ability to carry out these obligations.

The State is entitled to: (i) regular updates on proceeding status; (ii) participate in the defense of the proceeding; (iii) employ its own counsel; and to (iv) retain control of the defense if the State deems necessary. Contractor will not, without the State's written consent (not to be unreasonably withheld), settle, compromise, or consent to the entry of any judgment in or otherwise seek to terminate any claim, action, or proceeding. To the extent that any State employee, official, or law may be involved or challenged, the State may, at its own expense, control the defense of that portion of the claim.

Any litigation activity on behalf of the State, or any of its subdivisions under this Section, must be coordinated with the Department of Attorney General. An attorney designated to represent the State may not do so until approved by the Michigan Attorney General and appointed as a Special Assistant Attorney General.

27. Infringement Remedies. If, in either party's opinion, any piece of equipment, software, commodity, or service supplied by Contractor or its subcontractors, or its operation, use or reproduction, is likely to become the subject of a copyright, patent, trademark, or trade secret infringement claim, Contractor must, at its expense: (a) procure for the State the right to continue using the equipment, software, commodity, or service, or if this option is not reasonably available to Contractor, (b) replace or modify the same so that it becomes non-infringing; or (c) accept its return by the State with appropriate credits to the State against Contractor's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

28. Limitation of Liability.

- a. Disclaimer of Damages. Neither party will be liable, regardless of the form of action, whether in contract, tort, negligence, strict liability or by statute or otherwise, for any claim related to or arising under this contract for consequential, incidental, indirect, punitive, or special damages, including without limitation lost profits and lost business opportunities.
- b. Limitation of Liability. In no event will either party's aggregate liability to the other party under this contract, regardless of the form of action, whether in contract, tort, negligence, strict liability or by statute or

otherwise, for any claim related to or arising under this contract, exceed the maximum amount of fees specified in the contract.

- c. Exceptions. Subsections a (Disclaimer of Damages) and b (Limitation of Liability) above, shall not apply to:
- i. Contractor's obligation to indemnify under **Section 26** of this Contract;
 - ii. Contractor's obligations under **Section 31** of this Contract (State Data), subject to the Security Breach Indemnity Cap; and
 - iii. damages arising from either party's recklessness, bad faith, or intentional misconduct.

29. Disclosure of Litigation, or Other Proceeding. Contractor must notify the State within 14 calendar days of receiving notice of any litigation, investigation, arbitration, or other proceeding (collectively, "**Proceeding**") involving Contractor, a subcontractor, or an officer or director of Contractor or subcontractor, that arises during the term of the Contract, including: (a) a criminal Proceeding; (b) a parole or probation Proceeding; (c) a Proceeding under the Sarbanes-Oxley Act; (d) a civil Proceeding involving: (1) a claim that might reasonably be expected to adversely affect Contractor's viability or financial stability; or (2) a governmental or public entity's claim or written allegation of fraud; or (e) a Proceeding involving any license that Contractor is required to possess in order to perform under this Contract.

30. Reserved.

31. State Data.

- a. Ownership. The State's data ("**State Data**," which will be treated by Contractor as Confidential Information) includes: (a) the State's data collected, used, processed, stored, or generated as the result of the Contract Activities; (b) personally identifiable information ("**PII**") collected, used, processed, stored, or generated as the result of the Contract Activities, including, without limitation, any information that identifies an individual, such as an individual's social security number or other government-issued identification number, date of birth, address, telephone number, biometric data, mother's maiden name, email address, credit card information, or an individual's name in combination with any other of the elements here listed; and, (c) personal health information ("**PHI**") collected, used, processed, stored, or generated as the result of the Contract Activities, which is defined under the Health Insurance Portability and Accountability Act (HIPAA) and its related rules and regulations. State Data is and will remain the sole and exclusive property of the State and all right, title, and interest in the same is reserved by the State. This Section survives the termination of this Contract.
- b. Contractor Use of State Data. Contractor is provided a limited license to State Data for the sole and exclusive purpose of providing the Contract Activities, including a license to collect, process, store, generate, and display State Data only to the extent necessary in the provision of the Contract Activities. Contractor must: (a) keep and maintain State Data in strict confidence, using such degree of care as is appropriate and consistent with its obligations as further described in this Contract and applicable law to avoid unauthorized access, use, disclosure, or loss; (b) use and disclose State Data solely and exclusively for the purpose of providing the Contract Activities, such use and disclosure being in accordance with this Contract, any applicable Statement of Work, and applicable law; and (c) not use, sell, rent, transfer, distribute, or otherwise disclose or make available State Data for Contractor's own purposes or for the benefit of anyone other than the State without the State's prior written consent. This Section survives the termination of this Contract.
- c. Extraction of State Data. Contractor must, within five (5) business days of the State's request, provide the State, without charge and without any conditions or contingencies whatsoever (including but not limited to the payment of any fees due to Contractor), an extract of the State Data in the format specified by the State.
- d. Backup and Recovery of State Data. Unless otherwise specified in Exhibit A, Contractor is responsible for maintaining a backup of State Data and for an orderly and timely recovery of such data. Unless otherwise described in Exhibit A, Contractor must maintain a contemporaneous backup of State Data that can be recovered within two (2) hours at any point in time.
- e. Loss of Data. In the event of any act, error or omission, negligence, misconduct, or breach that compromises or is suspected to compromise the security, confidentiality, or integrity of State Data or the physical, technical, administrative, or organizational safeguards put in place by Contractor that

relate to the protection of the security, confidentiality, or integrity of State Data, Contractor must, as applicable: (a) notify the State as soon as practicable but no later than twenty-four (24) hours of becoming aware of such occurrence; (b) cooperate with the State in investigating the occurrence, including making available all relevant records, logs, files, data reporting, and other materials required to comply with applicable law or as otherwise required by the State; (c) in the case of PII or PHI, at the State's sole election, (i) notify the affected individuals who comprise the PII or PHI as soon as practicable but no later than is required to comply with applicable law, or, in the absence of any legally required notification period, within 5 calendar days of the occurrence; or (ii) reimburse the State for any costs in notifying the affected individuals; (d) in the case of PII, provide third-party credit and identity monitoring services to each of the affected individuals who comprise the PII for the period required to comply with applicable law, or, in the absence of any legally required monitoring services, for no less than twenty-four (24) months following the date of notification to such individuals; (e) perform or take any other actions required to comply with applicable law as a result of the occurrence; (f) without limiting Contractor's obligations of indemnification as further described in this Contract, indemnify, defend, and hold harmless the State for any and all claims, including reasonable attorneys' fees, costs, and expenses incidental thereto, which may be suffered by, accrued against, charged to, or recoverable from the State in connection with the occurrence; (g) be responsible for recreating lost State Data in the manner and on the schedule set by the State without charge to the State; and, (h) provide to the State a detailed plan within 10 calendar days of the occurrence describing the measures Contractor will undertake to prevent a future occurrence. Notification to affected individuals, as described above, must comply with applicable law, be written in plain language, and contain, at a minimum: name and contact information of Contractor's representative; a description of the nature of the loss; a list of the types of data involved; the known or approximate date of the loss; how such loss may affect the affected individual; what steps Contractor has taken to protect the affected individual; what steps the affected individual can take to protect himself or herself; contact information for major credit card reporting agencies; and, information regarding the credit and identity monitoring services to be provided by Contractor. This Section survives the termination of this Contract. Notwithstanding anything to the contrary in this section, Contractor's aggregate liability under this section shall be the greater of (i) \$1,000,000.00, or (ii) the value of the Contract.

32. Non-Disclosure of Confidential Information. The parties acknowledge that each party may be exposed to or acquire communication or data of the other party that is confidential, privileged communication not intended to be disclosed to third parties. The provisions of this Section survive the termination of this Contract.

a. Meaning of Confidential Information. For the purposes of this Contract, the term "**Confidential Information**" means all information and documentation of a party that: (a) has been marked "confidential" or with words of similar meaning, at the time of disclosure by such party; (b) if disclosed orally or not marked "confidential" or with words of similar meaning, was subsequently summarized in writing by the disclosing party and marked "confidential" or with words of similar meaning; and, (c) should reasonably be recognized as confidential information of the disclosing party. The term "Confidential Information" does not include any information or documentation that was: (a) subject to disclosure under the Michigan Freedom of Information Act (FOIA); (b) already in the possession of the receiving party without an obligation of confidentiality; (c) developed independently by the receiving party, as demonstrated by the receiving party, without violating the disclosing party's proprietary rights; (d) obtained from a source other than the disclosing party without an obligation of confidentiality; or, (e) publicly available when received, or thereafter became publicly available (other than through any unauthorized disclosure by, through, or on behalf of, the receiving party). For purposes of this Contract, in all cases and for all matters, State Data is deemed to be Confidential Information.

b. Obligation of Confidentiality. The parties agree to hold all Confidential Information in strict confidence and not to copy, reproduce, sell, transfer, or otherwise dispose of, give or disclose such Confidential Information to third parties other than employees, agents, or subcontractors of a party who have a need to know in connection with this Contract or to use such Confidential Information for any purposes whatsoever other than the performance of this Contract. The parties agree to advise and require their respective employees, agents, and subcontractors of their obligations to keep all Confidential Information confidential. Disclosure to a subcontractor is permissible where: (a) use of a subcontractor is authorized under this Contract; (b) the disclosure is necessary or otherwise naturally occurs in connection with work that is within the subcontractor's responsibilities; and (c) Contractor obligates the subcontractor in a written contract to maintain the State's Confidential Information in confidence. At the State's request, any

employee of Contractor or any subcontractor may be required to execute a separate agreement to be bound by the provisions of this Section.

- c. Cooperation to Prevent Disclosure of Confidential Information. Each party must use its best efforts to assist the other party in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the foregoing, each party must advise the other party immediately in the event either party learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Contract and each party will cooperate with the other party in seeking injunctive or other equitable relief against any such person.
- d. Remedies for Breach of Obligation of Confidentiality. Each party acknowledges that breach of its obligation of confidentiality may give rise to irreparable injury to the other party, which damage may be inadequately compensable in the form of monetary damages. Accordingly, a party may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies which may be available, to include, in the case of the State, at the sole election of the State, the immediate termination, without liability to the State, of this Contract or any Statement of Work corresponding to the breach or threatened breach.
- e. Surrender of Confidential Information upon Termination. Upon termination of this Contract or a Statement of Work, in whole or in part, each party must, within 5 calendar days from the date of termination, return to the other party any and all Confidential Information received from the other party, or created or received by a party on behalf of the other party, which are in such party's possession, custody, or control; provided, however, that Contractor must return State Data to the State following the timeframe and procedure described further in this Contract. Should Contractor or the State determine that the return of any Confidential Information is not feasible, such party must destroy the Confidential Information and must certify the same in writing within 5 calendar days from the date of termination to the other party. Contractor may retain its working papers, copies of work products prepared by it, and Contractor may retain encrypted data backups maintained in confidentiality at a bonded 3rd party for up to one year, in accordance with the requirements of this Contract.

33. Data Privacy and Information Security.

- a. Undertaking by Contractor. Without limiting Contractor's obligation of confidentiality as further described, Contractor is responsible for establishing and maintaining a data privacy and information security program, including physical, technical, administrative, and organizational safeguards, that is designed to: (a) ensure the security and confidentiality of the State Data; (b) protect against any anticipated threats or hazards to the security or integrity of the State Data; (c) protect against unauthorized disclosure, access to, or use of the State Data; (d) ensure the proper disposal of State Data; and (e) ensure that all employees, agents, and subcontractors of Contractor, if any, comply with all of the foregoing. In no case will the safeguards of Contractor's data privacy and information security program be less stringent than the safeguards used by the State, and Contractor must at all times comply with all applicable State IT policies and standards, which are available to Contractor upon request.
- b. Audit by Contractor. No less than biannually, Contractor must conduct a comprehensive independent third-party audit of its data privacy and information security program and provide such audit findings to the State.
- c. Right of Audit by the State. Without limiting any other audit rights of the State, the State has the right to review Contractor's data privacy and information security program prior to the commencement of Contract Activities and from time to time during the term of this Contract. During the providing of the Contract Activities, on an ongoing basis from time to time and without notice, the State, at its own expense, is entitled to perform, or to have performed, an on-site audit of Contractor's data privacy and information security program. In lieu of an on-site audit, upon request by the State, Contractor agrees to complete, within 45 calendar days of receipt, an audit questionnaire provided by the State regarding Contractor's data privacy and information security program. The foregoing shall not relate to Contractors' internal work papers and communications, proprietary information, source code or other software and related specifications.
- d. Audit Findings. Contractor must implement any required safeguards as identified by the State or by any audit of Contractor's data privacy and information security program.

- e. State's Right to Termination for Deficiencies. The State reserves the right, at its sole election, to immediately terminate this Contract or a Statement of Work without limitation and without liability if the State determines that Contractor fails or has failed to meet its obligations under this Section.

34. **Reserved.**

35. **Reserved.**

36. **Records Maintenance, Inspection, Examination, and Audit.** The State or its designee may audit Contractor to verify compliance with this Contract. Contractor must retain, and provide to the State or its designee and the auditor general upon request, all financial and accounting records related to the Contract through the term of the Contract and for 4 years after the latter of termination, expiration, or final payment under this Contract or any extension ("**Audit Period**"). If an audit, litigation, or other action involving the records is initiated before the end of the Audit Period, Contractor must retain the records until all issues are resolved.

Within 10 calendar days of providing notice, the State and its authorized representatives or designees have the right to enter and inspect Contractor's premises or any other places where Contract Activities are being performed, and examine, copy, and audit all records except source code, software, proprietary information, and internal work papers related to this Contract. Contractor must cooperate and provide reasonable assistance. If any financial errors are revealed, the amount in error must be reflected as a credit or debit on subsequent invoices until the amount is paid or refunded. Any remaining balance at the end of the Contract must be paid or refunded within 45 calendar days.

This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any subcontractor that performs Contract Activities in connection with this Contract.

37. **Warranties and Representations.** Contractor represents and warrants: (a) Contractor is the owner or licensee of any Contract Activities that it licenses, sells, or develops and Contractor has the rights necessary to convey title, ownership rights, or licensed use; (b) all Contract Activities are delivered free from any security interest, lien, or encumbrance and will continue in that respect; (c) the Contract Activities will not infringe the patent, trademark, copyright, trade secret, or other proprietary rights of any third party; (d) Contractor must assign or otherwise transfer to the State or its designee any manufacturer's warranty for the Contract Activities; (e) the Contract Activities are merchantable and fit for the specific purposes identified in the Contract; (f) the Contract signatory has the authority to enter into this Contract; (g) all information furnished by Contractor in connection with the Contract fairly and accurately represents Contractor's business, properties, finances, and operations as of the dates covered by the information, and Contractor will inform the State of any material adverse changes; and (h) all information furnished and representations made in connection with the award of this Contract is true, accurate, and complete, and contains no false statements or omits any fact that would make the information misleading. A breach of this Section is considered a material breach of this Contract, which entitles the State to terminate this Contract under Section 23, Termination for Cause.

38. **Conflicts and Ethics.** Contractor will uphold high ethical standards and is prohibited from: (a) holding or acquiring an interest that would conflict with this Contract; (b) doing anything that creates an appearance of impropriety with respect to the award or performance of the Contract; (c) attempting to influence or appearing to influence any State employee by the direct or indirect offer of anything of value; or (d) paying or agreeing to pay any person, other than employees and consultants working for Contractor, any consideration contingent upon the award of the Contract. Contractor must immediately notify the State of any violation or potential violation of these standards. This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any subcontractor that performs Contract Activities in connection with this Contract.

39. **Compliance with Laws.** Contractor must comply with all federal, state and local laws, rules and regulations.

40. **Reserved.**

41. **Reserved.**

42. **Nondiscrimination.** Under the Elliott-Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, *et seq.*, and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, *et seq.*, Contractor and its subcontractors agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race,

color, religion, national origin, age, sex, height, weight, marital status, or mental or physical disability. Breach of this covenant is a material breach of this Contract.

43. **Unfair Labor Practice.** Under MCL 423.324, the State may void any Contract with a Contractor or subcontractor who appears on the Unfair Labor Practice register compiled under MCL 423.322.
44. **Governing Law.** This Contract is governed, construed, and enforced in accordance with Michigan law, excluding choice-of-law principles, and all claims relating to or arising out of this Contract are governed by Michigan law, excluding choice-of-law principles. Any dispute arising from this Contract must be resolved in Michigan Court of Claims. Contractor consents to venue in Ingham County, and waives any objections, such as lack of personal jurisdiction or *forum non conveniens*. Contractor must appoint agents in Michigan to receive service of process.
45. **Non-Exclusivity.** Nothing contained in this Contract is intended nor will be construed as creating any requirements contract with Contractor. This Contract does not restrict the State or its agencies from acquiring similar, equal, or like Contract Activities from other sources.
46. **Force Majeure.** Neither party will be in breach of this Contract because of any failure arising from any disaster or acts of god that are beyond their control and without their fault or negligence. Each party will use commercially reasonable efforts to resume performance. Contractor will not be relieved of a breach or delay caused by its subcontractors. If immediate performance is necessary to ensure public health and safety, the State may immediately contract with a third party.
47. **Dispute Resolution.** The parties will endeavor to resolve any Contract dispute in accordance with this provision. The dispute will be referred to the parties' respective Contract Administrators or Program Managers. Such referral must include a description of the issues and all supporting documentation. The parties must submit the dispute to a senior executive if unable to resolve the dispute within 15 business days. The parties will continue performing while a dispute is being resolved, unless the dispute precludes performance. A dispute involving payment does not preclude performance.

Litigation to resolve the dispute will not be instituted until after the dispute has been elevated to the parties' senior executive and either concludes that resolution is unlikely, or fails to respond within 15 business days. The parties are not prohibited from instituting formal proceedings: (a) to avoid the expiration of statute of limitations period; (b) to preserve a superior position with respect to creditors; or (c) where a party makes a determination that a temporary restraining order or other injunctive relief is the only adequate remedy. This Section does not limit the State's right to terminate the Contract.

48. **Media Releases.** News releases (including promotional literature and commercial advertisements) pertaining to the Contract or project to which it relates must not be made without prior written State approval, and then only in accordance with the explicit written instructions of the State.
49. **Website Incorporation.** The State is not bound by any content on Contractor's website unless expressly incorporated directly into this Contract.
50. **Order of Precedence.** In the event of a conflict between the terms and conditions of the Contract, the exhibits, a purchase order, or an amendment, the order of precedence is: (a) the purchase order; (b) the amendment; (c) Exhibit A; (d) any other exhibits; and (e) the Contract.
51. **Severability.** If any part of this Contract is held invalid or unenforceable, by any court of competent jurisdiction, that part will be deemed deleted from this Contract and the severed part will be replaced by agreed upon language that achieves the same or similar objectives. The remaining Contract will continue in full force and effect.
52. **Waiver.** Failure to enforce any provision of this Contract will not constitute a waiver.
53. **Survival.** The provisions of this Contract that impose continuing obligations, including warranties and representations, termination, transition, insurance coverage, indemnification, and confidentiality, will survive the expiration or termination of this Contract.
54. **Entire Contract and Modification.** This Contract is the entire agreement and replaces all previous agreements between the parties for the Contract Activities. This Contract may not be amended except by signed agreement between the parties (a "**Contract Change Notice**").

STATE OF MICHIGAN

Contract No. 071B6600115
Pension Actuarial and Consulting Services

EXHIBIT A STATEMENT OF WORK CONTRACT ACTIVITIES

1. Project Request

This is a Contract for pension actuarial and consulting services. The Contractor shall perform actuarial and consulting services for the following retirement systems:

- State Employees Retirement System (SERS)
- State Police Retirement System (SPRS)
- Michigan Public School Employees Retirement System (MPSERS)
- Military Retirement System (MRS)
- Judges Retirement System (JRS)

This Contract is extended to State of Michigan (State) Departments and MiDEAL members.

2. Background

There are five (5) defined benefit retirement systems, two (2) hybrid retirement plans, and four (4) retirement healthcare plans which require annual or periodic actuarial valuations. These valuations are needed to determine the systems' actuarial integrity, the soundness of the actuarial assumptions, and the required annual employer contribution rates.

The State instituted a defined contribution plan (administered as a 401(k) plan), that became effective March 31, 1997 for all new state employees, judges and state officials. Members of the defined contribution plan will not have the option of being in the defined benefit plans SERS or JRS.

The State instituted a hybrid plan, which is effective for all new public school employees hired on or after July 1, 2010. All new public school employees will be members of the hybrid plan, which is part of the MPSERS defined benefit plan. The hybrid plan also has a defined contribution component, administered as a 457 deferred compensation plan. Employer contributions will be invested in the 401(k) defined contribution plan.

The State instituted a hybrid plan, which is effective for all new Michigan State police troopers and sergeants hired on or after June 10, 2012. All new State troopers and sergeants will be members of the hybrid plan, which is part of the SPRS defined benefit plan. The hybrid plan also has a defined contribution component, administered as a 457 or 401(k) deferred compensation plan.

The actuary is required to present draft copies of all reports to the Office of Retirement Services' (ORS) Program Manager for approval, and finalized reports are to be presented to the various retirement boards and other state personnel as designated by the Program Manager.

The State provides post retirement life insurance benefits to eligible individuals upon retirement from the State. Members of the State Employees Retirement System, the State Police Retirement System, the Judges Retirement System and certain members of the Michigan National Guard Retirement System may receive a benefit.

Specific reports in regard to the above activities are included in the below Section 3, Requirements. The various systems' assets, and active and retired members as of September 30, 2015, are as follows:

System	Active	Retired	Assets (Fair Value in Thousands)
State Employees	18,010	58,453	\$12,034,029
State Police	1,852	2,987	\$1,408,683

Public School Employees	228,419	207,651	\$49,434,974
Judges	134	560	\$257,958
Military	10,092	4,380	\$897
Defined Contribution Plan for State Employees	151,692		

Scope

The Contractor shall perform and render actuarial and consulting services for the State Employees (SERS), State Police (SPRS), Public School Employees (MPERS), Military Retirement (MRS), Judges (JRS) Retirement and Post Retirement Life Insurance Program (PRLIB) Systems.

3. Requirements

A. Work and Deliverables

Contractor must provide deliverables, services, staff, and otherwise do all things necessary for or incidental to the performance of work, as set forth below. The following is a preliminary analysis of the major tasks involved for developing the end product of this project.

However, the Contractor is not constrained from supplementing this listing with additional steps, sub tasks or elements deemed necessary to permit the development of alternative approaches or the application of proprietary analytical techniques. The acceptance of supplemental information for the development of alternative approaches will be granted via written approval from the Program Manager, if applicable.

B. Consulting Services

1. Contractor shall provide actuarial consultation and advisory services on any technical, legal, administrative or policy problems arising during the course of operations.
2. Contractor shall provide occasional consulting meetings at ORS as required. However, most advice is provided via phone calls, formal correspondence and email.
3. The Contractor shall attend on average five (5) to ten (10) board meetings in Lansing per year. This includes one (1) meeting per retirement system per year to review the annual actuarial valuations.
4. The Contractor shall be required to participate in multiple conference calls that will involve the supervising actuary each year of the Contract. Historically there have been approximately 50 to 100 calls per year which vary in duration based on the subject matter.
5. The Contractor shall be readily accessible to the Program Manager or designee by telephone within one (1) working day, and shall be available for meetings in Lansing within three (3) working days of request.
6. The Contractor shall attend selected meetings and hearings for discussion of actuarial standards and/or the principles used in the determination of the funding requirements and in estimating the costs of the legislation.
7. The Contractor will attend and/or host periodic educational discussions with board and/or staff members of ORS and other state agencies at ORS's request.
8. The Contractor shall perform various services, as requested by the Program Manager or designee, regarding legislation that will affect ORS.
9. The Contractor shall assist in the drafting of proposed changes to the State retirement laws and assist in the drafting and updating of the retirement systems' annual reports. This includes various tables, summary of plan provisions and changes in plan provisions, and explanatory materials for distribution to participants within one (1) to four (4) weeks depending upon complexity.

10. The Contractor shall consult and help estimate the cost of proposed legislation within five (5) to ten (10) working days of request or occasionally sooner as needed by ORS.
11. The Contractor shall consult and advise ORS with regards to any problems arising as a result of implementing new legislation. The Contractor shall perform any and all necessary calculations, including the standard actuarial calculations that are needed to fulfill the unique requirements of ORS.
12. The Contractor shall perform individual benefit and reserve computations, such as death, disability, and error corrections. The computations will be requested by the retirement systems (approximately 100 to 120 per year, of varying types) and are due within five (5) working days of request.
13. The Contractor shall review individual Eligible Domestic Relations Orders (EDROs) pursuant to [MCL 38.1701-38.171](#), computing benefits payable to alternate payees, computing benefit recoupments applicable to participants and providing the results of the calculations in a letter format (typically a total of 300 to 400 EDROs per year) within ten (10) working days of request. The Contractor should price this proposal based on that estimate and should submit charges for EDROs performed in excess of 400 per year.
14. The Contractor shall assist the retirement system in maintaining applicable model EDROs.
15. Once each fiscal year, the Contractor shall calculate the amount to be transferred from the reserve for employer contributions to the reserve for retired benefit payments, as detailed for each retirement system;

MPERS	MCL 38.1335 of Public Act 300 of 1980
JRS	MCL 38.2212 of Public Act 234 of 1992
SERS	MCL 38.11 of Public Act 240 of 1943
SPRS	MCL 38.1617 of Public Act 182 of 1986
16. Once each fiscal year, for each of the defined benefit retirement systems, the Contractor shall calculate the amount to be transferred to or from the pension stabilization sub account in accordance with the following MCL:

MPERS	MCL 38.1336 of Public Act 300 of 1980
JRS	MCL 38.2214a of Public Act 234 of 1992
SERS	MCL 38.11 of Public Act 240 of 1943
SPRS	MCL 38.1621 of Public Act 182 of 1986
17. Once each fiscal year, the Contractor shall calculate any cost savings that have accrued to the state as a result of the implementation of the defined contribution plan, as detailed in MCL [38.52](#) of Public Act [240](#) of 1943.
18. The Contractor shall develop and provide various tables and factors needed by the retirement systems. These include, but are not limited to; mortality tables, present value factors, survivor benefit factors, equated benefit factors and social security benefits. The Contractor shall assist ORS and the Department of Technology, Management and Budget (DTMB) upon request in the development and implementation of various table calculations that are scripted into the different pension system software applications.
19. The Contractor shall provide advice and counsel, when requested by the Program Manager or designee, or whenever it is deemed advisable from the Contractor, regarding issues, trends, or internal operation issues which may affect the operations and/or fiscal soundness and the integrity of ORS.
20. The Contractor shall assist in establishing design specifications for the retirement system's database files. The Contractor shall periodically review the design and content of data files and make recommendations for

modifications, additions, or deletions that will ensure the maintenance of the full range of data needed for legislative pricing, actuarial studies, experience analysis and valuations.

21. The Contractor shall maintain a database in order to individually reconcile active and retired life data from one (1) year to the next and to test the accuracy of the submitted data. This database will be used to perform the five (5) year experience analysis without relying on ORS to provide any additional data.
22. The Contractor shall keep ORS advised on developments in federal legislation and/or regulations regarding financing, benefits, vesting, fiduciary responsibility, disclosure, etc. The Contractor shall also provide information, when requested, concerning developments in other public employee retirement systems.
23. Other services not included above related to ongoing retirement operations may be requested from time to time by ORS and other interested parties and authorized by the Program Manager. These parties may include, but are not limited to, the Department of Treasury, DTMB, the Office of Financial Management, and the State Budget Office. All such requests should be coordinated through the Program Manager or designee.
24. Upon request, the Contractor shall provide consulting services related to the analysis of various plan designs.
25. The Contractor shall be required to provide regular status updates in writing on any tasks and or services requested by ORS. The frequency of the required status updates shall be determined by ORS on a case by case basis.
26. The Contractor shall assist ORS with deliverables in response to the Government Finance Officers Association comments on the Comprehensive Annual Financial Reports (CAFR).
27. During each year of the Contract, the Contractor shall provide the necessary information needed for employers, the State, and ORS to comply with current and any future Government Accounting Standards Board (GASB) financial reporting requirements. The reports, schedules and other information required by GASB will be dated as of September 30, 20xx (fiscal year), and must be provided to the DTMB Office of Financial Services and the Office of Financial Management on or before the established deadlines. This includes but is not limited to all information regarding the implementation of GASB Statements No. 67 and 74.
28. The Contractor shall calculate the net pension liability (total pension liability minus the fiduciary net position). The Contractor will ensure that all services related to GASB 68 are implemented. The Contractor will provide notes and requested supplemental information that includes but is not limited to:
 - A schedule showing the causes for any increases or decreases in the net pension liability.
 - Any significant assumptions used to measure the total pension liability.
 - Information regarding the discount rate.
 - The date of the actuarial valuation.
 - Schedule of changes in the net pension liability.
 - Schedule of components of the net pension liability and related ratios.
 - Schedule of actuarially determined contributions.

For MPSERS, this information must be produced separately for the group of seven Michigan Universities that have withdrawn from MPSERS due to enactment of Public Act No. 272 of 1995 and the remainder of the MPSERS employers.

29. The Contractor shall calculate and report a net OPEB (other post-employment benefits) liability (difference between total OPEB liability and assets accumulated in the trust and restricted to making benefit payments). The Contractor will ensure that all services related to GASB 75 (OPEB) are implemented starting after June 15, 2017. Contractor will provide notes and requested supplemental information that includes but is not limited to:
 - A schedule showing the causes of increases and decreases in the OPEB liability.
 - A schedule comparing the government's actual OPEB contributions to its contribution requirements.
 - A description of the effect on the reported OPEB liability of using a discount rate and a healthcare

cost trend rate that are one percentage point higher and one percentage point lower than assumed by the state.

For MPSERS' this information must be produced separately for the group of seven Michigan Universities that have withdrawn from MPSERS due to enactment of Public Act No. 272 of 1995 and the remainder of MPSERS employers.

C. Valuation Services – Public School Employees, Military Affairs, State Employees, State Police and Judges Systems

1. The Contractor shall provide separate OPEB and pension actuarial valuations (including gain/loss experience analysis) annually for the fiscal years ending September 30th of 2016, 2017 and 2018 for SERS, SPRS (defined benefit and hybrid), MPSERS (defined benefit and hybrid), and JRS. The MRS shall receive an annual pension actuarial valuation only. If the event the Contract is renewed for one (1) year, the valuations will be completed for the fiscal year ending September 30, 2019. If the event the Contract is renewed for an additional year, the valuations will be completed for the fiscal year ending September 30, 2020.
2. The Contractor shall provide draft reports, complete with actuarial certifications, for these actuarial valuations and shall be delivered to the systems based on the following schedule:
 - a. MPSERS pension and OPEB shall be delivered no later than the end of February.
 - b. SERS, SPRS, and JRS pension and OPEB shall be delivered no later than the end of March.
 - c. MRS pension shall be delivered no later than the end of March.
 - d. University, Community College, and other valuations as requested or required by ORS shall be delivered no later than the end of June.
 - e. Any deviations from this schedule must be mutually agreed to by Contractor and ORS.
3. Reports must be accurate and complete enough that the numbers can be used in the State of Michigan Comprehensive Annual Financial Report and in the CAFR for each of the retirement systems. The final reports will be due based on an established timeline agreed upon by the Program Manager and Contractor. A penalty of \$2,500 per day will be imposed for failure to meet this deadline.
4. Separate pension and OPEB valuations for MPSERS must break out information for the University members of MPSERS separately. The following universities are included: Central Michigan University, Eastern Michigan University, Michigan Technological University, Northern Michigan University, Western Michigan University, Ferris State University and Lake Superior State University. Data on MPSERS' active members who work for the universities must be combined with additional data provided by the universities on their non-MPSERS members. The actuary will allocate assets between University and non-University MPSERS participants, based on University participant asset cash flow (contributions and benefit payments) provided by ORS.
5. Upon ORS request and at least once during the Contract period, the separate pension and OPEB valuations for MPSERS must break out information for the Community College members of MPSERS separately. The actuary will allocate assets between Community College and non-Community College MPSERS participants, based on Community College participant asset cash flow (contributions and benefit payments) provided by ORS.
6. Valuation reports shall include a recommended contribution rate. All actuarial valuations (pension and OPEB) and calculations shall be conducted using the applicable GASB pronouncements and actuarial standards.
7. Valuation reports shall contain a glossary of terms and sufficient explanatory text to permit a reasonable understanding of the actuarial assumptions, cost methods, display of age groups and service matrices for active members and display of retired lives by age groups, and types of benefits. The content of the actuarial valuation report must be consistent from year to year.

8. Occasionally, the actuarial reports or results will need to be revised, due to inadvertent errors in the data sent to the actuary. The Contractor shall provide revised reports or results whenever this occurs.
9. Upon request of ORS, the Contractor will complete certifications and questionnaires submitted by auditors of the systems, or members or reporting units of the systems, concerning annual actuarial valuation results (historically there have been about 20 to 40 requests per year).
10. The Contractor shall review data transmitted from ORS for the preparation of the annual valuations for inconsistencies or incomplete information. Contractor shall submit to ORS a report with suggested items for review and/or analysis by ORS.
11. The Contractor shall provide an exact copy of the refined data that was used to create the final valuation reports to ORS. The data should be put on an encrypted portable device and the file should be delimited text or in a csv format.
12. The Contractor shall provide draft reports, complete with actuarial certifications, including a bi-annual valuation on the State's post retirement life insurance benefits for the period ending September 30, 2017. The report is due by June 30, 2018. In the event the Contract is renewed two (2) years, the Contractor shall complete a valuation for the period ending September 30, 2019. The report is due by June 30, 2020.

D. Experience Analysis Services

1. Five (5) year experience analysis shall be performed for all systems beginning with the completion of the 2017 valuation, and covering the period October 1, 2012 through September 30, 2017.
2. The necessary data for the annual valuations (both pension and OPEB) and gain/loss experience analyses shall be retained on file by the Contractor to produce the five (5) year experience analysis without further data from the system.
3. The five (5) year experience analysis report must include recommendations related to changing or retaining the actuarial assumptions.
4. The Contractor will deliver reports for these analyses to the retirement systems no later than six (6) weeks after the completion of the valuation or written request by the Program Manager or designee.
5. The actuary's study of non-economic assumptions in the experience analyses shall include, but not be limited to, rates of termination and return to service, service retirement rates, progression and promotion salary scales, pre and post-retirement rates, progression and promotion salary scales, pre and post-retirement mortality, disability, and termination from disability.
6. When the five (5) year experience analysis is performed, reports and certifications shall be due four (4) weeks after the Retirement Boards have received the experience analysis report and adopted the assumptions for the valuation. A penalty of \$2,500 per day will be imposed for failure to meet this deadline. The actuarial certification letter must be ready for inclusion in the financial statement.
7. When the five (5) year experience analysis is performed, if the analysis results in the adoption of any assumptions which differs from those used for the prior valuation, the actuary shall produce valuation results using both the old and new assumptions. When benefit provisions change or valuation methods change (more than once every two years on average), the actuary shall produce valuation results using both the old and new benefits and/or methods.
8. In a year where there has been no adoption of the results of a five (5) year experience analysis, the actuary shall use the same actuarial assumptions that were used for the prior valuation. If analysis of the current data during the performance of the valuation indicates any material variations from those assumptions, the

actuary shall be expected to discuss the variations in the valuation report and present an estimate of the effect on the normal cost and/or on the unfunded obligation of the retirement system.

E. Projection Services and Other Duties

1. The Contractor shall provide cash flow and/or contribution projections upon request.
2. The Contractor shall provide projection studies that are generally used to illustrate the impact of emerging experience being different from standard actuarial assumptions, or to show the effect of changes in funding policy. Many of the projections are related to post-retirement health insurance provisions.
3. The Contractor shall provide projections of population, pension costs and health care expenditures, upon request, for all retirement systems.
4. The Contractor shall provide projections of annual contribution rates and funded status for all plans, upon request for all retirement systems.
5. The Contractor shall develop and maintain a forecasting model for each retirement system that will allow the testing of various changes and assumptions.
6. The Contractor shall maintain and preserve data files transmitted from ORS to the Contractor for use in the annual valuations and experience studies. These files are considered the property of the retirement systems and the data shall not be used for any unauthorized purposes. Contractor shall provide these files upon request to the Program Manager within 48 hours.

4. Transition

If the State terminates the Contract, for convenience or cause, or if the Contract is otherwise dissolved, voided rescinded, nullified, expires or rendered unenforceable, the Contractor agrees to comply with direction provided by the State to assist in the orderly transition of equipment, services, deliverables, software, leases, etc. to the State or a third party designated by the State, if applicable. If the Contract expires or terminates, the Contractor agrees to make all reasonable efforts to effect an orderly transition of services and deliverables within a reasonable period of time that in no event will exceed 90 days. These efforts must include, but are not limited to, those listed in Section 25 of the Contract Terms.

5. Contract Activities That Will Include IT Related Services.

All Contractor personnel must comply with the State's security and acceptable use policies for State IT equipment and resources. See http://www.michigan.gov/dtmb/0,4568,7-150-56355_56579_56755---,00.html. Furthermore, Contractor personnel must agree to the State's security and acceptable use policies before the Contractor personnel will be accepted as a resource to perform work for the State. The Contractor must present these documents to the prospective employee before the Contractor presents the individual to the State as a proposed resource. Contractor staff must comply with all Physical Security procedures in place within the facilities where they are working.

6. Acceptance

6.1. Acceptance, Inspection and Testing

The State will use the following criteria to determine acceptance of the Contract Activities:

1. Contract Activities are subject to inspection and testing by the State within 30 calendar days of the State's receipt of them ("State Review Period"), unless otherwise provided in Exhibit A. If the Contract Activities are not fully accepted by the State, the State will notify Contractor by the end of the State Review Period that either: (a) the Contract Activities are accepted, but noted deficiencies must be corrected; or (b) the Contract Activities are rejected. If the State finds material deficiencies, it may: (i) reject the Contract Activities without performing any further inspections; (ii) demand performance at no additional cost; or (iii) terminate this Contract in accordance with Section 23, Termination for Cause.

2. Within ten (10) business days from the date of Contractor's receipt of notification of acceptance with deficiencies or rejection of any Contract Activities, Contractor must cure, at no additional cost to the State, the deficiency and deliver acceptable Contract Activities to the State. If acceptance with deficiencies or rejection of the Contract Activities impacts the content or delivery of other non-completed Contract Activities, the parties' respective Program Managers must determine an agreed to number of days for re-submission that minimizes the overall impact to the Contract. However, nothing herein affects, alters, or relieves Contractor of its obligations to correct deficiencies in accordance with the time response standards set forth in this Contract.
3. If Contractor is unable or refuses to correct the deficiency within the time response standards set forth in this Contract, the State may cancel the order in whole or in part. The State, or a third party identified by the State, may perform the Contract Activities and recover the difference between the cost to cure and the Contract price plus an additional 10% administrative fee.

7. Staffing

7.1. Contractor Representative

The Contractor must appoint a Contractor Representative, specifically assigned to State of Michigan accounts, that will respond to State inquiries regarding the Contract Activities, answering questions related to ordering and delivery, etc. (the "Contractor Representative"). The Contractor must notify the Contract Administrator at least 30 calendar days before removing or assigning a new Contractor Representative.

Contractor's Representative:

Louise Gates, Senior Consultant, Actuary
One Towne Square, Suite 800
Southfield, MI 48076
(248) 226-7525
Louise.Gates@gabrielroeder.com

7.2. Customer Service Toll-Free Number

The Contractor must provide a toll-free number for the State to make contact with the Contractor Representative. The Contractor Representative must be available for calls during the hours of 8 am to 5 pm EST.

Contractor's Toll-Free Number: (800) 521-0498

7.3. Work Hours

The Contractor must provide Contract Activities during the State's normal working hours Monday – Friday, 8:00 a.m. to 5:00 p.m. EST, and possible night and weekend hours depending on the requirements of the project.

The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project.

7.4. Key Personnel

1. The Contractor must appoint and identify the following individuals who will be directly responsible for the day-to-day operations of the Contract ("Key Personnel"):

Supervising Actuary: Mita Drazilov, ASA, FCA, MAAA
Onsite Project Coordinator: Shelly Baker
Secondary Actuary: Louise Gates, ASA, MAAA
Support Actuary/Consultant: James Anderson, FSA, EA, MAAA
Support Actuary/Consultant: Mark Buis, FSA, EA, FCA, MAAA
Health Actuary/Consultant: James Pranschke, FSA, MAAA
Software Consultant: Kevin Beardsley
Support Staff: Christopher Smith
Support Staff: Shana Neeson, ASA, MAAA
Support Staff: Kurt Dosson

Support Staff: Stephanie Crawford

2. Key Personnel must be specifically assigned to the State account, be knowledgeable on the contractual requirements, and respond to State inquires within 24 hours.
3. The retirement systems will furnish the Supervising Actuary with any needed data or statistical information that is deemed necessary for the performance of the Contract Activities and which is available in the records and files of the retirement system. The Contractor is required to treat all information as confidential.
4. All working papers, reports and other documentation prepared in the performance of this Contract are the property of the retirement systems and shall be submitted upon the completion of each individual project or as requested.
5. Many of the actuary's projects will be the result of requests from the Governor, Legislature, State Treasurer, retirement boards, various interest groups and other parties. The actuary will channel all requests, reports and all other communications in connection with this Contract through the retirement system's Program Manager or designee. In some cases, the Program Manager will approve the outside party's request to work directly and confidentially with the actuary.
6. The actuary will document ideas and issues raised in discussions and meetings. All actuarial certifications on pricing, final reports, presentations of assumptions and similar technical documentation from the Contractor must be approved and signed by the supervising actuary.
7. The Contractor shall provide resumes for Key Personnel, including subcontractors, who will be assigned to the Contract, indicating the duties/responsibilities and qualifications of such personnel, physical location, and stating the amount of time each will be assigned to the project. The competence of the personnel the Contractor proposes for this project will be measured by the candidate's education and experience with particular reference to experience on similar projects as described in Exhibit A. The Contractor will commit that staff identified in its proposal will actually perform the assigned work.
8. The professional actuarial services for ORS will be performed under the direct supervision of a member of the actuary's firm who meets or exceeds the standards for supervising actuary. ORS reserves the right to reject the Contractor's choice of Supervising Actuary and may terminate the Contract if the Contractor cannot make a Supervising Actuary acceptable to the retirement system available.
9. The Supervising Actuary will be a Fellow or Associate of the Society of Actuaries and/or a Fellow of the Conference of Actuaries in Public Practice, or a Member of the American Academy of Actuaries and/or be an Enrolled Actuary under the Employees Retirement Income Security Act of 1974. The Supervising Actuary will have substantial experience in providing actuarial and consulting services to major statewide public employee retirement systems.
10. The Supervising Actuary will communicate with the Program Manager or designee regarding any requests for system actuarial information received from agencies or parties other than ORS. Copies of such information will be forwarded to the Program Manager or designee.
11. The Supervising Actuary responsibilities include, at a minimum:
 - a. Manage all defined Contractor responsibilities in Exhibit A.
 - b. Develop the project plan and schedule, and update as needed.
 - c. Serve as the point person for all project issues.
 - d. Coordinate and oversee the day-to-day project activities of the project team.
 - e. Assess and report project feedback and status.
 - f. Escalate project issues, project risks, and other concerns.
 - g. Review all project deliverables and provide feedback.

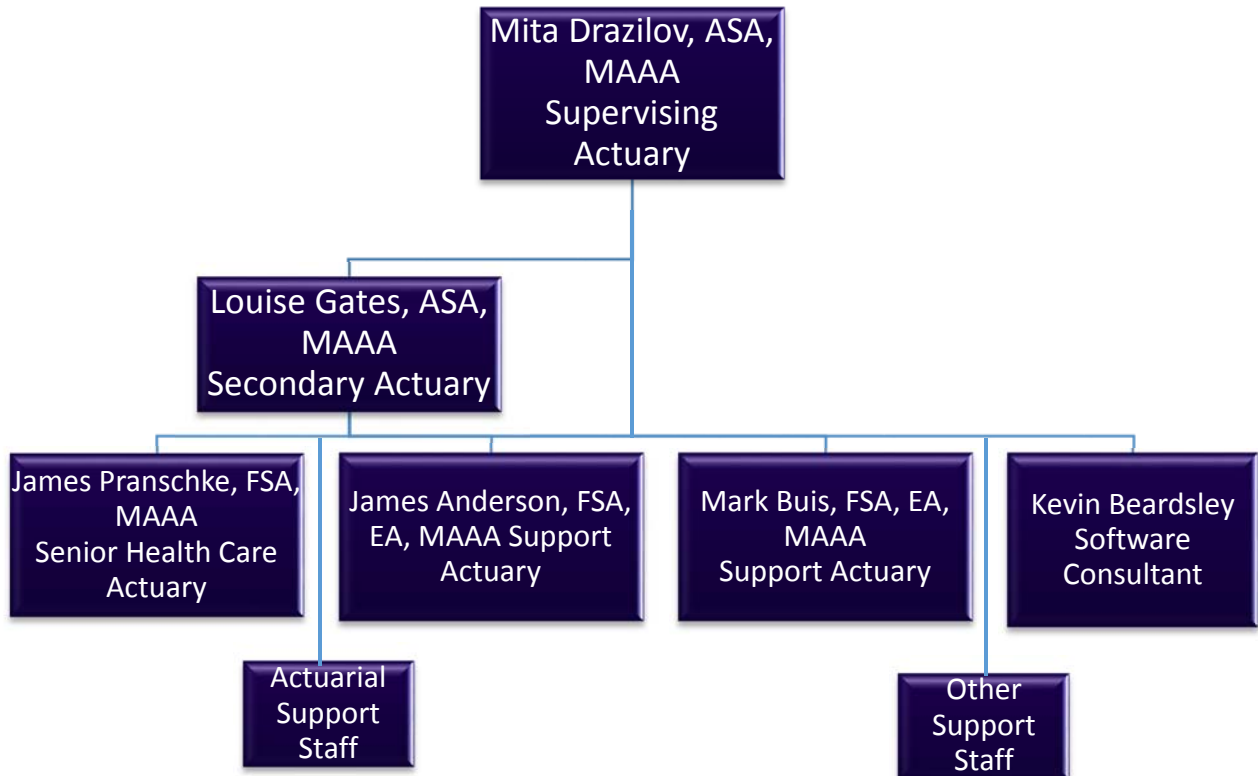
- h. Proactively propose/suggest options and alternatives for consideration.
 - i. Prepare project documents and materials.
 - j. Manage and report on the project's budget.
- 12. The Project Coordinator should be a full time employee of the Contractor, residing on-site in the ORS office. This individual will have the responsibility of providing a link between ORS and the Contractor. The duties of this position will be to function as a coordinator for performing a variety of assignments which include but are not limited to the following:
 - a. Special Projects
 - b. Research
 - c. Research of Publications
 - d. Analysis
 - e. Legislative Research
 - f. Historical Documents
 - g. Interpreting pension and insurance data
 - h. Assisting with the communication of pension and insurance data
- 13. The stipulated salary range should be \$65,000 - \$80,000 annually plus benefits for the Project Coordinator position. ORS will have final approval for any candidate selected for the Project Coordinator's position.
- 14. The Contractor shall make available to ORS the services of two (2) senior members who are Fellows of the Society of Actuaries (FSA).
- 15. The Contractor shall provide, and update when changed, an organizational chart indicating lines of authority for personnel involved in performance of this Contract and relationships of this staff to other programs or functions of the firm. This chart must also show lines of authority to the next senior level of management and indicate who within the firm will have prime responsibility and final authority for the work.
- 16. The Contractor shall provide sufficient qualified staffing to satisfy the deliverables and time tables of Exhibit A.
- 17. The State has the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor will notify the State of the proposed assignment, introduce the individual to the Program Manager, and provide the State with a resume and any other information about the individual reasonably requested by the State. The State reserves the right to interview the individual before granting written approval. In the event the State finds a proposed individual unacceptable, the State will provide a written explanation including reasonable detail outlining the reasons for the rejection. The State may require a 30-calendar day training period for replacement personnel.
- 18. Contractor will not remove any Key Personnel from their assigned roles on this Contract without the prior written consent of the State. The Contractor's removal of Key Personnel without the prior written consent of the State is an unauthorized removal ("Unauthorized Removal"). An Unauthorized Removal does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation, or for cause termination of the Key Personnel's employment. Any Unauthorized Removal may be considered by the State to be a material breach of this Contract, in respect of which the State may elect to terminate this Contract for cause under Termination for Cause in the Standard Terms. It is further acknowledged that an Unauthorized Removal will interfere with the timely and proper completion of this Contract, to the loss and damage of the State, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the State as a result of any Unauthorized Removal. Therefore, Contractor and the State agree that in the case of any Unauthorized Removal in respect of which the State does not elect to exercise its rights under Termination

for Cause, Contractor will issue to the State the corresponding credits set forth below (each, an "Unauthorized Removal Credit"):

- a. For the Unauthorized Removal of any Key Personnel, Contractor will provide a credit of \$50,000 per individual if Contractor identifies a replacement approved by the State and assigns the replacement to shadow the Key Personnel who is leaving for a period of at least 30 calendar days before the Key Personnel's removal.
- b. If Contractor fails to assign a replacement to shadow the removed Key Personnel for at least 30 calendar days, in addition to the \$25,000 credit specified above, Contractor will credit the State \$833.33 per calendar day for each day of the 30 calendar-day shadow period that the replacement Key Personnel does not shadow the removed Key Personnel, up to \$25,000.00 maximum per individual. The total Unauthorized Removal Credits that may be assessed per Unauthorized Removal and failure to provide 30 calendar days of shadowing will not exceed \$75,000.00 per individual.

19. Contractor acknowledges and agrees that each of the Unauthorized Removal Credits assessed above: (i) is a reasonable estimate of and compensation for the anticipated or actual harm to the State that may arise from the Unauthorized Removal, which would be impossible or very difficult to accurately estimate; and (ii) may, at the State's option, be credited or set off against any fees or other charges payable to Contractor under this Contract.

7.5. Organizational Chart



7.6. Disclosure of Subcontractors

If the Contractor intends to utilize subcontractors, the Contractor must disclose the following:

1. The legal business name; address; telephone number; a description of subcontractor's organization and the services it will provide; and information concerning subcontractor's ability to provide the Contract Activities.
2. The relationship of the subcontractor to the Contractor.
3. Whether the Contractor has a previous working experience with the subcontractor. If yes, provide the details of that previous relationship.
4. A complete description of the Contract Activities that will be performed or provided by the subcontractor.
5. Of the total Contract, the price of the subcontractor's work.

7.7. Security – Technology and Systems

The Contractor will be subject the following security procedures:

A. Backup and Restore

1. The Contractor must keep duplicate or back-up computer data files maintained in a connection with the plans in a place of safekeeping satisfactory to the State.
2. How long have you used current systems for actuarial services?
3. Are you planning any major change in the software or hardware supporting your recordkeeping system in the next 24 months? If yes, please describe.
4. Please describe the backup processes used by the Contractor for data and records.
5. Describe your maintenance and back-up procedures including daily back-ups, retention timetable, and off-site back-up storage approach.
6. The Contractor must acknowledge that all computer data files of the plans, as maintained by the Contractor, must at all times remain the property of the State notwithstanding the fact that such records may be stored upon or within one or more computer or data retention systems owned, operated or leased by the Contractor.
7. The Contractor must provide the State access to all back-up source materials, reports, books, records, computer programs and all other information and documentation relating to each plan, as reasonably required, so that the State and/or its designated officers, agents and accounts, can conduct a financial examination and/or audit of the plans.
8. The Contractor must notify the State if any such records are to be maintained upon a computer system or any other data retention system which is not owned by the Contractor. Such arrangements must be satisfactory to the State. If such arrangements exist, the Contractor must provide the State with assurances from the owner of such computer facilities, of continued availability and security of such records at all times.

B. Disaster Recovery

The Contractor must have a disaster recovery plan in place which meets industry standards.

1. The disaster recovery plan must address how the deliverables and services will continue to be provided in the event of a disaster. Include any return to service standards for Contract items (for example customer contact center, web portals, etc.).
2. Contractor must employ the following for disaster recovery purposes: hot site^(a), warm site^(b) or cold site^(c):

- a. An alternate facility that is already in place with the IT components required to recover critical business processes.
 - b. An alternate site which is equipped with some hardware and IT components, but requires some additional provisioning and customization before business functions can be restored.
 - c. An alternate facility that already has in place the environmental infrastructure, but does not have any pre-installed IT components, which must be provisioned at the time of a disaster.
3. Describe The Contractor must: (a) ensure the security of State facilities, and (b) perform background checks.

C. Background Checks

1. The Contractor shall perform background checks on all key personnel that will have access to State facilities, systems and/or data. The results of the background checks must be reported to the Program Manager within ten (10) business days of being awarded the Contract.

D. Security Breach Notification

1. If the Contractor breaches this Section, the Contractor must (i) promptly cure any deficiencies and (ii) comply with any applicable federal and state laws and regulations pertaining to unauthorized disclosures. Contract and the State will cooperate to mitigate, to the extent practicable, the effects of any breach, intrusion or unauthorized use or disclosure. Contractor must report to the State, in writing, any use or disclosure of Confidential Information, whether suspected or actual, other than as provided for by the Contract within 10 days of becoming aware of the use or disclosure or the shorter time period as is reasonable under the circumstances.

8. Project Management

8.1. Project Plan

1. The Contractor will carry out this project under the direction and control of the Program Manager.
2. See Exhibit B for sample project plan.
3. The State reserves the right to have one or more actuaries who are not affiliated with the Contractor to evaluate the appropriateness of methodologies employed; evaluate the selection of assumptions used; determine whether the Contractor's findings, conclusions and opinion appear to be reasonable and well-supported by the actuary who prepared the deliverables. These reviews will be done periodically and the Contract will furnish and make available any required information to the reviewer(s) along with access to other information as required.
4. The State reserves the right to have the work of the Contractor audited at any time during and after the Contract period including any extension periods. The Contractor will make available any documents, papers, records, and any other materials that would be required for completion of an audit.
5. Within five (5) working days of the award of the Contract, the Contractor will submit to the Program Manager for final approval of a work plan. This final implementation plan must be in agreement with the Contract, and must include the following:
 - a. The Contractor should submit their project organizational structure.
 - b. The Contractor's staffing table with names and titles of personnel assigned to the project. This must be in agreement with staffing on the accepted proposal. Necessary substitutions due to change of

employment status and other unforeseen circumstances may only be made with prior approval of the State

- c. The project breakdown showing subprojects, activities and tasks, and resources required and allocated to each.
 - d. If requested, the time-phased plan in the form of a graphic display, showing each event.
 - e. The Contractor will develop an annual 12-month work plan (the "Valuation Calendar") with the cooperation of ORS. This process will include the development of quality and time metrics, as requested.
 - f. The Contractor should submit an estimate of the amount of time and staff required to complete each of the items in this Contract.
6. Issues are those things that endanger the project. They include imminent threats and events that may have already occurred. Identify how issues will be captured, reported and escalated. Contractor will identify and explain any deviations from the proposed issue management process as requested. If there is not an issue management process, then Contractor will work with ORS to propose a standard issue management process for managing the project as part of its service. If requested, Contractor shall provide and identify the issue management process to be utilized for this project, including responsible parties, phone numbers, email addresses if relevant, and processes.
7. Risks and issues are not the same. Risks are those things that you can assume or anticipate in a project. Issues are imminent threats or things that have already occurred. Risk management generally involves (1) identification of the risk, (2) assigning a level of priority based on the probability of occurrence and impact to the project, (3) definition of mitigation strategies, and (4) monitoring of risk and mitigation strategy. Risk assessment review should be conducted on a regular basis. If requested, the Contractor shall identify and explain any deviations from the proposed risk management process. If there is not a risk management process, and, if Contractor is requested to propose a standard risk management process for managing the project as part of its services, Contractor will provide one. If requested, contractor shall provide and identify the risk management process to be utilized for this project, including responsible parties, phone numbers, email addresses if relevant, and processes.
8. If a proposed Contract change is approved by the Program Manager, the Program Manager will submit a request for change to DTMB Procurement, who will make recommendations regarding ultimate approval/disapproval of change request. If DTMB Procurement agrees with the proposed modification, and all required approvals are obtained (including State Administrative Board), the Buyer will issue an addendum to the Contract, via a Contract Change Notice. Contractors who provide products or services prior to the issuance of a Contract Change Notice by DTMB Procurement, risk non-payment for the out-of-scope/pricing products and/or services.

8.2. Meetings

1. The State will require the Contractor to attend monthly meetings, at a minimum, to review the Contractor's progress under the Contract. The meetings will be held mostly by teleconference but some meetings may require the Contractor's physical presence at a location chosen by ORS. The State shall bear no cost for the time and travel of the Contractor for attendance at the meeting.
2. The State may request other meetings, as it deems appropriate.

8.3. Reporting

1. Reporting formats must be submitted to the State's Project Manager for approval within ten (10) business days after the execution of the Contract resulting from this RFP. Once both parties have agreed to the format of the report, it shall become the standard to follow for the duration of the Contract.
2. A draft of any reports, analyses, studies, or any other publications produced by the actuary on behalf of ORS, must be provided to ORS for purposes of reviewing factual accuracy and to determine if task items have been adequately completed. The number of copies of the deliverable product will be 25 unless otherwise specified. The Contractor will make copies of reports available in an electronic format.
3. The Contractor must employ change management procedures to handle such things as "out-of-scope" requests or changing business needs of the State while the migration is underway.
4. The Contractor will employ the change control methodologies to justify changes in the processing environment, and to ensure those changes will not adversely affect performance or availability.

9. Ordering

9.1. Authorizing Document

The appropriate authorizing document for the Contract will be a BPO and purchase order.

10. Invoice and Payment

10.1.1. Invoice Requirements

All invoices submitted to the State must provide and itemize, as applicable: (a) Contract number; (b) date; (c) purchase order; (d) quantity; (e) description of the Contract Activities; (f) unit price with applicable discounts; (g) net invoice price for each item; (h) shipping cost (if any); (i) Contractor name, address, phone number, and Federal Tax Identification Number; (j) other applicable charges; (k) total invoice price; and (l) reports (M) payment terms, including any prompt payment discount. Overtime, holiday pay, and travel expenses will not be paid.

Incorrect or incomplete invoices will be returned to Contractor for correction and reissue.

10.2. Payment Methods

The State will only disburse payments under this Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/cpexpress> to receive EFT payments. If Contractor does not register, the State is not liable for failure to provide payment.

Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract.

11. Liquidated Damages

Late or improper completion of the Contract Activities will cause loss and damage to the State and it would be impracticable and extremely difficult to fix the actual damage sustained by the State. Therefore, if there is late or improper completion of the Contract Activities the State is entitled to collect liquidated damages in the amount of \$50,000 and an additional \$2,500 per day for each day Contractor fails to remedy the late or improper completion of the Contract Activities in Exhibit A.

STATE OF MICHIGAN

Contract No. 071B6600115
Pension Actuarial and Consulting Services

EXHIBIT B SAMPLE PROJECT PLAN

Event #	Task	DB or DC	Start	Finish (Due)	Status & Completed Data	Dependencies	Resource Area	Resource Name	Notes
9	Letter to Military Affairs: All active data to actuary liaison. Responsible for information request, will copy Aver. Biennial process. GRS to draft letter that includes pension and health	DB	TBD	Friday, September 11, 2015		N/A	OFM, ORS, ORS - Actuary	Kevin Kubacki, Shelly Baker	
36	ORS confiramation on whether to include/excludeDC data from Schedule of Active Members and changes in OPEB Rolls DB - Need to send email to Shelly Baker confirming whether DC data is availavle to include/exclude in these 2 schedules	BOTH	Thursday, October 01, 2015	Thursday, October 01, 2015			ORS	Kevin Kubacki	
39	Provide health data for JRS to actuary/OAG for health valuations - This is a spreadsheet that ORS fills out and provides to Shelly Baker. It contains system wide information. Spreadsheet has only three tabs and is in a summary format.	DB	Thursday, September 24, 2015	Friday, October 02, 2015		N/A	ORS	Mark Howard, Shelly Baker, Akua Nuamah	

40	<p>Provide individual (ACTIVE AND RETIREE) health data for JRS to actuary/OAG - This deliverable is two spreadsheets. BPD DC Analyst pulls active health data; while the PS Data Team pulls Retiree Data. The actuary (Shelly Baker) will submit a data request ticket (needs to happen by start date) to the PS Data Team. JRS portion is due on 10/01, but the other three systems are due 11/06. Event #254 consists of four steps:</p> <ul style="list-style-type: none"> -active individual health – BPD runs existing report in Business Objects (whoever has Business Objects access – Andrew ran it this year) -retiree individual health – request PIR #78004 from DTMB data support -Deferred eligible for retiree health – whoever maintains JRS database provides list -JRS DC plan retirees receiving state paid medical – provided by BPD (Kevin if you need specific position) 	DB	Thursday, September 24, 2015	Friday, October 02, 2015		N/A	ORS, ORS - Actuary	Process Support Data team, Shelly Baker, John Schiller	
42	<p>All active data to actuary liaison – Military. - Need contact Colonel contact info?</p> <p>FY15 program moved from AGY511 to AGY071</p>	DB	TBD	Tuesday, October 06, 2015		23	ORS	Kevin Kubacki, Shelly Baker	
43	<p>Provide DC health data (vested deferred members entitled to retiree health) for health valuations to actuary/OAG - This data gets pulled out of Business Objects. Shelly was able to provide the query from the prior year. The query gets updated by process support (David Mogle) and then BDP (John Schiller) runs the query into Business Objects. Shelly mentioned this normally takes 1/2 day to clean up.</p>	DB	Thursday, September 24, 2015	Tuesday, October 06, 2015		N/A	ORS, ORS - Actuary	Shelly Baker, Andrew Silva, John Schiller	
44	<p>Provide FS/OAG all active JRS data to actuary (for Note 1 information needed from Actuary) - Need to add language that this is the Pension data vs. the health data that reported on Event #31</p>	DB	Tuesday, September 22, 2015	Tuesday, October 06, 2015		N/A	ORS, ORS - Actuary	Shelly Baker, Kayla Lintz,	

46	Provide FS/OAG all retiree data to actuary (data generated from Clarety); Provide retiree health data/counts/retirement sub-type to actuary, University and Community College (includes retirees w/ no insurance) - these are text files that are generated out of Clarety. ORS ER's Kayla Lintz will pull this data. Cannot run this report until October 1st, 2016	DB	Wednesday, September 23, 2015	Wednesday, October 07, 2015		N/A	ORS, ORS - Actuary	Shelly Baker, Andy Kolp, Kayla Lintz	
51	FS to receive SPRS DROP data first for verification - History on SPRS Drop: SPRS Drop is for a group of police officers who can continue working for up to 6 years after their retirement date. This information initially comes from Financial Services (Dan Harry) and then goes to the actuary for review. The actuary will make comments and send back. Financial Services reviews this file. {Need better understanding of how this process works - This is generally handled between FS and the actuary, however ORS is responsible to get the actuary what they need}	DB	Tuesday, September 22, 2015	Friday, October 09, 2015		N/A	ORS, ORS - Actuary	Shelly Baker, Sandy Blommer	
64	Provide FS/OAG all non-retiree DB data for SERS & SPRS to actuary - ER provides this data to the actuary. This is raw data that is pulled out of ??? There is a little back and forth between the actuary and ER to clean up this file. Please note supplemental information is sometimes needed to be included with this file to make a complete universe of members, including new enrollees & those who have terminated.	DB	Monday, September 28, 2015	Tuesday, October 13, 2015		N/A	ORS, ORS - Actuary	Shelly Baker, Kayla Lintz, Trista Stine	
65	Provide additional supplemental data files for SPRS, SERS - Please note supplemental pulls have already occurred for SERS and SPRS. It is currently on target to complete the supplemental pulls on 10/17/14. "The supplemental data elements were not completely known until the annual file was produced. Outstanding: MPSERS 1.25/1.5 service credit time ER (Cathleen, Process Support and AST) owes to GRS--impact to Note 1 driven by completion of data (data check memo). Add MRS for next year.	DB	Monday, September 28, 2015	Tuesday, October 13, 2015		81	ORS, ORS - Actuary	Shelly Baker, Kayla Lintz, Trista Stine	

70	FS sends to SPRS DROP to OAG and actuary -	DB	Tuesday, October 06, 2015	Tuesday, October 13, 2015		70	FS	Dan Harry	
73	Provide OAG/Actuary MPERS active file - all non-retiree DB data, job class code, University, Community College - These are text files that are generated out of Clarety. ORS ER's Kayla Lintz will pull this data. "Don't include beneficiary info. tab" Query #200	DB	Thursday, October 01, 2015	Thursday, October 15, 2015			ORS, ORS - Actuary	Shelly Baker, Kayla Lintz	
99	Provide additional supplemental data files for MPERS	DB	Friday, October 02, 2015	Friday, October 16, 2015			ORS, ORS - Actuary	Shelly Baker, Kayla Lintz	
115	Supplemental payment/13th check updated & notify Anthony Estell - GRS provides liabilities letter.	DB	Friday, October 09, 2015	Friday, October 23, 2015			ORS	Shelly Baker	
120	Receive actuarial info for fin statements & schedules (SERS, SPRS, JRS, MPERS)- to FS/OAG (all except Note 1 info)	DB	Tuesday, October 13, 2015	Tuesday, October 27, 2015			ORS - Actuary	Shelly Baker	Removed language per ORS - remove all the language in the description after (all except Note 1 info
125	DC Tier 2 Savings Transfer (information provided in a letter from actuary). Email is sent to Phil asking whether he wants to process a transfer. - Provide verification that transfer should occur. Letter needed from GRS to email Phil	DB	Thursday, October 29, 2015	Friday, October 30, 2015			ORS, ORS - Actuary	Shelly Baker, Chanda Donnan	
126	Provide refund file to actuary		Thursday, October 01, 2015	Friday, October 30, 2015			ORS, ORS - Actuary	Shelly Baker, Kayla Lintz	
130	Send final statements to actuary liaison for valuation purposes	DB		Tuesday, December 01, 2015			FS		Date change per ORS/GRS
137	Expected rate of return for each asset class for all systems - Notes needed to send to Shelly Baker for GASB 67	DB		Monday, November 02, 2015			BOI	Karen Stout	
140	MPERS TDP Receivable files to auditors for review; also send Short Term and Long Term amounts to Shelly and Steve for actuarial purposes (new in FY12)	DB		Tuesday, November 03, 2015			FS	Erik Simmer	

142	Provide additional secondary SERS DC health data query to actuary/OAG	DB		Thursday, November 05, 2015			ORS	Mark Howard, Katie Little, John Schiller	Remove per ORS
146	Provide health data for MPSERS, SERS and SPRS to actuary/OAG for health valuations - Shelly Baker receives this information.	DB	Friday, October 30, 2015	Friday, November 06, 2015			ORS, ORS - Actuary	Mark Howard, Akua Nuamah, Kevin Kubacki	
148	Send participant counts to actuary	DC	Friday, October 30, 2015	Friday, November 06, 2015			ORS	John Schiller	
150	University Non-member wages to actuary liaison	DB		Friday, November 06, 2015			FS	Dan Harry	
151	MPSERS wages to actuary liaison	DB		Tuesday, November 10, 2015			FS	Erik Simmer	
163	SERS, SPRS wages to actuary liaison & auditors (give fiscal year cumulative totals) - HRMN file	DB		Thursday, November 19, 2015			FS		
172	Additional requirements worksheet for University Valuation to Actuary liaison	DB	Friday, November 20, 2015	Friday, November 20, 2015			FS	Erik Simmer	
174	Receive final Note 1 counts from Actuary - when received, provide copy to OAG	DB	Wednesday, November 25, 2015	Wednesday, November 25, 2015			FS, ORS - Actuary	Shelly Baker	
201	Send final reconciliation payment to actuary for SERS, SPRS, MPSERS	DB	Thursday, December 17, 2015	Thursday, December 17, 2015			ORS	TBD	

STATE OF MICHIGAN

Contract No. 071B6600115
Pension Actuarial and Consulting Services

EXHIBIT C PRICING

1. Pricing must include all costs, including but not limited to, any one-time or set-up charges, fees, and potential costs that Contractor may charge the State (e.g., shipping and handling, per piece pricing, and palletizing).
2. Pricing Table

<i>Number of hours spent per individual for each service per year</i>							
Service Type		Senior Staff	Investment Consultant	Junior Staff	Support Staff	Benefits and Investment support staff	Total
		<i>Hours</i>	<i>Hours</i>	<i>Hours</i>	<i>Hours</i>	<i>Hours</i>	
Defined Benefit Plan		525		505	69		1,099
Valuation Services (excluding Life)		220		644	72		936
Life Insurance Valuation Services							
Experience Analysis Services							
Projection Services and Other		100		100	25		225
Total Hours of Year 1 Contract		845		1,249	166		2,260
<i>Total cost spent per individual for each service per year</i>							
		<i>Cost</i>	<i>Cost</i>	<i>Cost</i>	<i>Cost</i>	<i>Cost</i>	
Defined Benefit Plan		\$ 220,500		\$ 107,060	\$ 11,178		\$ 338,738
Valuation Services (excluding Life)		\$ 92,400		\$ 136,528	\$ 11,664		\$ 240,592
Life Insurance Valuation Services							
Experience Analysis Services							
Projection Services and Other		\$ 42,000		\$ 21,200	\$ 4,050		\$ 67,250
Total Cost of Year 1 Contract:		\$ 354,900		\$ 264,788	\$ 26,892		\$ 646,580
<i>Number of hours spent per individual for each service per year</i>							

Service Type	Senior Staff	Investment Consultant	Junior Staff	Support Staff	Benefits and Investment support staff	Total
	Hours	Hours	Hours	Hours	Hours	
Defined Benefit Plan	550		650	73		1,273
Valuation Services (excluding Life)	220		645	75		940
Life Insurance Valuation Services	45		50	19		114
Experience Analysis Services						
Projection Services and Other	100		100	25		225
Total Hours of Year 2 Contract	915		1,445	192		2,552
<i>Total cost spent per individual for each service per year</i>						
	Cost	Cost	Cost	Cost	Cost	
Defined Benefit Plan	\$ 238,150		\$ 141,050	\$ 12,191		\$ 391,391
Valuation Services (excluding Life)	\$ 95,260		\$ 139,965	\$ 12,525		\$ 247,750
Life Insurance Valuation Services	\$ 19,485		\$ 10,850	\$ 3,173		\$ 33,508
Experience Analysis Services						
Projection Services and Other	\$ 43,300		\$ 21,700	\$ 4,175		\$ 69,175
Total Cost of Year 2 Contract:	\$ 396,195		\$ 313,565	\$ 32,064		\$ 741,824
<i>Number of hours spent per individual for each service per year</i>						
Service Type	Senior Staff	Investment Consultant	Junior Staff	Support Staff	Benefits and Investment support staff	Total
	Hours	Hours	Hours	Hours	Hours	
Defined Benefit Plan	625		700	75		\$ 1,400
Valuation Services (excluding Life)	200		599	52		\$ 851
Life Insurance Valuation Services						
Experience Analysis Services	125		200	58		\$ 383
Projection Services and Other	100		100	25		\$ 225

Total Hours of Year 3 Contract		1,050		1,599	210		\$ 2,859
<i>Total cost spent per individual for each service per year</i>							
		<i>Cost</i>	<i>Cost</i>	<i>Cost</i>	<i>Cost</i>	<i>Cost</i>	
Defined Benefit Plan		\$ 278,125		\$ 156,800	\$ 12,918		\$ 447,843
Valuation Services (excluding Life)		\$ 89,000		\$ 134,176	\$ 8,956		\$ 232,132
Life Insurance Valuation Services							
Experience Analysis Services		\$ 55,625		\$ 44,800	\$ 9,990		\$ 110,415
Projection Services and Other		\$ 44,500		\$ 22,400	\$ 4,306		\$ 71,206
Total Cost of Year 3 Contract:		\$ 467,250		\$ 358,176	\$ 36,170		\$ 861,596
Grand Total (3 Years):							\$ 2,250,000.00