

STATE OF MICHIGAN
 DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
 PROCUREMENT
 P.O. BOX 30026, LANSING, MI 48909
 OR
 530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 8
 to
CONTRACT NO. 071B9200201
 between
THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, MI 48084-3007	Anup Popat	maggarwal@stgit.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	(248) 643-9010	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR	DTMB			
BUYER	DTMB	Steve Motz	517-241-3215	motzm@michigan.gov

CONTRACT SUMMARY:				
DESCRIPTION: Item Bank System – MDIT– MDE				
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW	
May 5, 2009	May 4, 2012	3, one year	January 31, 2014	
PAYMENT TERMS	F.O.B	SHIPPED	SHIPPED FROM	
N/A	N/A	N/A	N/A	
ALTERNATE PAYMENT OPTIONS:			AVAILABLE TO MiDEAL PARTICIPANTS	
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
MINIMUM DELIVERY REQUIREMENTS:				
N/A				

DESCRIPTION OF CHANGE NOTICE:				
EXTEND CONTRACT EXPIRATION DATE	EXERCISE CONTRACT OPTION YEAR(S)	EXTENSION BEYOND CONTRACT OPTION YEARS	LENGTH OF OPTION/EXTENSION	EXPIRATION DATE AFTER CHANGE
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/>	<input type="checkbox"/>		
VALUE/COST OF CHANGE NOTICE:		ESTIMATED REVISED AGGREGATE CONTRACT VALUE:		
\$0.00		\$4,989,400.00		
Effective July 6, 2013, this contract is hereby canceled for convenience. Per vendor and agency agreement and DTMB Procurement approval.				

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY MANAGEMENT AND BUDGET October 21, 2010
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 7
TO
CONTRACT NO. 071B9200201
Between
THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance Email: maggarwal@stgit.com	TELEPHONE Anup Papat (248) 643-9010
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 241-3215 Steve Motz
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE	
CONTRACT PERIOD: From: May 5th, 2009 To: January 31, 2014	
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

NATURE OF CHANGE(S):

This contract is hereby **INCREASED** by \$1,507,040.00 for additional development and unit testing for the implementation of a functional Item Bank System, as identified in the attached Change Control Request #CCR-008B. This contract is also **EXTENDED** from March 1, 2013, to January 31, 2014.

All other terms, conditions, pricing and specifications remain unchanged.

AUTHORITY/REASON(S):

Per agreement from agency and vendor and State Ad Board approval on 10/19/2010.

INCREASE: \$1,507,040.00

TOTAL REVISED ESTIMATED CONTRACT VALUE: \$4,989,400.00

071B9200201
Change Notice No. 7
Signature Block

FOR THE CONTRACTOR:

Systems Technology Group, Inc.

Firm Name

Authorized Agent Signature

Authorized Agent (Print or Type)

Date

FOR THE STATE:

Signature

Greg Faremouth, Director

Name/Title

IT Division

Division

Date

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**State of Michigan
Item Bank System
Change Control Request**

A. General Information

Information to be provided in this section is general in nature and provides the necessary information about the organization of the project and project participants.

Project ID/Acronym:	Item Bank System	Date:	09/10/2010
Controlling Agency:	Department of Education	Modification Date:	09/21/2010
Prepared by:	Sriram Rao, STG Project Manager	Control Number (From Control Log)	CCR-008B

B. Requestor Information

Proposed Change Description and References:

The requestor will provide information concerning the requested change along with any supporting documentation.

Background

STG gathered requirements on Item Bank System project based on the scope of requirements specified in CCR-006 in "Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed" milestone. Under CCR-006, 35 JAD sessions were estimated to gather the 59 requirements listed in the CCR006. All the 59 requirements listed in CCR-006 have been gathered within the stipulated 35 sessions.

State requested STG to provide a schedule and cost impact to implement the functionality covered during the "Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed" milestone

In CCR-008A, STG provided the schedule and cost impact with implementing the changes to two use cases, namely "UC_04 Blueprint" and "UC_05 Test Form and Test Map".

The purpose of this Change Control Request (CCR-008B) is to address:

1. Development and Unit testing of functionality per State approved modifications to the following use cases:
 - a. UC_01 – Search Item
 - b. UC_02 – Assign Item
 - c. UC_03 – Submit Item
 - d. UC_04 – Blueprint (functionality that is not addressed in CCR008A)
 - i. Blueprints for SR and AB item types
 - e. UC_05 - Test Form and Test Map (functionality that is not addressed in CCR008A)
 - i. Test Form and Test Map development for SR and AB item types
 - ii. Sections 7.10 and 7.13 of UC_05 Test Form and Test Map
 - iii. Test Statistics report linked from the Test Form screen
 - f. UC_06 - Item Workflow
 - g. UC_07 - Context Workflow
 - h. UC_08 - Test Form Development Workflow

- i. UC_09 - Manage Content Standards and Taxonomy
 - j. UC_10 - Manage User Profile
 - k. UC_11 - Committee Review
 - l. UC_12 - Field Review Process Flow
 - m. UC_13 - Media Workflow
 - n. IBS Functional Report Requirements
2. System and Integration Testing of the Item Bank System (includes Regression Testing of code base developed and tested till completion of "Milestone 6 - Performance/Load Testing Completed")
 3. User Acceptance Testing of the Item Bank System (includes Regression Testing of code base developed and tested till completion of "Milestone 6 - Performance/Load Testing Completed")
 4. Performance Testing of the Item Bank System
 5. Deployment, Pilot, Full Rollout, Warranty and Transition Maintenance and Support services
 6. Changes to the Data Migration scripts due to the functional changes to the application defined in Section D
 7. Modifications to the Item Bank System towards upgrade to SQL Server 2008 database

Impact of Not Implementing Proposed Change:

OEAA has initiated the addition of new requirements, change to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives:

There are no alternatives identified at this time.

C. Initial Review Results of the Change Request

Initial Review Date:	08/23/2010	Assigned to:	STG
<input checked="" type="checkbox"/> Approve for Impact Analysis <input type="checkbox"/> Reject <input type="checkbox"/> Defer Until: Reason:			

D. Initial Impact Analysis

Baselines Affected:

Items in Scope for CCR-008B

STG will develop, test and deploy the application code based on the following approved Use cases.

- o UC_01 - Search Item
- o UC_02 - Assign Item
- o UC_03 - Submit Item
- o UC_04 - Blueprint (functionality that was not addressed in CCR008A)
 - Blueprints for SR and AB item types
- o UC_05 - Test Form and Test Map (functionality that was not addressed in CCR008A)
 - Test Form and Test Map development for SR and AB item types
 - Sections 7.10 and 7.13 of UC_05 Test Form and Test Map
 - Test Statistics report linked from the Test Form screen
- o UC_06 - Item Workflow
- o UC_07 - Context Workflow
- o UC_08 - Test Form Development Workflow
- o UC_09 - Manage Content Standards and Taxonomy
- o UC_10 - Manage User Profile

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- o UC_11 – Committee Review
 - o UC_12 – Field Review Process Flow
 - o UC_13 – Media Workflow
 - o IBS Functional Report Requirements
1. The baseline application developed and tested under "Milestone 6 – Performance / Load Testing Completed" is affected.
 2. Data migration scripts to migrate the legacy data that was used for testing and provided to the State with "Milestone 6 – Performance / Load Testing Completed" is affected or impacted
 3. State informed STG that the State is upgrading to SQL Server 2008 database from SQL Server 2005. The application database that was developed and tested with SQL Server 2005 is impacted.

Configuration Items Affected:

The following deliverables will be updated to reflect the scope defined:

1. Milestone 6C – CCR-008B Development and Unit Test Completed
 - Application Code components
 - System Integration Test Cases
 - Data Migration Output Data
2. Milestone 6D – Phase 2 System and Integration Testing Completed
 - Tested Application Code components
 - System Test Report (final)
 - Test Scripts/Test Data
 - Testing Package
 - Training Checklist
3. Milestone 6E – Phase 2 User Acceptance Testing Completed
 - Tested Application Code components
 - User Acceptance Test Report (final)
4. Milestone 6F – Phase 2 Performance Testing Completed
 - Performance Test Report (final)
 - Installation Plan (final)
 - Training Plan (final)
 - Requirements Traceability Matrix (final)

Cost / Schedule Impact Analysis Required?

Yes No

Impact on Cost:

1. A new milestone "CCR-008B Development and Unit Test Completed" will be added to the Project Schedule to complete application development activities
2. A new milestone "Milestone 6D - Phase 2 System and Integration Testing Completed" will be added to complete system testing activities
3. A new milestone "Milestone 6E - Phase 2 User Acceptance Testing Completed" will be added to complete user acceptance testing activities
4. A new milestone "Milestone 6F - Phase 2 Performance Testing Completed" will be added to complete performance testing activities

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The cost table below provides the calculation for cost CCR008B. STG has used the agreed upon hourly billing rates stated in section 1.601 of the contract.

Project Resource Plan				
	Business days	Total Hours	Rate (per hour)	Tot Amount
Project Manager	151	1208	\$125	\$151,000
Senior Enterprise Architect	151	1208	\$115	\$138,920
Senior Systems Analyst	151	1208	\$95	\$114,760
Database Administrator	227	1816	\$115	\$208,840
Senior Programmer Analyst	193	1544	\$85	\$131,240
Senior Programmer Analyst	193	1544	\$85	\$131,240
Senior Programmer Analyst	193	1544	\$85	\$131,240
Senior Programmer Analyst	141	1128	\$85	\$95,880
Senior Programmer Analyst	141	1128	\$85	\$95,880
Senior Programmer Analyst	151	1208	\$85	\$102,680
Senior Programmer Analyst	151	1208	\$85	\$102,680
Senior Programmer Analyst	151	1208	\$85	\$102,680
Total				\$1,507,040

In order to preserve the schedule and cost impact specified above, State must accord its approval to this CCR on or before October 19th, 2010 authorized through a Purchase Order and Contract Amendment from State of Michigan Purchasing (DTMB). Any further delays in such approval may further impact the schedule and cost specified above.

If a formal contract change issuance is not provided to STG by October 19th, 2010, then both parties agree that this CCR-008B will become voided and will proceed per the current scope of responsibilities and schedule stated as of CCR008A. The State recognizes that delays in providing formal DTMB approval for CCR-008B beyond October 19th, 2010 will impact STG's ability to honor the price and schedule as proposed in CCR-008B.

Assumptions

1. The impact provided in this change control request is only for the scope defined in Section D. Application development and testing will be based on approved use case documents, business requirements document, functional design document, reports specifications, external interface specifications, user roles and business processes. Any requirement that is not explicitly stated to be in scope in the above approved documents is out of scope.
2. DTMB will provide the licenses for ActivePDF for the generation of PDF documents within Item Bank System. State will provide these licenses prior to business Day 376 of the project (estimated to be on or before November 8th, 2010).
3. Enterprise Architecture team will approve the updated application design with the following changes to the baseline System Design on or before business Day 376 of the project (estimated to be on or before November 8th, 2010):
 - a. ActivePDF solution for PDF
 - b. SQL Server 2008 DB in Zone 2
 - c. Changes to the media storage location
 - d. Microsoft Excel or third party tool for .XLS file generation
4. Item Bank System will continue to use SAS 9.1.3 version to generate the SAS reports.
5. State has decided to upgrade the database platform to SQL Server 2008. With this upgrade, it is assumed that all necessary infrastructure changes in all State environments and

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- associated zones will be completed prior to the start of Milestone 6D – Phase 2 System and Integration Testing Completed.
6. State will provide read and write access for STG to the Item Bank QA environment database prior to the start of Milestone 6D – Phase 2 System and Integration Testing Completed. The access must be provided until the completion of Milestone 8 – Warranty Completed.
 7. Per the current contract scope, State is required to provide 3 sets of legacy data for migration. Two sets of legacy data have been provided to STG on September 1st, 2009 and April 1st, 2010 respectively. The State will provide the third and final set of legacy data as of February 28th, 2011 on or before March 15th, 2011 in the format already agreed to between State and STG. It is assumed that there will be no new transformation rules that must be applied with the third set of legacy data to be provided on or before March 15th, 2011. STG will provide the State with the successfully migrated data from the third set of legacy data no later than three weeks after date of receipt. State will cleanse the migrated data and provide the cleansed migrated data to STG on or before June 1st, 2011. State will be responsible for resolving any errors and inappropriate values in this legacy data provided towards data migration. State will address these errors after the application has been successfully deployed in State production environment.
 8. State is currently working on resolving errors and issues in the data provided toward the Round 1 and Round 2 of data migration. State will provide the resolved data from Round 1 and Round 2 data migrations at least one month prior to the commencement of Milestone 6D – Phase 2 System and Integration Testing Completed.
 9. STG assumes that the additional funding of \$1,507,040 towards this CCR008B will be approved on or before the State Administrative Board meeting scheduled for October 19th, 2010.
 10. Since all work being performed under this contract after Milestone One involves work associated with change requests, the holdback clause in the contract is no longer valid. Any statements pertaining to contractor payment holdback is hereby removed from the terms of this agreement. Both the State of Michigan and STG agree that no payments will be held back by the State of Michigan.
 11. Per State request, STG will provide the training manual during the Milestone 6F – Phase 2 Performance Testing Completed for State review and approval. This has been reflected in the Payment schedule below.

Please find the updated Payment Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Business days from the Start date of the project	Payment Amount (USD)	Business days from the Start date of the project (Per this Change Control)	Revised Payment Amount (USD)
Milestone 1 -Engagement Startup	<ul style="list-style-type: none"> Project Plan Work Breakdown Structure Project Schedule Risk Management Plan Quality Plan Communication Plan Change Management Plan Issue Management Plan Security Plan (initial) Software Configuration Plan (initial) Maintenance Plan (initial) Project Planning Transition checklist CEASAR criteria Dependencies List 	5	\$75,000	5	\$75,000
Milestone 2a -- Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> Business Requirements Document Use Case documents UI Prototype screens EA Solution Assessment Infrastructure Service Request Logical Data Model Requirement Traceability Matrix (initial) Requirements Management Checklist Functional Design Document Training Plan (initial) 	55	\$360,600	55	\$360,600
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> System Design Document Physical Data Model Data Migration Plan (Initial) Test Plan Test Reports (Initial) System Design Checklist Software Testing Checklist Software Configuration Management Plan (final) 	92	\$372,760	92	\$372,760
Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> Application Code components System Integration Test Cases Test Reports (updated) Transition Plan (initial) Installation Plan (initial) Data Migration Output Data 	165	\$595,760	165	\$595,760
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> Tested Application Code components Test Scripts/Test Data Testing Package System Test Report (final) Training Checklist 	202	\$415,240	202	\$415,240
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> Tested Application Code components User Acceptance Test Report (final) 	246	\$300,000	246	\$300,000

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Milestone/Deliverable Schedule/Pay Points	Deliverables	Business days from the Start date of the project	Payment Amount (USD)	Business days from the Start date of the project (Per this Change Control)	Revised Payment Amount (USD)
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> Performance Test Results Performance Test Report (final) Installation Plan (final) Training Plan (final) Requirements Traceability Matrix (final) 	256	\$75,000	256	\$75,000
Milestone 6A - Requirements Gathering and Functional Design for enhancements Completed	<ul style="list-style-type: none"> Use Case documents UI Prototype screens Requirement Traceability Matrix (initial) System Design Document Physical Data Model 	326	\$490,000	326	\$490,000
Milestone 6B - CCR008A Coding Completed	<ul style="list-style-type: none"> Application Code Components System Integration Test Cases 	376	\$350,000	376	\$350,000
Milestone 6C - CCR008 B Development and Unit Test Completed	<ul style="list-style-type: none"> Application Code components System Integration Test Cases Data Migration Output Data 	N/A	N/A	424	\$800,000
Milestone 6D - Phase 2 System and Integration Testing Completed	<ul style="list-style-type: none"> Tested Application Code components System Test Report (final) Test Scripts/Test Data Testing Package Training Checklist 	N/A	N/A	473	\$400,000
Milestone 6E - Phase 2 User Acceptance Testing Completed	<ul style="list-style-type: none"> Tested Application Code components User Acceptance Test Report (final) 	N/A	N/A	517	\$114,320
Milestone 6F - Phase 2 Performance Testing Completed	<ul style="list-style-type: none"> Performance Test Results Performance Test Report (final) Installation Plan (final) Training Plan (final) Requirements Traceability Matrix (final) Training Manual 	N/A	N/A	527	\$37,120
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> Training User Manual Installation Manual Operations Manual Deployed Application Code Post Implementation Evaluation Report (Deployment) 	386	\$50,000	537	\$70,400
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> Post Implementation Evaluation Report (Pilot) 	408	\$30,000	559	\$74,880

Milestone/Deliverable Schedule/Pay Points	Deliverables	Business days from the Start date of the project	Payment Amount (USD)	Business days from the Start date of the project (Per this Change Control)	Revised Payment Amount (USD)
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> Conversion Plan (final) Maintenance Plan (final) Transition Plan (final) Security Plan (final) Post Implementation Evaluation Report (Full Rollout) 	418	\$20,000	569	\$40,400
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> Warranty Defects log with list and status of defects 	484	\$8,000	645	\$77,920
Transition, Maintenance and Support Services Completed	After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,166.66 for each month for a period of 24 months (until the end of the 3 year contract period). This is towards one full time equivalent resource to be assigned by Contractor onsite at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.		\$340,000		\$340,000
Total Contract Value			USD \$3,482,360		USD \$4,989,400

Impact on Schedule:

1. A new milestone "Milestone 6C - Development and Unit Test Completed" will be added to the Project Schedule to complete application development activities
2. A new milestone "Milestone 6D - Phase 2 System and Integration Testing Completed" will be added to complete system testing activities
3. A new milestone "Milestone 6E - Phase 2 User Acceptance Testing Completed" will be added to complete user acceptance testing activities
4. A new milestone "Milestone 6F - Phase 2 Performance Testing Completed" will be added to complete performance testing activities

The total impact to schedule towards the above will be 151 business days. Please find the updated Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Business days from the Start date of the project	Date of Completion of the Milestone	Business days from the Start date of the project (Per this Change Control)	Revised Date of Completion of the Milestone (Per this Change Control)

Milestone 1 - Engagement Startup	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (initial) • Software Configuration Plan (initial) • Maintenance Plan (initial) • Project Planning Transition checklist • CEASAR criteria • Dependencies List 	5	5/15/2009	5	5/15/2009
Milestone 2a -- Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (initial) • Requirements Management Checklist • Functional Design Document • Training Plan (initial) 	55	7/28/2009	55	7/28/2009
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	92	9/18/2009	92	9/18/2009
Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> • Application Code components • System Integration Test Cases • Test Reports (updated) • Transition Plan (initial) • Installation Plan (initial) • Data Migration Output Data 	165	1/8/2010	165	1/8/2010
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • Test Scripts/Test Data • Testing Package • System Test Report (final) • Training Checklist 	202	3/4/2010	202	3/4/2010

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Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> Tested Application Code components User Acceptance Test Report (final) 	246	5/5/2010	246	5/5/2010
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> Performance Test Results Performance Test Report (final) Installation Plan (final) Training Plan (final) Requirements Traceability Matrix (final) 	256	5/19/2010	256	5/19/2010
Milestone 6A -- Requirements Gathering and Functional Design for enhancements Completed	<ul style="list-style-type: none"> Use Case documents UI Prototype screens Requirement Traceability Matrix (initial) System Design Document Physical Data Model 	326	8/27/2010	326	8/27/2010
Milestone 6B -- CCR008A Coding Completed	<ul style="list-style-type: none"> Application Code Components System Integration Test Cases 	376	11/8/2010	376	11/8/2010
Milestone 6C -- CCR008 B Development and Unit Test Completed	<ul style="list-style-type: none"> Application Code components System Integration Test Cases 	N/A	N/A	424	1/26/2011
Milestone 6D -- Phase 2 System and Integration Testing Completed	<ul style="list-style-type: none"> Tested Application Code components System Test Report (final) Training Checklist 	N/A	N/A	473	4/6/2011
Milestone 6E -- Phase 2 User Acceptance Testing Completed	<ul style="list-style-type: none"> Tested Application Code components User Acceptance Test Report (final) 	N/A	N/A	517	6/8/2011
Milestone 6F -- Phase 2 Performance Testing Completed	<ul style="list-style-type: none"> Performance Test Report (final) Installation Plan (final) Training Plan (final) Requirements Traceability Matrix (final) Training Manual 	N/A	N/A	527	6/22/2011
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> Training User Manual Installation Manual Operations Manual Deployed Application Code Post Implementation Evaluation Report (Deployment) 	386	11/23/2010	537	7/7/2011
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> Post Implementation Evaluation Report (Pilot) 	408	12/29/2010	559	8/8/2011

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Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> • Conversion Plan (final) • Maintenance Plan (final) • Transition Plan (final) • Security Plan (final) • Post Implementation Evaluation Report (Full Rollout) 	418	1/14/2011	569	8/22/2011
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> • Warranty Defects log with list and status of defects 	484	4/20/2011	645	11/28/2011
Transition, Maintenance and Support Services Completed	After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,166.66 for each month for a period of 24 months. This is towards one full time equivalent resource to be assigned by Contractor onsite at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.		5/1/2013		1/31/2014

Impact on Resources:

STG Item Bank System project team will be extended for the remainder of the project

Final Review Results:

STG Item Bank System project team will be extended for the remainder of the project to complete the Phase 2 application development, testing and deployment activities.

Review Date: 09/02/2010

Classification: HIGH MEDIUM LOW

E. Impact Analysis Results

Specific Requirements Definition:

Please refer to the requirements change log attached in section B

Additional Resource Requirements	Work Days	Cost (is USD)
Project Manager	151	\$151,000
Senior Enterprise Architect	151	\$138,920
Senior Systems Analyst	151	\$114,760
Database Administrator	227	\$208,840
Senior Programmer Analyst	193	\$131,240
Senior Programmer Analyst	193	\$131,240
Senior Programmer Analyst	193	\$131,240
Senior Programmer Analyst	141	\$95,880
Senior Programmer Analyst	141	\$95,880
Senior Programmer Analyst	151	\$102,680
Senior Programmer Analyst	151	\$102,680
Senior Programmer Analyst	151	\$102,680
Total		\$1,507,040

Impact of Not Implementing the Change:

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OEAA has initiated the addition of new requirements, change to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives to the Proposed Change:

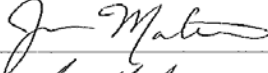
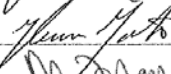
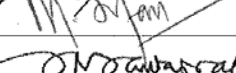
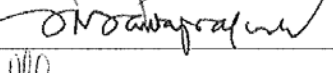
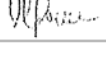
There are no alternatives identified at this time.

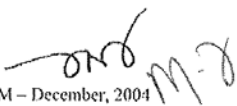
Final Recommendation:

STG Item Bank System project team will be extended for the remainder of the project to complete the Phase 2 application development, testing and deployment activities.

F. Signatures

Governance Body:

Name/Title	Signature	Date
Joseph Martineau, MDE OEAA Director		9/23/10
Glenn Gorton, MDIT Agency Services CSD		9/23/10
Mohamed Peeran, MDIT Project Manager		9/23/10
Shanta Santaprakash, STG GSD Delivery Executive		9/22/10
Sriram Rao, STG Project Manager		09/22/2010


PMM – December, 2004

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY MANAGEMENT AND BUDGET September 1, 2010
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 6
TO
CONTRACT NO. 071B9200201

Between
THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance Email: maggarwal@stgit.com	TELEPHONE Anup Popat (248) 643-9010
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 241-3215 Steve Motz
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE	
CONTRACT PERIOD: From: May 5th, 2009 To: March 1, 2013	
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

NATURE OF CHANGE(S):

The attached Change Control Request (CCR) CCR-008A documents the changes to the Item Bank System based on some of the requirements gathered during the "Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed" milestone.

All other terms, conditions, pricing and specifications remain unchanged.

AUTHORITY/REASON(S):

Per agreement from agency and vendor.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: \$3,482,360.00

**State of Michigan
Item Bank System
Change Control Request**

A. General Information

Information to be provided in this section is general in nature and provides the necessary information about the organization of the project and project participants.

Project ID/Acronym:	<u>Item Bank System</u>	Date:	<u>08/25/2010</u>
Controlling Agency:	<u>Department of Education</u>	Modification Date:	<u>08/25/2010</u>
Prepared by:	<u>Sriram Rao, STG Project Manager</u>	Control Number (From Control Log)	<u>CCR-008A</u>

B. Requestor Information

Proposed Change Description and References:

The requestor will provide information concerning the requested change along with any supporting documentation.

Background

The purpose of this Change Control Request (CCR) is to address the changes to the Item Bank System based on some of the requirements gathered during the "Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed" milestone.

STG is currently gathering requirements on Item Bank System project based on scope of requirements specified in CCR-006. Under CCR-006, 35 JAD sessions were estimated to gather the 59 requirements listed in the CCR-006. All the 59 requirements listed in CCR-006 have been gathered within the stipulated 35 sessions.

This CCR has been developed to work within the constraints of remaining funds approved with CCR-006.

Impact of Not Implementing Proposed Change:

OEAA has initiated the addition of new requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives:

There are no alternatives identified at this time.

C. Initial Review Results of the Change Request

Initial Review Date: 08/23/2010 **Assigned to:** STG

Approve for Impact Analysis

Reject

Defer Until:

Reason:

D. Initial Impact Analysis

Baselines Affected:

The baseline application developed and tested under “Milestone 6 – Performance / Load Testing Completed” is affected.

Items in Scope for CCR-008A

STG will develop application code towards the changes made to the following Use Cases as part of CCR-006:

UC_04 Blueprint

- Create a standard operational blueprint – non-context based program
- Create an emergency operational test blueprint – non-context based program
- Create a make-up operational test blueprint - non-context based program
- Create an accommodated operational test blueprint – non-context based program
- Create a braille operational test blueprint – non-context based program
- Create a pilot test blueprint – non-context based program
- Edit a blueprint – non-context based program
- Manage layout template – non-context based program
- Create a standard operational test blueprint – context based program
- Create an emergency operational test blueprint – context based program
- Create a make-up operational test blueprint – context based program
- Create an accommodated operational test blueprint – context based program
- Create a braille operational test blueprint – context based program
- Create a pilot test blueprint – context-based program
- Edit a blueprint – context based program
- Manage layout template – context based program

UC_05 Test Form and Test Map

- Generate test form - Based on weightage algorithm
- Manage test form - non-context based programs
- Upload test map – non-context based programs
- Manage test map – reused test map
- Manage test form – context-based programs
- Test Map Caching

For the above use case related functions, please note the following exceptions:

1. Functionality related to the Selected Response (SR) and Activity Based (AB) item types will not be developed under this CCR. Hence Blueprint, Test Form and Test Map development for SR and AB item types will not be included in the scope of this CCR.
2. Functionality related to multiple content standards will not be developed under this CCR. Hence “UC_05 Test Form and Test Map” functionality that relates to multiple content standards (including but not limited to sections 7.10 and 7.13 of UC_05 Test Form and Test Map) will not be included in this CCR.
3. Functionality related to the Reports will not be developed under this CCR. Hence Test Statistics report linked from the Test Form screen will not be updated with the Phase 2 changes in this CCR.

Acceptance Criteria for CCR-008A:

STG will develop the code pertaining to the scope defined above and upload the developed code to the State Visual Source Safe (VSS) instance. STG will provide a log of the components that have been developed or updated. Upon verification of the upload of the code based on the log provided by STG, State will provide approval for the milestone completion. It should be noted that the code delivered under this CCR cannot be tested nor be deployed due to integration dependencies of requirements that have not been included within the scope of this CCR.

Configuration Items Affected:

The following deliverables will be updated:

- Application Code components

Cost / Schedule Impact Analysis Required?

Yes

No

Impact on Cost:

1. A new milestone "Milestone 6B – CCR008A Coding Completed" will be added to the Project Schedule to:
 - Develop the Application Code for the items in scope for CCR-008A

The total impact to schedule towards the above will be fifty (50) business days.

The cost table below provides the calculation for cost towards the extension of schedule by fifty (50) business days. STG has used the agreed upon hourly billing rates stated in section 1.601 of the contract.

Project Resource Plan				
	Business days	Total Hours	Rate (per hour)	Tot Amount
Project Manager	50	400	\$125	\$50,000
Senior Enterprise Architect	50	400	\$115	\$46,000
Database Administrator	50	400	\$115	\$46,000
Senior Systems Analyst	50	400	\$95	\$38,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Total				\$350,000

Please note that the additional funding requirement towards this CCR that requires State Administrative Board approval will be determined as below:

Value of CCR008A:	\$350,000
Amount remaining from original budget set aside in CCR-006 :	\$350,000
Additional funding required:	\$0

In order to preserve the schedule and cost impact specified above, State must accord its approval to this CCR on or before 08/27/2010 authorized through a Purchase Order Amendment from DTMB. Any further delays in such approval may further impact the schedule and cost specified above.

If a formal contract change issuance is not provided to STG by August 27th, 2010, then both parties agree that this CCR-008A will become voided and will proceed per the current scope of responsibilities and schedule stated as of CCR006. The State recognizes that delays in providing formal DTMB approval for CCR-008A beyond August 27th, 2010 will impact STG's ability to honor the price and schedule as proposed in CCR-008A.

Assumptions

1. The impact provided in this change control request is only for the application development of scope defined in Section D.
2. STG will develop the code pertaining to the scope defined above and upload the developed code to the State Visual Source Safe (VSS) instance. STG will provide a log of the components that have been developed or updated. Upon verification of the upload of the code based on the log provided by STG, State will provide approval for the milestone completion.
3. The code delivered under this CCR cannot be tested nor be deployed due to integration dependencies of requirements that have not been included within the scope of this CCR.
4. "Milestone 6A - Requirements Gathering and Functional Design for enhancements completed" is deemed completed, approved and accepted by the State of Michigan.

5. STG will provide CCR-008B to the State of Michigan with the cost and schedule estimate for:
- Development and Unit testing of the remaining functionality defined in "Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed".
 - System and Integration Testing of the Item Bank System (entire application)
 - User Acceptance Testing of the Item Bank System (entire application)
 - Performance Testing of the Item Bank System (entire application)
 - Any possible impact to the Deployment, Pilot, Full Rollout, Warranty and Transition Maintenance and Support services.

The finalization of CCR008B will be mutually agreed upon between the State of Michigan and STG.

6. Since all work being performed under this contract after Milestone One involves work associated with change requests, the holdback clause in the contract is no longer valid. Any statements pertaining to contractor payment holdback is hereby removed from the terms of this agreement. Both the State of Michigan and STG agree that no payments will be held back by the State of Michigan. The State of Michigan agrees to pay all amounts listed in the below table in full.

Please find the updated Payment Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Business days from Start date of Project	Payment Amount (USD)	Business days from the Start date of the project (Per CCR-008A)	Revised Payment Amount (USD)
Milestone 1 - Engagement Startup	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (initial) • Software Configuration Plan (initial) • Maintenance Plan (initial) • Project Planning Transition checklist • CEASAR criteria • Dependencies List 	5	\$75,000	5	\$75,000
Milestone 2a – Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (initial) • Requirements Management Checklist • Functional Design Document • Training Plan (initial) 	55	\$360,600	55	\$360,600
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	92	\$372,760	92	\$372,760

Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> • Application Code components • System Integration Test Cases • Test Reports (updated) • Transition Plan (initial) • Installation Plan (initial) • Data Migration Output Data 	165	\$595,760	165	\$595,760
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • Test Scripts/Test Data • Testing Package • System Test Report (final) • Training Checklist 	202	\$415,240	202	\$415,240
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • User Acceptance Test Report (final) 	246	\$300,000	246	\$300,000
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> • Performance Test Results • Performance Test Report (final) • Installation Plan (final) • Training Plan (final) • Requirements Traceability Matrix (final) 	256	\$75,000	256	\$75,000
Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed	<ul style="list-style-type: none"> • Use Case documents • UI Prototype screens • Requirement Traceability Matrix (initial) • System Design Document • Physical Data Model 	326	\$490,000	326	\$490,000
Milestone 6B – CCR008A Coding Completed	<ul style="list-style-type: none"> • Application Code Components towards CCR008A modifications 	NA	NA	376	\$350,000
The following below milestones schedule will change further based on impact to cost and schedule arising from the remaining application functionality to be developed. Such changes will be presented to the State via CCR008B.					
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> • Training • Training Manual • User Manual • Installation Manual • Operations Manual • Deployed Application Code • Post Implementation Evaluation Report (Deployment) 	336	\$50,000	386	\$50,000
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> • Post Implementation Evaluation Report (Pilot) 	358	\$30,000	408	\$30,000
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> • Conversion Plan (final) • Maintenance Plan (final) • Transition Plan (final) • Security Plan (final) • Post Implementation Evaluation Report (Full Rollout) 	368	\$20,000	418	\$20,000
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> • Warranty Defects log with list and status of defects 	434	\$8,000	484	\$8,000
Transition, Maintenance and Support Services Completed	After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,166.66 for each month for a period of 24 months (until the end of the 3 year contract period). This is towards one full time equivalent resource to be assigned by Contractor onsite at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.		\$340,000		\$340,000
Enhancements & Scope Change Allocation	Towards Optional 2000 hours to be provided towards enhancements and scope changes to be processed through the Change Control Request Process defined in section 1.403				

Total Contract Value			USD \$3,132,360		USD \$3,482,360
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Impact on Schedule:

1. A new milestone "Milestone 6B – CCR008A Coding Completed" will be added to the Project Schedule to:

- Develop the Application Code for the items in scope for CCR-008A

The total impact to schedule towards the above will be 50 business days.

Please find the updated Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Business days from the Start date of the project	Date of Completion of the Milestone	Business days from the Start date of the project (Per this Change Control)	Revised Date of Completion of the Milestone (As per CCR-008A)
Milestone 1 - Engagement Startup	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (initial) • Software Configuration Plan (initial) • Maintenance Plan (initial) • Project Planning Transition checklist • CEASAR criteria • Dependencies List 	5	5/15/2009	5	5/15/2009
Milestone 2a – Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (initial) • Requirements Management Checklist • Functional Design Document • Training Plan (initial) 	55	7/28/2009	55	7/28/2009
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	92	9/18/2009	92	9/18/2009

Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> Application Code components System Integration Test Cases Test Reports (updated) Transition Plan (initial) Installation Plan (initial) Data Migration Output Data 	165	1/8/2010	165	1/8/2010
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> Tested Application Code components Test Scripts/Test Data Testing Package System Test Report (final) Training Checklist 	202	3/4/2010	202	3/4/2010
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> Tested Application Code components User Acceptance Test Report (final) 	246	5/5/2010	246	5/5/2010
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> Performance Test Results Performance Test Report (final) Installation Plan (final) Training Plan (final) Requirements Traceability Matrix (final) 	256	5/19/2010	256	5/19/2010
Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed	<ul style="list-style-type: none"> Use Case documents UI Prototype screens Requirement Traceability Matrix (initial) System Design Document Physical Data Model 	326	8/27/2010	326	8/27/2010
Milestone 6B – CCR008A Coding Completed	<ul style="list-style-type: none"> Application Code Components towards CCR008A modifications 	NA	NA	376	11/8/2010
The following below milestones schedule will change further based on impact to cost and schedule arising from the remaining application functionality to be developed. Such changes will be presented to the State via CCR008B.					
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> Training Training Manual User Manual Installation Manual Operations Manual Deployed Application Code Post Implementation Evaluation Report (Deployment) 	336	9/13/2010	386	11/23/2010
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> Post Implementation Evaluation Report (Pilot) 	358	10/13/2010	408	12/29/2010
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> Conversion Plan (final) Maintenance Plan (final) Transition Plan (final) Security Plan (final) Post Implementation Evaluation Report (Full Rollout) 	368	10/27/2010	418	1/14/2011
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> Warranty Defects log with list and status of defects 	434	2/7/2011	484	4/20/2011

Transition , Maintenance and Support Services Completed	After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,166.66 for each month for a period of 24 months. This is towards one full time equivalent resource to be assigned by Contractor onsite at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.		3/1/2013		5/1/2013
Enhancements & Scope Change Allocation	<ul style="list-style-type: none"> Towards Optional 2000 hours to be provided towards enhancements and scope changes to be processed through the Change Control Request Process defined in section 1.403 				

Impact on Resources:

The STG Project resources working on the "Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed" will be extended by fifty (50) business days. Please refer to impact on Cost section for the list of resources.

Final Review Results:

A new milestone "Milestone 6B – CCR008A Coding Completed" will be added to the Project Schedule to:

- Develop the Application Code for the items in scope for CCR-008A

The total impact to schedule towards the above will be fifty (50) business days.

Review Date: 08/25/2010

Classification: **HIGH** **MEDIUM** **LOW**

E. Impact Analysis Results

Specific Requirements Definition:

Please refer to the requirements change log attached in section B

Additional Resource Requirements	Work Days	Cost (in USD)
Project Manager	50	\$50,000
Senior Enterprise Architect	50	\$46,000
Database Administrator	50	\$46,000
Senior Systems Analyst	50	\$38,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
TOTAL	50	\$350,000

Impact of Not Implementing the Change:

OEAA has initiated the addition of new requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives to the Proposed Change:

There are no alternatives identified at this time.

Final Recommendation:

The STG Project resources working on the “Milestone 6A – Requirements Gathering and Functional Design for enhancements Completed” will be extended by fifty (50) business days. Please refer to impact on Cost section for the list of resources.

F. Signatures

Governance Body:

Name/Title	Signature	Date
Joseph Martineau, MDE OEAA Director		
Glenn Gorton, MDIT Agency Services CSD		
Shanta Santaprakash, STG GSD Delivery Executive		
Sriram Rao, STG Project Manager		

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

May 18, 2010

CHANGE NOTICE NO. 5
TO
CONTRACT NO. 071B9200201
Between
THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance Email: maggarwal@stgit.com		TELEPHONE Anup Popat (248) 643-9010
		VENDOR NUMBER/MAIL CODE
		BUYER/CA (517) 241-3215 Steve Motz
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE		
CONTRACT PERIOD: From: May 5th, 2009 To: March 1, 2013		
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A	
F.O.B. N/A	SHIPPED FROM N/A	
MINIMUM DELIVERY REQUIREMENTS N/A		
MISCELLANEOUS INFORMATION:		

NATURE OF CHANGE(S):

Effective immediately this contract is hereby INCREASED by \$840,000.00 and includes \$490,000.00 funding for additional requirements gathering and system design as identified in the attached CCR-006. Additionally this includes funding for a reserved block of 3,500 hours for future enhancements that will be used towards development, testing and implementation of the requirements that result from the activities provided in CCR-006. This contract is also EXTENDED from November 15, 2012 to March 1, 2013 based on the revised schedule.

All other terms, conditions, specifications and pricing remain unchanged.

AUTHORITY/REASON(S):

Per agreement from agency and vendor and Administrative Board approval on May 18, 2010.

INCREASE: \$840,000.00

TOTAL REVISED ESTIMATED CONTRACT VALUE: \$3,482,360.00

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

March 24, 2010

CHANGE NOTICE NO. 4
TO
CONTRACT NO. 071B9200201
Between
THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance Email: maggarwal@stgit.com		TELEPHONE Anup Popat (248) 643-9010
		VENDOR NUMBER/MAIL CODE
		BUYER/CA (517) 241-3215 Steve Motz
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE		
CONTRACT PERIOD: From: May 5th, 2009 To: November 15, 2012		
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A	
F.O.B. N/A	SHIPPED FROM N/A	
MINIMUM DELIVERY REQUIREMENTS N/A		
MISCELLANEOUS INFORMATION:		

NATURE OF CHANGE(S):

CCR-005 documents the impact on the Item Bank System application due to changes to the application server infrastructure initiated by the State on 10/1/2009. The attached CCR-005 documents the changes to the Item bank application architecture and deployment model that have been necessitated due to the changed server infrastructure.

All other terms, conditions, pricing and specifications remain unchanged.

AUTHORITY/REASON(S):

Per agreement from agency and vendor.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: \$2,642,360.00

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

February 23, 2010

CHANGE NOTICE NO. 3
TO
CONTRACT NO. 071B9200201

Between
THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance Email: maggarwal@stgit.com	TELEPHONE Anup Popat (248) 643-9010
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 241-3215 Steve Motz
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE	
CONTRACT PERIOD: From: May 5th, 2009 To: November 15, 2012	
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

NATURE OF CHANGE(S):

CCR004 documents the revised scope of STG and the State of Michigan's responsibilities in relation to data migration and its effect on the functioning of the system arising due to the below impact items:

- Dependency delays caused by the State in providing data for migration to STG;
- Issues in the data provided by the State to STG towards data migration that were not resolved through provisions of proper data or transformation rules

Please see attached CCR004 documents for additional information.

In addition, please note the buyer has CHANGED. The new buyer is Steve Motz.

All other terms, conditions, pricing and specifications remain unchanged.

AUTHORITY/REASON(S):

Per agreement from agency and vendor.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: \$2,642,360.00

**STATE OF MICHIGAN
 DEPARTMENT OF MANAGEMENT AND BUDGET
 PURCHASING OPERATIONS
 P.O. BOX 30026, LANSING, MI 48909
 OR
 530 W. ALLEGAN, LANSING, MI 48933**

September 14, 2009

**CHANGE NOTICE NO. 2
 TO
 CONTRACT NO. 071B9200201
 Between
 THE STATE OF MICHIGAN and**

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance Email: maggarwal@stgit.com	TELEPHONE Anup Popat (248) 643-9010
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 335-4804 Douglas Collier
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE	
CONTRACT PERIOD: From: May 5th, 2009 To: November 15, 2012	
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

NATURE OF CHANGE(S):

Effective immediately, this contract is hereby increased by \$394,360.00 and extended three months. The new contract end date is November 15, 2012.

CCR002 will extend the schedule for Milestone 2b - to develop system design and associated documentation for the new requirements and changes to the baseline requirements as identified in the JAD sessions. The cost of this CCR will be drawn against the Time & Materials block and will not impact the value of the BPO.

CCR003 will extend the schedule for milestones 3 and 4 to address new requirements and changes to the baseline requirements as identified in the JAD sessions. The cost of this CCR will be drawn against the balance of the Time & Materials block and the remaining amount will be added to the value of the BPO.

Both CCRs are the result of the attainment of additional details related to in-scope requirements of this contract. Copies of the detailed Contract Change Requests are attached.

AUTHORITY/REASON(S):

Per agreement from agency and vendor and per approval of State Administrative Board on September 14, 2009.

INCREASE: \$394,360.00

TOTAL REVISED ESTIMATED CONTRACT VALUE: \$2,642,360.00

#	Logged Date	Logged By	Change Type	Requirement Type	Affected Use Case	Appendix A Ref	Description	STG Comments	Requirement Change or New Feature (Yes or No)	MDE/OEAA's Comments	Requirements Impact (business days)	Impact Remarks	Design, Development, Testing, Deployment Impact	Change in vendor understanding
1	5/20/2009	Sriram	Requirement Change	Business	Assign Item	5	Multiple Item Assignments in one screen App A does not specify the need to assign multiple items at a time.	SR: Only one screen was estimated for single item assignments at a time	Yes	MP> This is a Change	2	Will affect Assign Item Use case UI screenshot has to be created; Changes to Req deliverables; Additional Review discussions anticipated 1 additional JAD session and 1 additional Review session estimated for all Submit Item	Medium	
2	5/20/2009	Sriram	Requirement Change	Business	Assign Item	1	Tracking Essay and Short answer CR types - App A does not specify tracking the 2 types of CR items.	SR: Only one CR item type was estimated	No	05/27: There are no business rule differences between Essay and Short answer. They all fall under CR. Response length varies			Not Applicable	
3	5/20/2009	Sriram	New Feature	Business	Assign Item		Re-Assigning Items - Not in App A	07/18: This was removed from the parking lot and requested as a change BK: Reassignment will be both at an item level and also at the assignment level. Business rules will change based on partial completion/draft items. 06/30: This is a requirement now. There will a new screen to allow the re-assignment of items.	Yes	07/21: MP> This is a change. This was changed in a review meeting. Updated the log today to reflect the decision 05/27 MP>:This will remain in the parking lot. Reassignment of items will happen one at a time. Only those items that have not been worked on (not even a draft) can be re-assigned. What if an Item was assigned to a writer by mistake? It has to be reassigned.			Medium	
4	5/20/2009	Sriram	New Feature	Business	Assign Item		Item Card Generation - Not in App A	SR: Need more details on Item card	No	05/27: This requirement is not needed any longer This is more of a report			Not Applicable	
5	5/20/2009	Sriram	New Feature	Business	Assign Item		Random Assignment of items to item writers	SR: Business wants the ability to both assign a specific writer and also randomly assign a writer	No	06/08: This requirement is not needed anymore This is part of requirement # 1			Not Applicable	
6	5/20/2009	Sriram	New Feature	Business	Submit Item		Multiple Content Standard as written - Ability for the OEAA to specify content standard as written (selecting from library)		Yes	MP > This is a new feature	minor	Will affect Submit Item Use case. Impact will be included in other Submit Item use case impacts	Low	

7	5/20/2009	Sriram	New Feature	Business	Assign Item	Assign a new Context and Context workflow w.r.t Context being spawned off during Item creation	07/07: 3 types of contexts have been added. The context workflow with various maturity is new. Each type of context follows a different workflow path Only Passage is included in App A. BK: Context is also spawned off during Item creation and follows a workflow	Yes	6/5: MP > This is a new feature and removed from the parking lot 05/27: This will remain in the parking lot Context is also a Passage	1	New UI screen, business rules. Additional JAD and review session discussions	High	
8	5/20/2009	Sriram	New Feature	Business	Submit Item	Request new audio Media	05/31: Please see #20, 21, 22. This item can be closed	Yes	05/27 MP>: This will be similar to request new graphic. However creation of a media library, playing the media (audio or video), any changes in workflow (from the graphic workflow) are new features Playing audio (calling a program) will be a new feature	minor	included in 20, 21, 22	Medium	
9	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to sort, move up/down, change # of options , Automatically specify option #s		Yes	MP>This is a new feature	1	All changes to MC, CR UI prototypes. Additional review session discussion and follow up changes anticipated	Low	
10	5/20/2009	Sriram	Requirement Change	Business	Submit Item	Attributes - The number of attributes was not clearly defined in App A.	SR 07/17: The # of attributes is less than 10. This can be closed out SR: Only 10 attributes were estimated. BK: The attributes will be captured thru a single UI screen for all the item attributes (max 10). As of 6/30/09 the number of attributes is less than 10. But some of the meta data will behave like attributes meaning they will need capture points.	No	06/05 SR: Currently the number of attributes is less than 10. An assessment will be made when all JAD sessions are complete to assess if this is a change 06/30: Parking Lot item - Need further discussions		Included in impact to item #14	Not Applicable	
11	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to input keywords	SR: This was not specified in App A.	Yes	MP > This is a new feature	Minor		Low	
12	5/20/2009	Sriram	New Feature	Business	Submit Item	Security for graphics by program		No	05/27: Item writers will not be able to search for graphics. So this is no longer a requirement This is no longer a requirement			Not Applicable	
13	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to add Instruction, point value, sample for a CR item	SR: If these are form fields on the Submit Item for a CR type item, this can be accommodated	Yes	MP >This is a new feature Need further clarification	Minor	Included in #14	Medium	
14	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to add rubrics, write a new rubric, rubric library creation		Yes	MP > This is a new feature	1	UI, Use Case changes and additional JAD, review session discussions for #11, 14, 17	High	
15	5/20/2009	Sriram	New Feature	Business	Submit Item	Review process for graphics - According to App A req # 8 graphic was to be reviewed only with an item, no separate review process	SR: Agreed. No change	No	There is no review process for graphics			Not Applicable	Yes

16	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to review Passage description prior to Passage submission	SR: Work around will be to submit a passage desc along with empty passage. If this is acceptable, not a scope change item	Yes	This is a new feature	minor	Included in impact to item #14	High
17	5/20/2009	Sriram	New Feature	Business	Assign Item	Content Standard library creation		Yes	05/27: This is a new feature OEAA to provide additional clarifications	1	Includes Document deliverable impacts of #17, 18; Is part of the assign Item	Very High
18	5/20/2009	Sriram	New Feature	Business	Assign Item	Preview of stem, choices, context separately		No	05/27: This requirement is modified. There will only be one preview that includes item stem, choices, context This requirement is covered under previewing the entire item			Not Applicable
19	5/20/2009	Sriram	New Feature	Business	Assign Item	Search the content library	BK: Change will be part of the Content Standard library creation	Yes	05/27: This is related to change item # 17(Content Std. library creation) This is no longer a requirement	minor	Included in impact for #17	High
20	5/29/2009	Sriram	New Feature	Business	Submit Item	Creation of a media library	BK: Cross refer #8 Request Media	Yes	6/3: MP > This is a new feature	minor	Included in impact for 21	Medium
21	5/29/2009	Sriram	New Feature	Business	Submit Item	Media creation and association workflow	BK: Cross refer #8 Request Media	Yes	6/3: MP > This is a new feature	1	Includes UI, Document deliverable impacts of #20, 21, 22	High
22	5/29/2009	Sriram	New Feature	Business	Submit Item	Playing audio (calling a program) will be a new feature	BK: Cross refer #8 Request Media	Yes	6/3: MP > This is a new feature	minor	Included in impact for 21	Low
23	5/29/2009	Sriram	New Feature	Business	Submit Item	Create library of taxonomy		Yes	6/3: MP > This is a new feature	minor	included in 17	Very High
24	5/29/2009	Sriram	New Feature	Business	Search Item	Search Passage, Audio, Context, Published document search, Content Standards, taxonomy	BK: Passage search is embedded inside Context Search. BK: Only Search for graphics by IWT and Search Item are mentioned in Appendix A. The Item Search cannot be re-used for other searches since, For Each search type both the search criteria and search results differ.	Yes	6/5: MP > Search Passage, Audio, Context are new features 6/5: MP > No search required for Published document search, Content Standards, taxonomy 6/3: MP > Need more information from STG	1	Includes UI, Document deliverable development, JAD session, review session	High
25	5/29/2009	Sriram	New Feature	Business	Submit Item	Upload sample image by IWT, one-per image by composition, Flagging item for graphic or content change out of the Committee review	7/20: One-per image is not a requirement. IWT uploading the sample image is not a requirement. Upload one-per image will not be versioning since the Item does not undergo any change at this time. The one per image will be an added attribute to the Item at the time of banking. This particular change can be covered when addressing #10 Flagging of the item after the committee review will indicate whether there is change in the text or in graphic and will be routed to Content Lead or Media Designer. The need for routing based on	Yes	6/3: MP > 1) Upload sample image by IWT is a new feature. > 2) one-per image by composition is not a new feature and is part of versioning (version control). > 3) Flagging item for graphic or content change out of the Committee review - Need additional clarification 6/5: MP > If one-per image is a 11th attribute (Refer to #10) then it will be a new feature	1	Includes UI changes, use case document impact	Medium

26	5/29/2009	Sriram	New Feature	Business	Committee Review	Assignment of Items to selective committee members from a list. Also multi-item assignment to selective members	07/20: The work around was later rejected. The impact is described in 45, 46 SR: Workaround can be maintaining a committee list at content standard level and forwarding to all of the members of the list.	Yes	6/3: MP > Work around is acceptable	0	Low	
27	5/29/2009	Sriram	New Feature	Business	Committee Review	Maintain Committee active list by Program, Subject Area and Grade and Content Standards	SR: Duplicate - closing this out BK: Can be in the parking lot till JAD session on role maintenance. Need to check for Item Writer also	No	6/3: MP > This is part of roles. Parking Lot Item 6/30: Can finalize after the 07/02 Roles meeting		Not Applicable	Yes
28	5/29/2009	Sriram	Requirement Change	Business	Committee Review	Workflow To-Be process from App E: Additional decision points for EFT, FR, PT, selected for PT, Add PT metadata, Selected for FT, Add FT metadata, Selected for OP, Add released booklet metadata, Re-FT decision, Routing changes in FT, routing changes	BK: Additional decision points and routing have been added	Yes	6/5: MP > Additional decision points and routing are new features 6/3: MP > Please identify (provide details)	5	Very High	All changes to UI prototypes, new prototypes, business rules, updates to document deliverables Additional review sessions that will be needed
29	6/1/2009	Sriram	Requirement Change	Business	Test Form Development	New Program Type - MEAP Access	SR 07/17: This is being closed out under the assumption that there are no business rules changes with respect to the new programs being added SR: Impact will be minimum if there are no business rules specific to the new Program type and the changes will only be to the lookup reference. 06/30: At this point no business process changes with the new program type	No	06/05: An assessment will be made at the end of the JAD sessions if there are specific business process changes associated with this program type. 06/30: Parking Lot item till the requirements are finalized		Not Applicable	
30	6/1/2009	Sriram	Requirement Change	Business	Test Form Development	Creating a blueprint through Item Bank System. Multiple blueprints are possible for a Program, Content Area and Grade Level/ Span		Yes	6/5: MP > This is a new feature	3	Very High	All changes to UI prototypes, new prototypes, business rules, updates to document deliverables Additional review sessions that will be needed for 30, 32
31	6/1/2009	Sriram	Requirement Change	Business	Test Form Development	Automatic template creation based on the blueprint. Multiple templates against Blueprints are possible.		Yes	6/5: MP > This is a new feature	1	High	All changes to UI prototypes, new prototypes, business rules, updates to document deliverables Additional review sessions that will be needed
32	6/1/2009	Sriram	Requirement Change	Business	Test Form Development	Copying a blueprint from another blueprint	Can be done alongside the "Creating Blueprint" change request. Refer #30. 06/30: Ability to copy a blueprint from the existing libraries	Yes	6/5: MP > This is a new feature	minor	included in #30	Medium

33	6/1/2009	Sriram	Requirement Change	Business	Test Form Development	Regenerating templates - When BluePrints are changed the templates need to be re-generated		No	6/5: MP > This is just re doing a step and not necessarily re programming			Not Applicable	
34	6/1/2009	Sriram	Requirement Change	Business	Test Form Development	TO BE Test Form development - Process-related changes; Editing of the Test Map(capture day, session, part, relative position, Statistical, positional values and others), Multiple restart points	07/22:OEAA must be able to produce a PDF version of test booklets, which will be exported for printing. This requirement has been changed to generating and exporting final pre-composition materials (as XML, CSV and RTF files) 07/18: The draft pull list will be developed based on content standards and process taxonomy levels instead of statistical characteristics. 07/07: Uploading pre and post-equated R2SS tables, uploading print optimized PDFs.	Yes	6/5: MP > Editing a Blue Print is a new feature 6/5: MP > Editing of the Test Map is part of the requirement and not a new feature 6/5: MP > Multiple restart is part of the development flow	All changes to UI prototypes, new prototypes, business rules, updates to document deliverables Additional review sessions that will be needed 1 additional JAD session and 1 additional Review session estimated	2	Very High	
35	6/1/2009	Sriram	Requirement Change	Business	Test Form Development	Item pull list - Program, process and method to select the items in assembling the test map	06/30: The new statistical approach proposed by Adam Wyse needed additional time to get through Intellectual Property issues. Approach to export eligible items and import draft list was finalized and updated in the Use Case Involves the multinomial distribution and probability selection of the items.	No	7/17: This requirement was later waived by State. This will not be included in the impact assessment 6/5: MP > This is part of matching statistical criteria. STG to re evaluate and get back			Not Applicable	
36	6/22/2009	Sriram	New Feature	Business	Statistics	Cronbach's coefficient alpha as a summary measure for the form level statistics	07/08: Appendix A - Item # 38 Cronbach's coefficient - is referred to as projected reliability. 07/07: This is not mentioned in Appendix A. This is a new requirement 06/30: This will affect already planned curves at the test form level; both on the screens and reports. This was sent to STG in an email from Steve on 06/18	No	This is part of the requirements. This will not affect the curves and this is just another summary statistics			Not Applicable	Yes
37	6/22/2009	Sriram	New Feature	Business	Test Form Development	Test form development for Reading and Writing is different from that of other content areas	06/30: The impact is changes to Test Form and Test Map for ELA (Reading and Writing).	Yes	MP > This is a new feature			High	
38	6/23/2009	Sriram	New Feature	Business	Manage Blueprint	Blueprint for Reading and Writing is different from that of other content areas	06/30: The impact is changes to Blueprint, Layout Template for ELA (Reading and Writing).	Yes	MP > This should be part of the previous requirement (#37)			High	
39	6/22/2009	Sriram	New Feature	Business	Submit Item	Create paired-context.	07/07: Paired contexts have additional business processing and display is different from regular contexts, hence this is a change 06/30: Will impact the following functions - Assign Item, Submit Item, Search Item. Use Case and UI changes will be needed.	Yes	MP > This is going back to refining the submissions.			Medium	

State of Michigan
Item Bank System
Change Control Request

A. General Information

Information to be provided in this section is general in nature and provides the necessary information about the organization of the project and project participants.

Project ID/Acronym: Item Bank System **Date:** 07/20/2009

Controlling Agency: Department of Education **Modification Date:** 07/20/2009

Prepared by: Sriram Rao, STG Project Manager **Control Number (From Control Log)** CCR-002

B. Requestor Information

Proposed Change Description and References:

The requestor will provide information concerning the requested change along with any supporting documentation.

Background

The purpose of this Change Control Request is to extend the schedule for "Milestone 2b -- System Design Completed" to develop system design and associated documentation for the new requirements and changes to the baseline requirements (Appendix A) identified during the "Milestone 2a -- Requirements Gathering and Functional Design Completed" stage.

Requirements Gathering on the Item Bank System project are being conducted using JAD sessions. During the course of the JAD sessions new requirements and changes to requirements defined in Appendix A were identified. STG has documented the new and changed requirements in the attached



Requirements
Change Log

requirements change log

State has reviewed and confirmed the change items in the Requirements Change Log on 07/17/2009.

The items with "Yes" in column M have been accepted by the State as scope changes and have been used to estimate the impact for this Change Control document.

The items with "No" in column M highlighted in Blue are not scope changes as agreed to between State and STG. The items with "No" in column M were not used for the impact reported under this CCR.

Impact of Not Implementing Proposed Change:

OEA has initiated the addition of new requirements, changes to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives:

PMM-14 / PMM Express-14 (Rev. 9/2008)

There are no alternatives identified at this time.

C. Initial Review Results of the Change Request

Initial Review Date: 07/20/2009 Assigned to: STG

- Approve for Impact Analysis
 Reject
 Defer Until:
Reason:

D. Initial Impact Analysis

Baselines Affected:

The baseline scope defined in Appendix A of the Item Bank System contract is affected. Please refer to the contract for Appendix A.

Configuration Items Affected:

The following "Milestone 2b - System Design Completed" deliverables will be updated:

- System Design Document
- Physical Data Model
- Data Migration Plan
- Requirement Traceability Matrix

Cost / Schedule Impact Analysis Required? Yes No

Impact on Cost:

1. The cost table below provides the calculation for cost towards the extension of schedule by 17 additional business days. STG has used the agreed upon hourly billing rates stated in section 1.601 of the contract.

Project Resource Plan			
	Requirements (business days)	Total Hours	Rate (per hour)
Project Manager	17	136	\$125
Senior Enterprise Architect	17	136	\$115
Database Administrator	17	136	\$115
Senior Systems Analyst	17	136	\$95
Senior Programmer Analyst	17	136	\$85
Total		680	
			\$72,760

In order to preserve the schedule and cost impact specified above, State must accord its approval to this CCR on or before 7/24/2009 authorized through a Purchase Order Amendment from DMB. Any further delays in such approval may further impact the schedule and cost specified above.

Assumptions

1. The impact provided in this change control request is only for the completion of System Design activities and deliverables of requirements identified till 07/17/2009 and recorded in the Use Case Documents.
2. If new requirements and/or further changes to existing requirements are identified after 07/17/2009, STG will assess the impact of those changes in a separate CCR.
3. The completion of System Design activities by the timeline specified in this CCR is contingent upon providing STG "write" access to the SAS servers and any other accesses necessary to design the SAS to .NET interface no later than 07/28/2009. If there are delays in providing the necessary access, the impact for the delays will be assessed in a separate CCR.
4. The impact to Development, Testing and Deployment activities for the new and changed requirements specified in this CCR will be provided in CCR-003

Please find the updated Payment Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Original Payment Due Date as of CCR001 (Business days from Start date of Project)	Original Payment (USD) as of CCR001	Revised Payment Date as of CCR002 (Business days from Start date of Project)	Payment Per this CCR as of CCR002 (USD)
Milestone 1 - Engagement Startup	5	\$75,000	5	\$75,000
Milestone 2a - Requirements Gathering and Functional Design Completed	55	\$360,600	55	\$360,600
Milestone 2b - System Design Completed	75	\$300,600	92	\$372,760
Milestone 3 - Development and Unit Test Completed	115	\$275,000	132	\$275,000
Milestone 4 - System and Integration Testing Completed	135	\$250,000	152	\$250,000
Milestone 5 - User Acceptance Testing Completed	179	\$300,000	196	\$300,000
Milestone 6 - Performance/Load Testing Completed	189	\$75,000	206	\$75,000
Milestone 7a - Deployment Completed	199	\$50,000	216	\$50,000
Milestone 7b - Pilot Completed	221	\$30,000	238	\$30,000
Milestone 7c - Full Rollout Completed	231	\$20,000	248	\$20,000
Milestone 8 - Warranty Completed	297	\$8,000	314	\$8,000
Transition, Maintenance and Support Services Completed	This Maintenance and Support services will commence for a period of 24 months following the warranty period	\$340,000		\$340,000
Enhancements & Scope Change Allocation		\$164,400		\$91,640

Total Contract Value	USD \$2,248,000	USD \$2,248,000
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Impact on Schedule:

The "Milestone 2b – System Design Completed" will be extended by 17 additional business days for:

1. Additional time to develop the system design and associated artifacts for the new requirements (highlighted in Green) in the attached requirements change log;
2. Additional time to update the Physical Data Model, Data Migration Plan, Requirements Traceability Matrix for the new requirements and changed requirements (highlighted in Green) in
3. Additional time towards reviews and modifications.

The total impact to schedule towards the above will be 17 additional business days.

Please find the updated Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Per current Contract (Business days from Start date of Project) as of CCR001	Date of Completion of the Milestone Per current Contract as of CCR001	Per this Change Control (Business days from the Start date of the project) (As per CCR002)	Revised Date of Completion of the Milestone (As per CCR002)
Milestone 1 - Engagement Startup	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (Initial) • Software Configuration Plan (Initial) • Maintenance Plan (Initial) • Project Planning • Transition checklist • CEASAR criteria • Dependencies List 	5	5/15/2009	5	5/15/2009

Milestone 2a -- Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (Initial) • Requirements Management Checklist • Functional Design Document • Training Plan (Initial) 	55	7/28/2009	55	7/28/2009
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (Initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	75	8/25/2009	92	9/18/2009
Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> • Application Code components • System Integration • Test Cases • Test Reports (updated) • Transition Plan (initial) • Installation Plan (initial) • Data Migration Output Data 	115	10/21/2009	132	11/16/2009
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • Test Scripts/Test Data • Testing Package • System Test Report (final) • Performance Test Results • Training Checklist 	135	11/19/2009	152	12/16/2009
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • User Acceptance Test Report (final) 	179	1/29/2010	195	2/24/2010

Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> Performance Test Report (final) Installation Plan (final) Training Plan (final) Requirements Traceability Matrix (final) Training Manual User Manual Installation Manual Operations Manual Deployed Application Code Post Implementation Evaluation Report (Deployment) Post Implementation Evaluation Report (Pilot) 	189	2/12/2010	206	3/10/2010
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> Conversion Plan (final) Maintenance Plan (final) Transition Plan (final) Security Plan (final) Post Implementation Evaluation Report (Full Rollout) Warranty Defects log with list and status of defects 	199	3/1/2010	216	3/24/2010
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> Post Implementation Evaluation Report (Pilot) 	221	3/31/2010	238	4/23/2010
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> Warranty Defects log with list and status of defects 	231	4/14/2010	248	5/7/2010
Milestone 8 - Warranty Completed	<p>After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,166.66 for each month for a period of 24 months. This is towards one full time equivalent resource to be assigned by Contractor onsite at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.</p>	297	7/19/2010	314	8/11/2010
Transition, Maintenance and Support Services Completed	<ul style="list-style-type: none"> Towards Optional 2000 hours to be provided towards enhancements and scope changes to be processed through the Change Control Request Process defined in section 1.403 		8/15/2012		9/7/2012
Enhancements & Scope Change Allocation					

Impact on Resources:

The STG Project resources working on the "Milestone 2b – System Design Completed" will be extended by 17 business days. Please refer to impact on Cost section for the list of resources.

Final Review Results:

The "Milestone 2b – System Design Completed" will need to be extended by 17 business days in order to address the System Design of new and changed requirements identified in the attached Requirements Change Log.

Review Date: 07/20/2009

Classification: HIGH MEDIUM LOW

Impact Analysis Results

Specific Requirements Definition:

Please refer to the requirements change log attached in section B

Additional Resource Requirements	Work Days	Cost (USD)
Project Manager	17	\$17,000
Senior Enterprise Architect	17	\$15,640
Database Administrator	17	\$15,640
Senior Systems Analyst	17	\$12,920
Senior Programmer Analyst	17	\$11,560
TOTAL	85	\$72,760

Impact of Not Implementing the Change:

OEAA has initiated the addition of new requirements, change to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives to the Proposed Change:


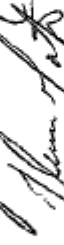
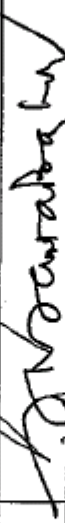

There are no alternatives identified at this time.

Final Recommendation:

The "Milestone 2b – System Design Completed" will need to be extended by 17 business days in order to address the new and changed requirements identified in the attached Requirements Change Log.

Signatures

Governance Body:

Name/Title	Signature	Date
Joseph Martineau, MDE OEAA Director		7/24/09
Glenn Gorton, MDIT Agency Services CSD		7/24/09
Shanta Santaprakash, STG GSD Delivery Executive		7/28/09
Sirram Rao, STG Project Manager		7/23/2009

**State of Michigan
Item Bank System
Change Control Request**

A. General Information

Information to be provided in this section is general in nature and provides the necessary information about the organization of the project and project participants.

Project ID/Acronym:	Item Bank System	Date:	07/28/2009
Controlling Agency:	Department of Education	Modification Date:	07/29/2009
Prepared by:	Sriram Rao, STG Project Manager	Control Number (From Control Log)	CCR-003

B. Requestor Information

Proposed Change Description and References:

The requestor will provide information concerning the requested change along with any supporting documentation.

Background

The purpose of this Change Control Request is to extend the schedule for "Milestone 3 - Development and Unit Test" and "Milestone 4 - System and Integration Testing" to address the new requirements and changes to the baseline requirements (Appendix A) identified during the "Milestone 2a - Requirements Gathering and Functional Design Completed" stage.

Milestone 2a - Requirements Gathering and Functional Design for the Item Bank System project concluded on 07/28/2009. During this milestone, both Functional and Technical requirements were captured using JAD sessions. During the course of the JAD sessions new requirements and changes to requirements defined in Appendix A were identified. STG has documented the new and changed



Microsoft Office
Excel Worksheet

requirements in the attached requirements change log

State has reviewed and confirmed the change items in the Requirements Change Log on 07/17/2009.

The items with "Yes" in column M have been accepted by the State as scope changes and have been used to estimate the impact for this Change Control document.

The items with "No" in column M are not scope changes as agreed to between State and STG. The items with "No" in column M were not used for the impact reported under this CCR.

Impact of Not Implementing Proposed Change:

DEAA has initiated the addition of new requirements, change to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives:

There are no alternatives identified at this time.

C. Initial Review Results of the Change Request

Initial Review Date: 07/20/2009 Assigned to: STG

Approve for Impact Analysis

Reject

Defer Until:

Reason:

D. Initial Impact Analysis

Baselines Affected:

The baseline scope defined in Appendix A of the Item Bank System contract is affected. Please refer to the contract for Appendix A.

Configuration Items Affected:

The following "Milestone 3 - Development and Unit Test" deliverables will be updated to reflect the new requirements:

- Application Code components
- System Integration Test Cases

The following "Milestone 4 - System and Integration Testing" deliverables will be updated to reflect the new requirements:

- Tested Application Code components
- Test Scripts/Test Data
- Testing Package
- System Test Report (final)

Cost / Schedule Impact Analysis Required? Yes No

Impact on Cost:

1. The Milestone 3 - Development and Unit Test" will need to be extended by 33 business days and "Milestone 4 - System and Integration Testing" will need to be extended by 17 business days.

The total impact to schedule towards the above will be 50 business days.

The cost table below provides the calculation for cost towards the extension of schedule by 50 business days. STG has used the agreed upon hourly billing rates stated in section 1.601 of the contract.

Project Resource Plan				
	Requirements (business days)	Total Hours	Rate (per hour)	Tot Amount
Project Manager	50	400	\$125	\$50,000

Senior Enterprise Architect	50	400	\$115	\$46,000
Database Administrator	50	400	\$115	\$46,000
Senior Systems Analyst	50	400	\$95	\$38,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Senior Programmer Analyst	50	400	\$85	\$34,000
Total		5200		\$486,000

Please note that the additional funding requirement towards this CCR that requires State Administrative Board approval will be determined as below:

	Value of CCR003:	\$486,000
Amount remaining from original budget set aside towards enhancements (after CCR001 and CCR002):		\$91,640
	Additional funding required:	\$394,360

In order to preserve the schedule and cost impact specified above, State must accord its approval to this CCR on or before 8/19/2009 authorized through a Purchase Order Amendment from DMB. Any further delays in such approval may further impact the schedule and cost specified above.

Assumptions

1. The impact provided in this change control request is only for the completion of Application Development and System Testing activities and deliverables for the new requirements identified till 07/17/2009 and recorded in the Use Case documents.
2. If new requirements and further changes to existing requirements are identified after 07/17/2009, STG will assess the impact of those changes in a separate CCR.
3. As defined in the requirements change log, the following will be performed outside the Item Bank System application:
 - a. Test Composition
 - b. Media(Graphics, Audio, Video) Editing
 - c. Except reports there will be no separate PDF generation necessary.
4. The schedule duration set aside towards User Acceptance Testing, Performance/Load Testing, Deployment, Pilot and Full Rollout milestones have not been modified. If State wishes to extend any of these durations, then the impact of such extensions will be in addition to this CCR003.
5. STG assumes that the additional funding of \$ 394,360 towards this CCR003 will be approved on or before the State Administrative Board meeting scheduled for 8/18/2009.

Please find the updated Payment Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Original Payment Date Per CCR002 (Business days from Start date of Project)	Original Payment per CCR002 (USD)	Revised Payment Date (Business days from Start date of Project)	Payment Per this CCR003 (USD)
Milestone 1 -Engagement Startup	5	\$75,000	5	\$75,000
Milestone 2a – Requirements Gathering and Functional Design Completed	55	\$360,600	55	\$360,600
Milestone 2b - System Design Completed	92	\$372,760	92	\$372,760
Milestone 3 - Development and Unit Test Completed	132	\$275,000	165	\$595,760
Milestone 4 - System and Integration Testing Completed	152	\$250,000	202	\$415,240
Milestone 5 - User Acceptance Testing Completed	196	\$300,000	246	\$300,000
Milestone 6 - Performance/Load Testing Completed	206	\$75,000	256	\$75,000
Milestone 7a - Deployment Completed	216	\$50,000	266	\$50,000
Milestone 7b - Pilot Completed	238	\$30,000	288	\$30,000
Milestone 7c - Full Rollout Completed	248	\$20,000	298	\$20,000
Milestone 8 - Warranty Completed	314	\$8,000	364	\$8,000
Transition , Maintenance and Support Services Completed		\$340,000		\$340,000
Enhancements & Scope Change Allocation		\$91,640		\$0
Total Contract Value		USD \$2,248,000		USD \$2,642,360

Impact on Schedule:

The Milestone 3 - Development and Unit Test" will need to be extended by 17 business days and "Milestone 4 - System and Integration Testing" will need to be extended by 33 business days for:

2. Additional time to code and unit test the application components for the new requirements (highlighted in Green) in the attached requirements change log;
3. Additional time to perform System Test of the application components for the new requirements (highlighted in Green) in the attached requirements change log;
4. Additional time to update deliverables listed in section D

The total impact to schedule towards the above will be 50 business days.

Please find the updated Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Per current Contract (Business days from Start date of Project)	Date of Completion of the Milestone (As per CCR-002)	Per this Change Control (Business days from the Start date of the project)	Revised Date of Completion of the Milestone (As per CCR-003)
Milestone 1 - Engagement Startup	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (initial) • Software Configuration Plan (initial) • Maintenance Plan (initial) • Project Planning Transition checklist • CEASAR criteria • Dependencies List 	5	5/16/2009	5	5/15/2009
Milestone 2a - Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (initial) • Requirements Management Checklist • Functional Design Document • Training Plan (initial) 	55	7/28/2009	55	7/28/2009

Milestone/Deliverable Schedule/Pay Points	Deliverables	Per current Contract (Business days from Start date of Project)	Date of Completion of the Milestone (As per CCR-002)	Per this Change Control (Business days from the Start date of the project)	Revised Date of Completion of the Milestone (As per CCR-003)
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	92	9/18/2009	92	9/18/2009
Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> • Application Code components • System Integration Test Cases • Test Reports (updated) • Transition Plan (initial) • Installation Plan (initial) • Data Migration Output Data 	132	11/16/2009	165	1/8/2010
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • Test Scripts/Test Data • Testing Package • System Test Report (final) • Performance Test Results • Training Checklist 	152	12/16/2009	202	3/4/2010
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • User Acceptance Test Report (final) 	196	2/24/2010	246	5/5/2010
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> • Performance Test Report (final) • Installation Plan (final) • Training Plan (final) • Requirements Traceability Matrix (final) 	206	3/10/2010	256	5/19/2010

Milestone/Deliverable Schedule/Pay Points	Deliverables	Per current Contract (Business days from Start date of Project)	Date of Completion of the Milestone (As per CCR-002)	Per this Change Control (Business days from the Start date of the project)	Revised Date of Completion of the Milestone (As per CCR-003)
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> • Training • Training Manual • User Manual • Installation Manual • Operations Manual • Deployed Application Code • Post Implementation Evaluation Report (Deployment) 	216	3/24/2010	266	6/3/2010
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> • Post Implementation Evaluation Report (Pilot) 	238	4/23/2010	288	7/6/2010
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> • Conversion Plan (final) • Maintenance Plan (final) • Transition Plan (final) • Security Plan (final) • Post Implementation Evaluation Report (Full Rollout) 	248	5/7/2010	298	7/20/2010
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> • Warranty Defects log with list and status of defects 	314	8/11/2010	364	10/21/2010
Transition, Maintenance and Support Services Completed	<p>After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,166.66 for each month for a period of 24 months. This is towards one full time equivalent resource to be assigned by Contractor onsite at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.</p>		9/7/2012		11/16/2012
Enhancements & Scope Change Allocation	<ul style="list-style-type: none"> • Towards Optional 2000 hours to be provided towards enhancements and scope changes to be processed through the Change Control Request Process defined in section 1.403 				

Impact on Resources:

The STG Project resources working on the "Milestone 3 - Development and Unit Test" will be extended by 33 business days and "Milestone 4 - System and Integration Testing" will be extended by 17 business days. Please refer to impact on Cost section for the list of resources.

Final Review Results:

The STG Project resources working on the "Milestone 3 - Development and Unit Test" will be extended by 33 business days and "Milestone 4 - System and Integration Testing" will be extended by 17 business days in order to address the Application Development and Systems Integration Testing of new and changed requirements identified in the attached Requirements Change Log.

Review Date: 07/20/2009

Classification: **HIGH** **MEDIUM** **LOW**

E. Impact Analysis Results**Specific Requirements Definition:**

Please refer to the requirements change log attached in section B

Additional Resource Requirements	Work Days	Cost (in USD)
Project Manager	50	\$50,000
Senior Enterprise Architect	50	\$46,000
Database Administrator	50	\$46,000
Senior Systems Analyst	50	\$38,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
Senior Programmer Analyst	50	\$34,000
TOTAL	50	\$486,000

Impact of Not Implementing the Change:

OEAA has initiated the addition of new requirements, change to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives to the Proposed Change:

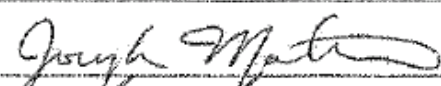
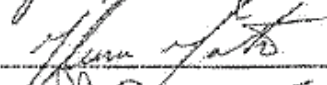

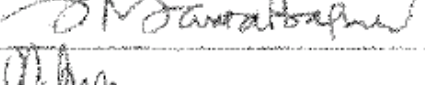

There are no alternatives identified at this time.

Final Recommendation:

The STG Project resources working on the "Milestone 3 - Development and Unit Test" will be extended by 33 business days and "Milestone 4 - System and Integration Testing" will be extended by 17 business days in order to address the new and changed requirements identified in the attached Requirements Change Log.

Y. Signatures

Governance Body:

Name/Title	Signature	Date
Joseph Martineau, MDE OBAA Director		8/3/09
Glenn Gorton, MDIT Agency Services CSD		8/4/09
Mohamed Peeran, MDIT Project Manager		8/2/09
Shanta Santaprakash, STG GSD Delivery Executive		8/4/09
Sriram Rao, STG Project Manager		8/4/09

7	5/20/2009	Sriram	New Feature	Business	Assign Item	Assign a new Context and Context workflow w.r.t Context being spawned during item creation.	07/07: 3 types of contexts have been added. The context workflow with various priority is new. Each type of context follows a different workflow path. Only Passage is included in App A. Only Context is also spawned on during item creation and follows a workflow.	Yes	05/19: This is a new feature and removed from the parking lot. 05/27: This will remain in the parking lot. Context is also a Passage.	1	High
8	5/20/2009	Sriram	New Feature	Business	Submit Item	Request new audio media.	03/31: Please see #20, 21, 22. This item can be closed.	Yes	05/27 MP: This will be similar to request new graphics. However creation of a media library, playing the media (audio or video), any changes in workflow (from the graphic workflow) are new features. Playing audio (calling a program) will be a new feature.	1	Medium
9	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to sort, move up/down, change # of columns. Automatically specify options.	07/17: The # of attributes is less than 10. This can be closed out. SR: Only 10 attributes were estimated. BR: The attributes will be captured thru a single UI screen for all the item attributes (max 10). As of 6/30/09 the number of attributes is less than 10, but some of the meta data will behave like attributes meaning they will need capture's prefix.	Yes	06/05: This is a new feature.	1	Low
10	5/20/2009	Sriram	Requirement change	Business	Submit Item	Attributes - The number of attributes was not clearly defined in App A.	SR: This was not specified in App A.	No	06/05 SR: Currently the number of attributes is less than 10. An assessment will be made when all JAD documents are complete to assess if this is a change. 06/06: Parking Lot item - Need further discussions.		Not Applicable
11	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to input keywords.	SR: If meta are form fields on the Submit Item for a CR type item, this can be accommodated.	Yes	05/27: Item writers will not be able to search for graphics. So this is no longer a requirement. This is no longer a requirement.	Minor	Low
12	5/20/2009	Sriram	New Feature	Business	Submit Item	Security for graphics by program.	SR: If meta are form fields on the Submit Item for a CR type item, this can be accommodated.	No	06/05: This is a new feature. Need further clarification.		Not Applicable
13	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to add descriptive, point value, sample for a CR item.		Yes	MP > This is a new feature. Need further clarification.	Minor	Medium
14	5/20/2009	Sriram	New Feature	Business	Submit Item	Ability to edit attributes, write a new attribute, rubric library creation.		Yes	MP > This is a new feature. There is no review process for graphics.		High
15	5/20/2009	Sriram	New Feature	Business	Submit Item	Review process for graphics - According to App A, req # 8 graphics was to be reviewed only with an item, no separate review process.	SR: Agreed, No change.	No	MP > This is a new feature. There is no review process for graphics.		Not Applicable

16	5/20/2009	SR16M	New Feature	Business	Submit Item	Ability to review Passage description prior to Passage submission	SR: Work around will be to submit a message desc also with empty passage. If this is acceptable, not a scope change item	Yes	This is a new feature	minor	Included in Impact to Item #14	High
17	5/20/2009	SR17M	New Feature	Business	Assign Item	Content Standard library creation	05/27: This is a new feature OEAA to provide additional classifications only to one preview that includes Item stem, choice, context 05/27: This requirement is covered under previewing the endro item	Yes			Included in Impact of deliverable impacts of #17, 18, is part of the assign item	Very High
18	5/20/2009	SR18M	New Feature	Business	Assign Item	Preview of stem, choices, context separately		No				Not Applicable
19	5/20/2009	SR19M	New Feature	Business	Assign Item	Search the content library	BK: Change will be part of the Content Standard library creation This is no longer a requirement	Yes	05/27: This is related to change item #17 (Content Std. library creation) This is no longer a requirement	minor	Included in Impact for #17	High
20	5/20/2009	SR20M	New Feature	Business	Submit Item	Creation of a media library	BK: Cross refer #9 Request Media	Yes	02: MP > This is a new feature	minor	Included in Impact for #21	Medium
21	5/20/2009	SR21M	New Feature	Business	Submit Item	Media creation and association workflow	BK: Cross refer #9 Request Media	Yes	03: MP > This is a new feature		Included in Impact of deliverable impacts of #20, 21, 22	High
22	5/20/2009	SR22M	New Feature	Business	Submit Item	Playing audio (adding a program) will be a new feature	BK: Cross refer #6 Request Media	Yes	03: MP > This is a new feature	minor	Included in Impact for #17	Low
23	5/20/2009	SR23M	New Feature	Business	Submit Item	Create library of taxonomy	BK: Cross refer #6 Request Media Context Search BK: Only Search for graphics by IWT and Search Item are mentioned in Appendix A. The Item Search cannot be focused for other searches since, for each search type both the search criteria and search results differ. IWT: One-per image is not a requirement IWT: Uploading the sample image is not a requirement.	Yes	03: MP > This is a new feature	minor	Included in 17	Very High
24	5/20/2009	SR24M	New Feature	Business	Search Item	Search Passage, Audio, Context, Published-document-search, Content Standards taxonomy	BK: Cross refer #6 Request Media Context Search BK: Only Search for graphics by IWT and Search Item are mentioned in Appendix A. The Item Search cannot be focused for other searches since, for each search type both the search criteria and search results differ. IWT: One-per image is not a requirement IWT: Uploading the sample image is not a requirement.	Yes	03: MP > Search Passage, Audio, Context are new features 03: MP > No search required for Published document search, Content Standards, taxonomy 03: MP > Need more information from STG	minor	Included in UI, Document deliverable Development, JAD session, review	High
25	5/20/2009	SR25M	New Feature	Business	Submit Item	Upload sample image by IWT, one-per image by composition, Flagging item for graphic or content change out of the Committee review	IWT: One-per image will not be versioning since the Item does not undergo any change at this time. The one-per image will be an added attribute to the Item at the time of banking. This particular change can be covered when addressing #10 Flagging of the item after the committee review will indicate whether there is change in the text or in graphic and will be related to Content Lead or Media Designer. The need for routing based on	Yes	02: MP > 1) Upload sample image by IWT is a new feature. > 2) one-per image by composition is not a new feature and is part of versioning (version control). > 3) Flagging item for graphic or content change out of the Committee review - Need additional clarification 03: MP > If one-per image is a 11th attribute (Refer to #10) then it will be a new feature		Included in UI changes, use case document impact.	Medium

26	5/25/2009	System New Feature	Business	Committee Review	Assignment of items to selective committee members from a list. Also multi-team assignment to selective members	07/20: The work around was later rejected. The impact is described in 45, 46 SR: Workaround can be maintaining a committee list at constant standard level and forwarding to all of the members of the list. SR: Duplicate - closing this out PR: Can be in the pending list BE JAD session on role maintenance. Need to check for item W/iter also	Yes	02: MP > Work around is acceptable	0		Low
27	5/25/2009	System New Feature	Business	Committee Review	Maintain Committees active list by Program, Subject Area and Grade and Content Standards Workday To-Be process from App E; Additional decision points for EFT, PR, PT, selected for FT, Add PT metadata, Selected for FT, Add FT metadata. Selected for OP. Add released metadata. Re-FT decision. Routing changes in FT, routing changes		No	03: MP > This is part of roles. Pending Lot Item 07/20. Can finalize after the 07/02 Roles meeting		prototypes, new rules, updates to document deliverables Additional review sessions that will be needed	Not Applicable/Yes
28	5/25/2009	System Requirement Change	Business	Committee Review		SR: Additional decision points and routing have been added SR 07/17: This is being closed out under the assumption that there are no business rules changes with respect to the new programs being added SR Impact will be minimum if there are no business rules specific to this new Program type and the changes will only be to the lookup reference. 08/33: At this point no business process changes with the new program type	Yes	04: MP > Additional decision points and routing are new features 05: MP > Please identify (provide details)			Very High
29	5/1/2009	System Requirement Change	Business	Test Form Development	New Program Type - MEAP Access		No	06/09: An assessment will be made at the end of the JAD sessions if there are specific business process changes associated with this program type. 08/33: Pending Lot Item if the requirements are qualified			Not Applicable
30	5/1/2009	System Requirement Change	Business	Test Form Development	Creating a blueprint through Item Bank System. Multiple blueprints are possible for a Program, Content Area and Grade Level/Span		Yes	06: MP > This is a new feature	3	All changes to UI prototypes, new rules, updates to document deliverables Additional review sessions that will be needed for 30, 32	Very High
31	5/1/2009	System Requirement Change	Business	Test Form Development	Automatic template creation based on the blueprint. Multiple templates against Blueprints are possible.		Yes	06: MP > This is a new feature	1	All changes to UI prototypes, new rules, updates to document deliverables Additional review sessions that will be needed	High
32	6/1/2009	System Requirement Change	Business	Test Form Development	Copying a blueprint from another blueprint	Can be done alongside the "Creating Blueprint" change request. Refer #30, #6036; Ability to copy a blueprint from the existing Blueprints	Yes	06: MP > This is a new feature	Minor	added in #30	Medium

33	6/12/2009	System Requirement Change	Business	Test Form Development	Regenerating templates - When Blueprints are changed the templates need to be re-generated	NO	605: MP > This is just re using a step used not necessarily re programming	Not Applicable	
34	6/12/2009	System Requirement Change	Business	Test Form Development	TO BE Test Form development - Process-revised changes: Editing of the Test Map (capture key, session, part, relative position, Statistical, positional values and others). Multiple resubmit points	Yes	615: MP > Editing a Blue Print is a new feature requirement and not a new feature 615: MP > Multiple resubmit is part of the development flow	All changes to UI prototypes, new prototypes, business rules, updates to document deliverables Additional review sessions that will be needed 1 additional JAD session and 1 additional Review session 2 sessions estimated	Very High
35	6/12/2009	System Requirement Change	Business	Test Form Development	Item pull list - Program, process and method to select the items in assembling the test map	No	7417: This requirement was later waived by State. This will not be included in the impact assessment 615: MP > This is part of matching statistical criteria. STG to re evaluate and put back.	Not Applicable	
36	6/22/2009	System New Feature	Business	Statistics	Cronbach's coefficient alpha as a summary measure for the item level statistics	No	0708: Appendix A - Item # 35 Cronbach's coefficient - is referred to as projected reliability. 0707: This is not mentioned in Appendix A. This is a new requirement 0630: This will affect already planned curves at the test form level; both on the screens and reports. This was sent to STG in an email from Steve on 06/18 0630: The request is changes to Test Form and Test Map for ELA (Reading and Writing)	Not Applicable	
37	6/22/2009	System New Feature	Business	Test Form Development	Test form development for Reading and Writing is different from that of other content areas	Yes	MP > This is a new feature	High	
38	6/22/2009	System New Feature	Business	Manage Blueprint	Blueprint for Reading and Writing is different from that of other content areas	Yes	MP > This should be part of the previous requirement (437)	High	
39	6/22/2009	System New Feature	Business	Submit Item	Grade point-context	Yes	MP > This is going back to refining the submissions.	Medium	

40	6/22/2009	System	New Feature	Business	Submit Item	Security for media	07/07: Graphics should be accessible only from the Item Bank System - This is a new requirement. Screen to provide download images, maintaining versions of the graphics are new features 06/30: Users will be able to access this media only through the Item Bank application, Impact - Upload, download features 06/30: VMI Impact the following functions - Assign Item, Submit Item, Search Item, Use Case and UI changes will be needed. Workaround is to treat it as Content with a graphic. No impact if workaround is acceptable	No	This is not a new feature.			Not Applicable
41	6/22/2009	System	New Feature	Business	Submit Item	Picture Cards		No	07/08: Add a fifth file type to submit media - "EPS Picture Card" this is optional and is 8.5 X 11. This will be typically be populated only for MI-Access Need further clarification. How a picture is going to effect the functions.			Not Applicable
42	7/7/2009	System	New Feature	Business	Test Forms Development	Pilot Test Forms	07/07: Test form generation for Pilot tests is not mentioned in Appendix A	No	7/17: MP> This is not a new feature. Req # 33 of App A states "System must have version control capabilities so that user can make changes, create multiple test forms and preserve the original". Test Form generation for Pilot tests is part of creating multiple test forms, also refer page 26 and 27 of App A 37/08: State will check Appendix A			Not Applicable/Yes
43	7/7/2009	System	New Feature	Business	Test Forms Development	Released Test Forms	07/07: Test form generation for Released test forms is not mentioned in Appendix A	Yes	7/17:MP > This is a new feature 37/08: State will check Appendix A			High
44	7/9/2009	System	New Feature	Business	Test Forms Development	Create Cycle	37/10: If OEAA is ok with a DB script update there is no impact. Otherwise if this involves developing new screens there will be a design, development and test impact. 37/10: Per the review meeting for change log on 07/08 this is confirmed to be a change.	No	37/10: If OEAA is ok with a DB script update there is no impact. Otherwise if this involves developing new screens there will be a design, development and test impact. 37/10: Per the review meeting for change log on 07/08 this is confirmed to be a change.			Not Applicable
45	7/10/2009	System	New Feature	Business	Item Development Workflow	Committee Review List	Needs new screens to select Committee review members and multiple items for review	Yes	7/17:MP > This is a new feature			Medium
46	7/11/2009	System	New Feature	Business	Item Development Workflow	Field Review List	Per the review meeting for change log on 07/08 this is confirmed to be a change. Needs new screens to select field members and multiple items for review	Yes	7/17:MP > This is a new feature			Medium

AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

July 7, 2009

CHANGE NOTICE NO. 1
TO
CONTRACT NO. 071B9200201

Between
THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance Email: maggarwal@stgit.com	TELEPHONE Anup Popat (248) 643-9010
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 335-4804 Douglas Collier
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE	
CONTRACT PERIOD: From: May 5th, 2009 To: August 15, 2012	
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

NATURE OF CHANGE(S):

Effective immediately, the contract end date is **CHANGED** to August 15, 2012 to allow for additional time to address requirements and changes to the baseline requirement Appendix A. See attached change control request.

AUTHORITY/REASON(S):

Per agreement from DMB-Purchasing Operations and written agreement from the vendor.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: \$2,248,000.00

**State of Michigan
Item Bank System
Change Control Request**

A. General Information

Information to be provided in this section is general in nature and provides the necessary information about the organization of the project and project participants.

Project ID/Acronym:	Item Bank System	Date:	06/09/2009
Controlling Agency:	Department of Education	Modification Date:	06/18/2009
Prepared by:	Sriram Rao, STG Project Manager	Control Number (From Control Log)	CCR-001

B. Requestor Information

Proposed Change Description and References:

The requestor will provide information concerning the requested change along with any supporting documentation.

Background

The purpose of this Change Control Request is to extend the schedule for "Milestone 2a - Requirements Gathering and Functional Design Completed" to address the new requirements and changes to the baseline requirements (Appendix A) identified during the JAD sessions conducted up to 03/03/2009.

Requirements Gathering on the Item Bank System project are being conducted using JAD sessions. During the course of the JAD sessions new requirements and changes to requirements defined in Appendix A were identified. STG has documented the new and changed requirements in the attached



Microsoft Office
Excel Worksheet

requirements change log

State has reviewed the items in the Requirements Change Log. The attached change log records the changes identified till the 03/03 JAD session. Attached change log was reviewed and the changed requirements were confirmed by the State on 03/05/2009.

The items with "Yes" in column M have been accepted by the State as scope changes and have been used to estimate the impact for this Change Control document.

The items with "TBD" in column M are on the Parking Lot and will be reviewed at the end of the requirements gathering. If any of these items are to be treated as scope changes, then a separate CCR will be issued towards the impact caused by those scope changes.

The items with "No" in column M highlighted in Blue are not scope changes as agreed to between State and STG.

The items with "TBD" and "No" in column M were not used for the impact reported under this CCR.

It should be noted that there could be further change requests as additional functional scope changes are discussed during upcoming JAD sessions during the remainder of the "Milestone 2a - Requirements Gathering and Functional Design Completed" stage.

Impact of Not Implementing Proposed Change:

OEAA has initiated the addition of new requirements, change to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

Alternatives:

There are no alternatives identified at this time.

C. Initial Review Results of the Change Request

Initial Review Date: 06/03/2009 Assigned to: STG

- Approve for Impact Analysis
- Reject
- Defer Until:

Reason:

D. Initial Impact Analysis

Baselines Affected:

The baseline scope defined in Appendix A of the Item Bank System contract is affected. Please refer to the contract for Appendix A.

Configuration Items Affected:

The following "Milestone 2a - Requirements Gathering and Functional Design Completed" deliverables will be updated:

- Business Requirements Document
- Use Case documents
- UI Prototype screens
- Logical Data Model
- Requirement Traceability Matrix (initial)
Functional Design Document

Cost / Schedule Impact Analysis Required? Yes No

Impact on Cost:

1. The cost table below provides the calculation for cost towards the extension of schedule by 20 business days. STG has used the agreed upon hourly billing rates stated in section 1.601 of the contract.

Project Resource Plan				
	Requirements (business days)	Total Hours	Rate (per hour) ¹	Tot Amount
Project Manager	20	160	\$125	\$20,000

Senior Enterprise Architect	20	160	\$115	\$18,400
Database Administrator	20	160	\$115	\$18,400
Senior Systems Analyst	20	160	\$95	\$15,200
Senior Programmer Analyst	20	160	\$85	\$13,600
Total		800		\$85,600

In order to preserve the schedule and cost impact specified above, State must accord its approval to this CCR on or before 6/12/2009 authorized through a Purchase Order Amendment from DMB. Any further delays in such approval may further impact the schedule and cost specified above.

Assumptions

1. The impact provided in this change control request is only for the new requirements and changes identified in the 06/05/2009 version of the requirements change log attached to this document.
2. If new requirements and further changes to existing requirements are identified in the upcoming JAD sessions or during the State Review and approval process, STG will assess the impact of those changes in a separate CCR.
3. The impact to Design, Development, Testing, Deployment activities for the new and changed requirements specified in this CCR will be provided at the end of the requirements gathering stage.

Please find the updated Payment Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Original Payment Date (Business days from Start date of Project)	Original Payment (USD)	Revised Payment Date (Business days from Start date of Project)	Payment Per this CCR (USD)
Milestone 1 - Engagement Startup	5	\$75,000	5	\$75,000
Milestone 2a - Requirements Gathering and Functional Design Completed	35	\$276,000	55	\$360,600
Milestone 2b - System Design Completed	55	\$300,000	75	\$300,000
Milestone 3 - Development and Unit Test Completed	95	\$275,000	115	\$275,000
Milestone 4 - System and Integration Testing Completed	115	\$250,000	135	\$250,000
Milestone 5 - User Acceptance Testing Completed	159	\$300,000	179	\$300,000
Milestone 6 - Performance/Load Testing Completed	169	\$75,000	189	\$75,000
Milestone 7a - Deployment Completed	179	\$50,000	199	\$50,000
Milestone 7b - Pilot Completed	201	\$30,000	221	\$30,000
Milestone 7c - Full Rollout Completed	211	\$20,000	231	\$20,000
Milestone 8 - Warranty Completed	277	\$8,000	297	\$8,000

Transition, Maintenance and Support Services Completed	This Maintenance and Support services will commence for a period of 24 months following the warranty period	\$340,000		\$340,000
Enhancements & Scope Change Allocation		\$250,000		\$184,400
Total Contract Value		USD \$2,246,000		USD \$2,246,000

Impact on Schedule:

The "Milestone 2a - Requirements Gathering and Functional Design Completed" will need to be extended by 20 business days for:

1. Additional JAD sessions that will be needed for the new requirements (highlighted in Green) in the attached requirements change log; STG plans to conduct 6 additional JAD and Review sessions towards the identified changes and new requirements
2. Additional time to develop User Interface prototypes for the new requirements (highlighted in Green) in the attached requirements change log
3. Additional time to update the new requirements and changed requirements (highlighted in Green) in the respective use case documents, Business requirements document, Functional Design Document, Requirements Traceability Matrix and Logical Data Model
4. Additional Time needed to conduct STG internal reviews before submission to State
5. Additional time towards State Review sessions for new and changed requirements and potential rework effort to address review feedback.

STG has included in the attached change log an estimate of number of business days of extension needed towards each changed/new requirement (highlighted in Green).

The total impact to schedule towards the above will be 20 business days.

Please find the updated Milestone Schedule in the table below:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Per current Contract (Business days from Start date of Project)	Date of Completion of the Milestone (As per Contract)	Per this Change Control (Business days from the Start date of the project)	Revised Date of Completion of the Milestone (As per CCR-004)
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<p>Milestone 1 - Engagement Startup</p>	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (Initial) • Software Configuration Plan (Initial) • Maintenance Plan (Initial) • Project Planning • Transition checklist • CEASAR criteria • Dependences List 	<p>5</p>	<p>5/15/2009</p>	<p>5</p>	<p>5/15/2009</p>
<p>Milestone 2a - Requirements Gathering and Functional Design Completed</p>	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (Initial) • Requirements Management Checklist • Functional Design Document • Training Plan (Initial) 	<p>35</p>	<p>6/29/2009</p>	<p>55</p>	<p>7/28/2009</p>
<p>Milestone 2b - System Design Completed</p>	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (Initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	<p>65</p>	<p>7/28/2009</p>	<p>75</p>	<p>8/25/2009</p>

Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> • Application Code components • System Integration Test Cases • Test Reports (updated) • Transition Plan (Initial) • Installation Plan (Initial) • Data Migration Output Data 	95	9/23/2009	115	10/21/2009
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • Test Scripts/Test Data • Testing Package • System Test Report (final) • Performance Test Results • Training Checklist 	116	10/21/2009	135	11/19/2009
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • User Acceptance Test Report (final) 	159	12/29/2009	179	1/28/2010
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> • Performance Test Report (final) • Installation Plan (final) • Training Plan (final) • Requirements Traceability Matrix (final) 	169	1/14/2010	189	2/12/2010
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> • Training • Training Manual • User Manual • Installation Manual • Operations Manual • Deployed Application Code • Post Implementation Evaluation Report (Deployment) 	179	1/29/2010	189	3/1/2010
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> • Post Implementation Evaluation Report (Pilot) 	201	3/3/2010	221	3/31/2010
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> • Conversion Plan (final) • Maintenance Plan (final) • Transition Plan (final) • Security Plan (final) • Post Implementation Evaluation Report (Full Rollout) 	211	3/17/2010	231	4/14/2010
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> • Warranty Defects log with list and status of defects 	277	8/18/2010	297	7/19/2010

Transition , Maintenance and Support Services Completed	After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,188.66 for each month for a period of 24 months. This is towards one full time equivalent resource to be assigned by Contractor on-site at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.		6/5/2012		8/16/2012
Enhancements & Scope Change Allocation	<ul style="list-style-type: none"> Towards Optional 2000 hours to be provided towards enhancements and scope changes to be processed through the Change Control Request Process defined in section 1.403 				

Impact on Resources:

The STG Project resources working on the "Milestone 2a - Requirements Gathering and Functional Design Completed" will be extended by 20 business days. Please refer to Impact on Cost section for the list of resources.

Final Review Results:

The "Milestone 2a - Requirements Gathering and Functional Design Completed" will need to be extended by 20 business days in order to address the new and changed requirements identified in the attached Requirements Change Log.

Review Date: 06/09/2009

Classification: HIGH MEDIUM LOW

Impact Analysis Results

Specific Requirements Definition:

Please refer to the requirements change log attached in section B

Resource Requirements	Work Days	Cost
		(in US Dollars)

Project Manager	20	\$20,000
Senior Enterprise Architect	20	\$18,400
Database Administrator	20	\$18,400
Senior Systems Analyst	20	\$15,200
Senior Programmer Analyst	20	\$13,600
TOTAL:	100	\$85,600

Impact of Not Implementing the Change:

OEAA has initiated the addition of new requirements, change to requirements to Item Bank System based on critical business needs. The impact of not implementing the proposed change is that the Item Bank System will not meet critical business requirements.

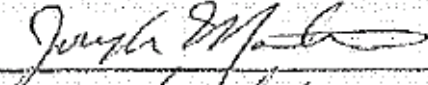
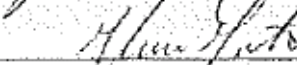
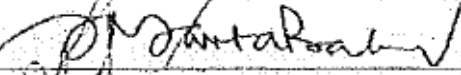
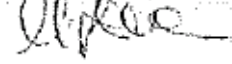
Alternatives to the Proposed Change:

There are no alternatives identified at this time.

Final Recommendation:

The 'Milestone 2a - Requirements Gathering and Functional Design Completed' will need to be extended by 20 business days in order to address the new and changed requirements identified in the attached Requirements Change Log.

Signatures
Governance Body:

Name/Title	Signature	Date
Joseph Martineau, MDE OEAA Director		6/18/09
Glenn Gorton, MDIT Agency Services CSD		6/18/09
Shanta Santaprakash, STG GSD Delivery Executive		6/18/09
Sriram Rao, STG Project Manager		6/18/09

STC ITEM BANK CCR-001
Requirements Change Log

Logged Date	Logged By	Change Type	Requirement Type	Affected Use Case	Appendix A Ref	Depend on	STC Comments	Requirement Change (Yes or No)	MO/CO/EA's Comments	Requirements Impact (business days)	Impact Remarks	Development/Testing/Deployment Impact
1 5/20/2009	Sriram	Requirement Change	Business	Assign Item	5	Multiple Item Assignments in one screen - App A does not specify the need to assign multiple items at a time. Tracking Essay and Short answer CR types - App A does not specify tracking the 2 types of CR items.	SR: Only one screen was estimated for single item assignments at a time	Yes	This is a Change		Will affect Assign Item Use case UI screens not has to be created; Changes to Req deliverables; Additional Review discussions anticipated.	unknown
2 5/20/2009	Sriram	Requirement Change	Business	Assign Item	1	Re-assigning Items - Not in App A	SR: Only one CR item type was estimated	NO	0527: There are no business rule differences between Essay and Short answer. They all fall under CR. Respective length values 0527: This will remain in the parking lot. Reassignment of items will happen one at a time. Only those items that have not been vacated on (not even a draft) can be re-assigned. What if an item was assigned to a writer by mistake? It has to be reassigned. 0527: This requirement is not needed any longer. This is more of a report	2	unknown	
3 5/20/2009	Sriram	New Feature	Business	Assign Item		Re-assigning Items - Not in App A	BK: Reassignment will be both at an item level and also at the assignment level. Business rules will change based on partial completion/draft items. SR: Need more details on item card	TBD				
4 5/20/2009	Sriram	New Feature	Business	Assign Item		Item Card Generation - Not in App A	SR: Business wants the ability to both assign a specific writer and also randomly assign a writer	NO	0608: This requirement is not needed anymore. This is part of requirement # 1			
5 5/20/2009	Sriram	New Feature	Business	Assign Item		Random Assignment of items to item writers	Yes	Yes	This is a new feature		Will affect Submit Item Use case. Impact will be included in other Submit Item use case impacts	unknown
6 5/20/2009	Sriram	New Feature	Business	Submit Item		Multiple Content Standard as writers - Ability for the OEA to specify content standard as written (selecting from library).	Only Passage is included in App A. BK: Context is also spawned off during item creation and follows a workflow	Yes	0527: This will remain in the parking lot. Context is also a Passage 6/5: MP > This is a new feature and removed from the parking lot	minor	New UI screen, business rules, Additional JAD and review session discussions	unknown
7 5/20/2009	Sriram	New Feature	Business	Assign Item		Assign a new Context and Content workflow w.r.t Content being spawned off during item creation	0503: Please see #00, 21, 22. This item can be closed	Yes	0527: This will be similar to request: new graphic. However creation of a media library, playing the media (audio or video), any changes in workflow (from the graphic workflow) are new features Playing audio (calling a program) will be a new feature			unknown
8 5/20/2009	Sriram	New Feature	Business	Submit Item		Request new-audio Media		minor			Included in 20, 21, 22	unknown

STG ITEM BANK CCR-001
Requirements Change Log

9	5/20/2009	SRItem	New Feature	Business	Submit Item		Yes	This is a new feature	All changes to MC, CR UI prototypes. Additional review session discussion and follow up changes 1. participated	unknown
10	5/20/2009	SRItem	Requirement Change	Business	Submit Item	Ability to sort, move up/down, change sort outlines. Automatically specify option as well. Attributes - The number of attributes was not clearly defined in App A.	TBD	06/05 SR: Currently the number of attributes is less than 10. An assessment will be made when all JAD sessions are complete to assess if this is a change. Parking Lot - Need further discussions		unknown
11	5/20/2009	SRItem	New Feature	Business	Submit Item	Ability to input keywords	Yes	This is a new feature	Included in impact to item #14	unknown
12	5/20/2009	SRItem	New Feature	Business	Submit Item	Security for graphics by program	NO	05/27: Item writers will not be able to search for graphics. So this is no longer a requirement. This is no longer a requirement	Minor	unknown
13	5/20/2009	SRItem	New Feature	Business	Submit Item	Ability to add rubric, write a new rubric, rubric library creation	Yes	SR: If these are form fields on the Submit Item for a CR type item, this can be accommodated	Minor	unknown
14	5/20/2009	SRItem	New Feature	Business	Submit Item	Review process for graphics - According to App A, req # 3 graphic was to be reviewed only with an item, no separate review process	Yes	This is a new feature	UI, Use Case changes and additional JAD, review session discussions for #11, 14, 17	unknown
15	5/20/2009	SRItem	New Feature	Business	Submit Item	Ability to review Passage description prior to Passage submission	NO	There is no review process for graphics		unknown
16	5/20/2009	SRItem	New Feature	Business	Submit Item	Content Standard library creation	Yes	This is a new feature	Included in impact to item #14	unknown
17	5/20/2009	SRItem	New Feature	Business	Assign Item	Preview of stem, choices, context separately	Yes	05/27: This is a new feature CEAA to provide additional clarifications	Includes Document deliverable impacts of #17, 19, is part of the 1. assign item	unknown
18	5/20/2009	SRItem	New Feature	Business	Assign Item	Search the content library	NO	05/27: This requirement is modified. There will only be one preview that includes item stem, choices, context. This requirement is covered under previewing the entire item		unknown
19	5/20/2009	SRItem	New Feature	Business	Assign Item	Creation of a media library	Yes	06/27: This is related to change item # 17 (Content Std. library creation). This is no longer a requirement.	Included in impact for #17	unknown
20	5/20/2009	SRItem	New Feature	Business	Submit Item		Yes	S/3: MP > This is a new feature	Included in impact for 21	unknown

STG ITEM BANK CCR-001
Requirements Change Log

Item ID	Date	Stream	Category	Item Type	Description	Impact	Notes	Dependencies	Status
1	5/28/2009	Stream	Business	Submit Item	Media creation and association workflow	Yes	BK: Cross refer #8 Request Media		unknown
2	5/29/2009	Stream	Business	Submit Item	Playing audio (calling a program) will be a new feature	Yes	BK: Cross refer #8 Request Media		unknown
3	5/29/2009	Stream	Business	Submit Item	Creates library of taxonomy	Yes	BK: Only Search for graphics by IWT and Search Item are mentioned in Appendix A. The Item Search cannot be reused for other searches since. For Each search type both the search criteria and search results differ.		unknown
4	5/29/2009	Stream	Business	Search Item	Search Passage, Audio, Context, Published, document, search, Content Standards, taxonomy	Yes	BK: Only Search for graphics by IWT and Search Item are mentioned in Appendix A. The Item Search cannot be reused for other searches since. For Each search type both the search criteria and search results differ.		unknown
5	5/29/2009	Stream	Business	Submit Item	Upload sample image by IWT, one-per image by composition, flagging item for graphic or content change out of the Committee review	Yes	Upload one-per image will not be versioning since the item does not undergo any change at this time. The one-per image will be an added attribute to the item at the time of banking. This particular change can be covered when addressing #10 Flagging of the item after the committee review will indicate whether there is change in the text or in graphic and will be routed to Content Editor or Graphic consultant. The need for routing based on the review comments necessitates this change.		unknown
6	5/28/2009	Stream	Business	Committee Review	Assignment of items to selective committee members from a list. Also multi-item assignment to selective members	Yes	SR: Workaround can be maintaining a committee list at content standard level and forwarding to all of the members of the list.		unknown
7	5/28/2009	Stream	Business	Committee Review	Maintain Committee active list by Program, Subject Area and Grade and Content Standards	TBD	BK: Can be in the parking lot for JAD session on role maintenance. Need to check for item Writer also		unknown
8	5/28/2009	Stream	Business	Committee Review	Changes to Item Development of Workflow Template process from App E: Additional decision points for EFT, FR, PT, selected for PT, Add PT metadata, Selected for FT, Add FT metadata, Selected for CP, Add released booklet metadata, Re-FT decision, Routing changes in FT, routing changes in review	Yes	BK: Additional decision points and routing have been added		unknown
9	8/11/2009	Stream	Business	Test Form Development	New Program Type - MSAP Access	TBD	SR: impact will be minimum if there are no business rules specific to the new Program Type and the changes will only be to the lookup references.		unknown

AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

May 11, 2009

NOTICE
OF
CONTRACT NO. 071B9200201

Between
THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance	TELEPHONE Anup Popat (248) 643-9010
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 335-4804 Douglas Collier
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE	
CONTRACT PERIOD: From: May 5th, 2009 To: May 4th, 2012	
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

TOTAL ESTIMATED CONTRACT VALUE: **\$2,248,000.00**

AUTHORITY: Act 431 of 1984
 COMPLETION: Required
 PENALTY: Contract will not be executed unless form is filed

**STATE OF MICHIGAN
 DEPARTMENT OF MANAGEMENT AND BUDGET
 PURCHASING OPERATIONS
 P.O. BOX 30026, LANSING, MI 48909
 OR
 530 W. ALLEGAN, LANSING, MI 48933**

CONTRACT NO. 071B9200201

Between
 THE STATE OF MICHIGAN and

NAME & ADDRESS OF VENDOR Systems Technology Group, Inc. (STG) 3155 W. Big Beaver Road, Suite 220 Troy, Michigan 48084-3007 Attention: Ms. Mona Aggarwal, VP Finance	TELEPHONE Anup Popat (248) 643-9010 VENDOR NUMBER/MAIL CODE BUYER/CA (517) 335-4804 Douglas Collier
Email:	
Contract Compliance Inspector: Ann Lindberg Item Bank System – MDIT– MDE	
CONTRACT PERIOD: From: May 5th, 2009 To: May 4th, 2012	
TERMS Three (3) one-year options to extend N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION: Estimated Contract Value: \$2,248,000.00	

THIS IS NOT AN ORDER: The terms and conditions of this contract are enclosed.

FOR THE VENDOR:

Systems Technology Group, Inc. (STG)

Firm Name

Authorized Agent Signature

Ms. Mona Aggarwal, VP Finance

Authorized Agent (Print or Type)

Date

FOR THE STATE:

Signature

Greg Faremouth, Director

Name

IT Division

Title

Date

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DEFINITIONS

Days	Means calendar days unless otherwise specified.
24x7x365	Means 24 hours a day, seven days a week, and 365 days a year (including the 366th day in a leap year).
Additional Service	Means any Services/Deliverables within the scope of the Contract, but not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration.
Audit Period	See Section 2.110
Business Day	Whether capitalized or not, shall mean any day other than a Saturday, Sunday or State-recognized legal holiday (as identified in the Collective Bargaining Agreement for State employees) from 8:00am EST through 5:00pm EST unless otherwise stated.
Blanket Purchase Order	An alternate term for Contract as used in the States computer system.
Business Critical	Any function identified in any Statement of Work as Business Critical.
Chronic Failure	Defined in any applicable Service Level Agreements.
Deleted – Not Applicable	Section is not applicable or included in this Contract. This is used as a placeholder to maintain consistent numbering.
Deliverable	Physical goods and/or commodities as required or identified by a Statement of Work
DMB	Michigan Department of Management and Budget
Environmentally preferable products	A product or service that has a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. Such products or services may include, but are not limited to, those that contain recycled content, minimize waste, conserve energy or water, and reduce the amount of toxics either disposed of or consumed.
Excusable Failure	See Section 2.244.
Hazardous material	Any material defined as hazardous under the latest version of federal Emergency Planning and Community Right-to-Know Act of 1986 (including revisions adopted during the term of the Contract).
IBS	Item Bank System
Incident	Any interruption in Services.
ITB	A generic term used to describe an Invitation to Bid. The ITB serves as the document for transmitting the RFP to potential bidders
Key Personnel	Any Personnel designated in Article 1 as Key Personnel.
New Work	Any Services/Deliverables outside the scope of the Contract and not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration.
Ozone-depleting substance	Any substance the Environmental Protection Agency designates in 40 CFR part 82 as: (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or (2) Class II, including, but not limited to, hydro chlorofluorocarbons
Post-Consumer Waste	Any product generated by a business or consumer which has served its intended end use, and which has been separated or diverted from solid waste for the purpose of recycling into a usable commodity or product, and which does not include post-industrial waste.
Post-Industrial Waste	Industrial by-products that would otherwise go to disposal and wastes generated after completion of a manufacturing process, but do not include internally generated scrap commonly returned to industrial or manufacturing processes.
Recycling	The series of activities by which materials that are no longer useful to the generator are collected, sorted, processed, and converted into raw materials and used in the production of new products. This definition excludes the use of these materials as a fuel substitute or for energy production.
Reuse	Using a product or component of municipal solid waste in its original form more than once.
RFP	Request for Proposal designed to solicit proposals for services
Services	Any function performed for the benefit of the State.
Source reduction	Any practice that reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment prior to recycling, energy recovery, treatment, or disposal.
State Location	Any physical location where the State performs work. State Location may include state-owned, leased, or rented space.
Subcontractor	A company Contractor delegates performance of a portion of the Services to, but does not

	include independent contractors engaged by Contractor solely in a staff augmentation role.
Unauthorized Removal	Contractor's removal of Key Personnel without the prior written consent of the State.
Waste prevention	Source reduction and reuse, but not recycling.
Waste reduction and Pollution prevention	The practice of minimizing the generation of waste at the source and, when wastes cannot be prevented, utilizing environmentally sound on-site or off-site reuse and recycling. The term includes equipment or technology modifications, process or procedure modifications, product reformulation or redesign, and raw material substitutions. Waste treatment, control, management, and disposal are not considered pollution prevention, per the definitions under Part 143, Waste Minimization, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended.
Work in Progress	A Deliverable that has been partially prepared, but has not been presented to the State for Approval.
Work Product	Refers to any data compilations, reports, and other media, materials, or other objects or works of authorship created or produced by the Contractor as a result of an in furtherance of performing the services required by this Contract.
ABO	Activity Based Observations
API	Application Programming Interface
AD	Answer Document - A multi-sheet document upon which students record their responses to an assessment
AN	Anchor
AYP	Adequate Yearly Progress
BSC	Bias Sensitivity Committee
CAC	Content Alignment Committee
CR	Constructed Response
DFA	Directions For Administration
DOK	Depth of Knowledge
EFT	Embedded Field Test
EGLCE	Extended Grade Level Content Expectation
EHSCE	Extended High School Content Expectation
ELL	English Language Learner
ELPA	English Language Proficiency Assessment
ER	Extended Response
FT	Field Test
Field Test Item	Items waiting to be tried-out, or waiting for decision from the try-out, with a demographically representative sample of students for which the items were designed.
GLCE	Grade Level Content Expectation
HSCE	High School Content Expectation
IDEA	Individual with Disabilities Education Act
IDT	Item Development Team
IRT	Item Response Theory
Item Writers	Professionals who write Items
IWT	Item Writing Team
LDL	Linguistic Difficulty Level
MC	Multiple Choice
MDE	Michigan Department of Education
MDIT	Michigan Department of Information Technology
MEAP	Michigan Educational Assessment Program
MEAS	Michigan Educational Assessment System
MI Access	Michigan Alternate Assessment Program
MME	Michigan Merit Exam
NCLB	No Child Left Behind
OEAA	Office of Education Assessment and Accountability
OFT	Operational Form Test
OP	Operational
PFT	Pilot Form Test
PT	Pilot Test
Pilot Test Item	Items waiting to be tried-out, or waiting for decision from the try-out, with a small sample of students for which the items were designed.
SA	Short Answer

SCAS	Secondary Credit Assessment System
SEM	Standard Error of Measurement
SIF	Schools Interoperability Framework
SOM	State of Michigan
STG	Systems Technology Group, Inc.
SWD	Students with Disabilities
Test Booklet	A document used in assessing end-users that contains the test items.
TCC	Test Characteristic Curves
TIF	Test Informative Function

Article 1 – Statement of Work (SOW)

1.000 Project Identification

1.001 Project Request

This contract is a fixed price/deliverable based contract to develop and maintain a dynamic Item Bank system for all of Michigan Department of Education (MDE) and Office of Education Assessment and Accountability (OEAA) assessment programs: English Language Proficiency Assessment (ELPA), Michigan Educational Assessment Program (MEAP), Michigan Merit Exam (MME), Michigan Alternate Assessment Program (MI-Access) and Secondary Credit Assessment System (SCAS). This project will include business requirements, design, development and implementation, training, and maintenance & support. Services for future enhancements are also included.

1.002 Background

Information contained in section 1.002 Background is for information purposes only. Specific scope items pertaining to the functional and technical scope of the system are specified in section 1.100 Scope of Work and Deliverables.

OEAA is responsible for the development, administration, scoring, and reporting of all statewide educational assessment programs for K-12 students, including

1. The Michigan Educational Assessment Program (MEAP),
2. MI-Access, Michigan's Alternate Assessment Program, and
3. The Michigan English Language Proficiency Assessment (ELPA) for English language learners (ELL).
4. The Michigan Merit Examination (MME) for Michigan High School Students.
5. Secondary Credit Assessment System (SCAS)

OEAA is also responsible for assessment and accountability reporting, including, but not limited to the list below.

1. The State of Michigan's EducationYes! school accreditation system;
2. The Federal No Child Left Behind (NCLB) accountability system;
3. The Federal Individuals with Disabilities Education Act (IDEA);
4. Section 504 of the Federal Rehabilitation Act;
5. Special reports for legislators, educators and other stakeholders;
6. Data for Michigan Department of Education programs, and other state agencies; and
7. External research requests.

The visibility and high-stakes nature of the OEAA assessment and reporting activities necessitate exacting timelines that allow for no deviations in procedures or delays in timelines for either the assessment development or assessment administration activities.

The State currently relies on contractors to maintain the platform for development of and the inventory of test items (Item Bank) that are used to create the various state provided tests such as ELPA, MEAP, MME, MI-Access and SCAS. Test items are the individual questions within each test (for multiple choice items this will also include the answer options). Michigan works with various educational professionals to create new items to populate the Item Bank. Each test item has various statistics linked to it that show how well students were able to understand and respond to that item from small-scale sampling (pilot and field tests) to operational testing. Each item is also identified as to which curriculum standard and grade level that item would be used to measure students' proficiency. Most items are reviewed by formal committees with representatives from various demographics and content specialization to ensure fairness prior to, and following, each small-scale sampling. In developing assessments from the Item Bank contents, consideration of data from both the statistical and content/curriculum domains helps to ensure psychometrically sound tests.

Test Items have two general categories; multiple-choice (MC) items and constructed-response (CR) items. MC (a.k.a. selected response) items have a prompt that may, or may not, be related to a passage and two or more answer options for the test taker to choose from. CR (a.k.a. open-ended) items also have a prompt that may, or may not, be related to a passage but requires the test taker to create their own answer. Any passage and item may include graphics either in the stem of the item or in the options from which students select their responses.

Most of the vendors that provide these services do not have a dynamic Item Bank system. They rely on manual record keeping and simple spreadsheets to keep track of test items. This results in lengthy lead-time to create each test form. Each vendor has their own system with a result of transitioning from one vendor to another being very lengthy and problematic. Therefore, a dynamic item development, Item Banking and test development system is needed to improve the efficiency of item and test development as well as reduce the state's reliance on contracted services.

The purpose of this project is to develop and maintain a dynamic test bank system for all of Office of Education Assessment and Accountability (OEAA) assessment programs: English Language Proficiency Assessment (ELPA), Michigan Educational Assessment Program (MEAP), Michigan Merit Exam (MME), Michigan Alternate Assessment Program (MI-Access) and Secondary Credit Assessment System (SCAS). The goal is to build a system that will allow for the creation and tracking of edits and various other attributes of assessment items, as well as to create its own assessment forms based on readily available information from its development and psychometric models built into the system. Additionally, the system should restrict the amount and type of information available to each user through an end user security structure.

Work that is currently done manually that will be automated in this project includes:

- Item Writers submitting items
- Review and approval process of the items and test booklets
- Design and composition of test booklets
- Changes made to one item in a particular test booklet must reflect the changes in all the booklets that have that item.
- Customized item maps need to be designed and built into the system
- Items need to be classified and mapped based on many criteria.
- Inventory of what items are available by content standards, dates released etc.
- Status of each item is updated when it is completed (Life cycle of the Item) so that it can be released
- Updating of aggregate item statistics after each cycle while maintaining cycle specific statistics for further comparison purposes.
- While test items are selected for new forms, item statistics from the aforementioned dynamically generated item maps create graphic and tabular rendition of the test characteristic curves (TCCs) and test information functions (TIFs).
 - Multiple cycles may be simultaneously selected to allow direct comparisons of current and historic TCCs and TIFs

The State seeks to have services begin upon execution of the Contract, with an implementation of the new modular system(s) to follow a mutually agreed upon project schedule. The system design, development and implementation will have a mutually agreed upon methodology after a detailed requirements study has been conducted.

1.100 Scope of Work and Deliverables

1.101 In Scope

The Contractor will provide the following services and deliverables for the complete and successful implementation of the system providing the functionality required for the business operations for the State's Item Bank System:

1. Perform detailed requirements gathering which would include existing and enhanced functionality.

- a. This will involve analyzing the existing state systems and vendor systems and understanding all business and technical requirements
 - b. Functional Requirements Document for the systems that has been agreed to and approved by the appropriate State entities.
2. Develop a scalable, modular, flexible system that are fully web-based, using open architecture and a relational database management system.
3. Extract, Clean, Convert and migrate all current data from the state system and also multiple vendor systems in to the Item Bank.
4. Design, Development, and Implementation (DDI) of the systems, project management and support services and:
 - a. functionality required to support Michigan program requirements
 - b. quality assurance
 - c. user, local agency and state program staff training
 - d. technical knowledge transfer
 - e. assist with business process change management
 - f. risk mitigation
 - g. support and maintenance
 - h. system and process documentation
5. Secure transfer and exchange of data over the Internet among users using multiple file formats, including Extensible Markup Language (XML) and Comma Separated Values (CSV) file formats.
6. Provide tools for pulling and/or pushing data from the Item Bank to local and other state agency systems. Note that this includes providing an API or SIF agent for the system.
7. Provide training for 6 technical staff and 10 trainers of the Item Bank system.
8. Provide detailed technical and end user documentation of the Item Bank system.
9. Initial implementation (deployment) on a "pilot scale" that runs parallel with existing production systems.
10. Provide 90 calendar days after completion of the Full Rollout Milestone Completed to identify defects that will be covered under the warranty.
11. .Transition period post-implementation to include:
 - a. Structured take-over of operations and maintenance by the State
 - b. Provide guidance to State as it performs business operations
 - c. Provide requested enhancements to system, if any
 - d. Perform application software maintenance, troubleshooting assistance, and requested enhancements while training MDIT staff to take over these roles.
 - e. Address low severity defects that did not affect the new system going into production.
 - f. Transfer knowledge and work with assigned MDIT personnel
12. One (1) year of maintenance services beyond implementation, with two (2) one (1) year extensions.
 - a. Provide one Full-Time Equivalent (FTE) onsite to perform requested maintenance and enhancements or troubleshoot system defects under the direction of MDIT/MDE and assure smooth daily operations.
13. Optional block of hours for future enhancements and/or legislative mandates
14. Provide the State timely notification of recommendation of any additional hardware and software requirements including the number of licenses that are not specifically outlined within the Software Recommendation/Requirements of the functional solution overview section of this Contract. Contractor will provide such notification at the end of System Design Milestone.

1.102 Out of Scope

The following items (inclusive and not limited to) are considered out-of-scope for this Project:

1. Any hardware or software needed will be procured by the State, unless mutually agreed upon through the change control process (see section 1.403 Change Management).
2. Installation of hardware onto the state's network and installation of software onto state-owned servers will be performed by state personnel. If Contractor assistance is necessary, arrangements will be made for the Contractor to participate in installation with state personnel.
3. Performance of any application enhancement, bug-fixing activities of the existing applications.

4. As clarified in the State's responses to vendor questions, Contractor will not provide any Help Desk Support.
5. In the completed Item Bank System there will be no need for system driven second language translation of test items or data elements or labels or other text elements. Contractor will not be responsible for any translation related activities. Although, the system must provide the ability to store text in other target languages (i.e. Spanish and Arabic). The text can be stored in isolated fields that can retain the target languages' unique characters.

What is expressly not stated in scope within this contract is out of scope and can be addressed through the Change Management process as needed.

1.103 Environment

The links below provide information on the State's Enterprise IT policies, standards and procedures which includes security policy and procedures, IT strategic plan, eMichigan web development and the State Unified Information Technology Environment (SUITE).

The State has methods, policies, standards and procedures that have been developed over the years. Contractor will provide solution that conforms to State IT policies and standards. All services and products provided as a result of this contract must comply with all applicable State IT policies and standards as of December 4th, 2008 to the extent described in the Technical Solution section under section 1.104 Work and Deliverables. The Contractor awarded the contract must request any exception to State IT policies and standards in accordance with MDIT processes. The State may deny the exception request or seek a policy or standards exception.

Contractor has reviewed all applicable links provided below as of December 4th, 2008 and agrees to be in compliance.

Enterprise IT Policies, Standards and Procedures:

<http://www.michigan.gov/dit/0,1607,7-139-34305---,00.html>

All software and hardware items provided by the Contractor must run on and be compatible with the MDIT Standard Information Technology Environment. Additionally, the State must be able to maintain software and other items produced as the result of the Contract. Therefore, non-standard development tools may not be used unless approved by MDIT. The Contractor must request, in writing, approval to use non-standard software development tools, providing justification for the requested change and all costs associated with any change. The State's Project Manager and MDIT must approve any tools, in writing, before use on any information technology project.

It is recognized that technology changes rapidly. The Contractor may request, in writing, a change in the standard environment, providing justification for the requested change and all costs associated with any change. The State's Project Manager must approve any changes, in writing, and MDIT, before work may proceed based on the changed environment.

Enterprise IT Security Policy and Procedures:

<http://www.michigan.gov/dit/0,1607,7-139-34305-108216--,00.html>

The State's security environment includes:

- Single Authentication System as specified in Appendix B
- MDIT provided SQL security database.
- Secured Socket Layers.
- SecureID (State Security Standard for external network access and high risk Web systems)

MDIT requires that its single - login security environment be used for all new client-server software development. Where software is being converted from an existing package, or a client-server application is being purchased, the security mechanism must be approved in writing by the State's Project Manager and MDIT's Office of Enterprise Security.

Any additional Agency specific security requirements above and beyond the enterprise requirements and standard terms and conditions stated in Article 2 must be provided as part of the Agency Specific Technical Environment.

IT Strategic Plan:

<http://www.michigan.gov/dit/0,1607,7-139-30637-135173--,00.html>

IT eMichigan Web Development Standard Tools:

http://www.michigan.gov/documents/Look_and_Feel_Standards_2006_v3_166408_7.pdf

The State Unified Information Technology Environment (SUITE):

Includes standards for project management, systems engineering, and associated forms and templates – must be followed: <http://www.michigan.gov/suite>

Agency Specific Technical Environment

- *Hardware Listing* –
 - Multiple HP Proliant DL380 G3 with 2 (Intel Xeon 3.06 GHz)Dual-Core; 4 GB memory; 3 X 36 GB Hard drives; RAID 5; Load balanced via content switch;
 - Multiple HP Proliant DL560 G1 with 4 (Intel Xeon 2.0 GHz)Dual-Core; 4 GB memory; 3 X 36 GB Hard drives; RAID 5; Load balanced via content switch
- *Operating Systems* – Windows 2003, Internet Information Services 6.0
- *Desktop Workstations* – Dell Pentium with Windows XP
- *Software Listing* –
 - VB.Net 2.x and 3.0 framework
 - C#.Net 2.x and 3.0 framework
 - ASP.Net 2.x and 3.0 framework
 - HTML
 - JavaScript
 - XML
 - MS Office 2003
 - Microsoft Project
 - Visio
- *Database* – MS SQL Server 2005
- *Network* – MS Active Directory
- *Browser* - Internet Explorer 6.x and 7.x, Firefox
- *Reporting tools* - SQL Reporting Services 2005
- *Interfaces* – *State of Michigan's eMichigan Standards*

State will provide to Contractor team necessary hardware and software for Contractor personnel for use during their visits to State facilities during various periods in the project. See Work Location Section 1.201 A (Location of Work) for details on project stages when Contractor team will work out of State facilities.

1.104 Work and Deliverables

A. Functional Solution/Requirements

In this statement of work and throughout this contract the term Michigan Department of Education (MDE), Michigan Department of Information Technology (MDIT) will also include the State of Michigan (State) and the term Contractor refers to Systems Technology Group Inc. (STG)

Contractor shall provide Deliverables/Services and staff, and otherwise do all things necessary for the complete and successful implementation of an Item Bank System providing the functionality required in accordance with the approved business requirements and technical design documents approved during the course of this project.

Contractor's solution addresses all the business requirements listed in Appendix A and B. Contractor has carefully analyzed the process requirements and modeled the application components accordingly.

Overview

Based on the IBS requirements, Contractor has identified 7 key modules. They are:

- Item Development Module
- Item Review and Approval Module
- Test Form Development Module
- Statistical Analysis Module
- Security Module
- Reports Module
- Global Functionality Module

The following sections depict the functional grouping of the Item Bank System (IBS) application, as per CONTRACTOR's understanding.

Item Development Module

This module consists of functionality that will let OEAA provide assignments to:

- Item Writers
- Passage Writers
- Graphic Artists

The items are for five assessment programs:

- English Language Proficiency Assessment (ELPA)
- Michigan Educational Assessment Program (MEAP)
- Michigan Merit Exam (MME)
- Michigan Alternate Assessment Program (MI-Access)
- Secondary Credit Assessment System (SCAS)

The item writers, passage writers and graphic artists will then develop their respective deliverables and will be able to submit them online for review and approval by OEAA. The system will also permit the users to review comments of the review committee, and resubmit their revised deliverables. The system will generate a unique identified for each item, passage that has been submitted by the users. Item writers will be able to develop and upload 3 types of items - Constructed Response, Selected Response (Multiple Choice), Activity Based Observation.

The item writers will be able to search for items by giving a specific value or a range of values or a phrase or with a wild card value. The item writers will also be able search for graphic items that match their items and select the appropriate graphic. If there is no suitable graphics present in the database, then Item writer will be able to create a request from within the system for a graphic with a description of the graphic for the particular item.

Item Review and Approval Module

This module will consist of workflow functionality that will let OEAA forward the items (along with the graphics, prompts) submitted by the writers to the members of two committees - Bias Sensitivity Committee (BSC) and Content Alignment Committee (CAC). The committee members will be able to review the items, make comments, but will not be able to edit them. Based on the comments or suggestions made by the committee members, OEAA will be able to reject or approve the item. The OEAA will also be able to mark the item for revision which will enable the Item Writer to revise and resubmit the item for further review.

The review and approval process may happen at various different stages of the item development process:

- Item Development
- Item Banking

- Pilot Test
- Field review

If an Item or a Passage is rejected after review, such item or passage will be flagged as “Do Not Use” and will not be available for testing. The item or passage will however be still available in the database. All items that have been approved for further testing will be stored in the Item bank.

Additionally:

- OEAA users will be able to apply formatting to items, add item attributes. This capability will be provided using up to ten (10) Item format templates in the system, where an item format template refers to a variation in an item appearance characteristics.
- OEAA will mark each item on a case-by-case basis for a Pilot test or Field Test
- OEAA users will be able import statistics of an Item from the Pilot Test, Field review or operational test and linked to the item
- OEAA will be able to forward the Pilot tested or field reviewed items along with the statistics to the Committee members
- OEAA users will be able to mark items that were in operational assessment as “Operational Item”
- OEAA users will be able to mark items that were released to the public as “Released”. Released items will not be available for further testing and will remain in the database.
- System will also have workflow capability to review and approve the test booklets
- System will also maintain dates of Pilot, Field, and Operational Tests

Test Form Development Module

This module will consist of functionality that will let OEAA users develop test forms dynamically for all assessments based on test blueprints. The test forms will consist of:

- Answer Document (AD)
- Test Booklet (TB)
- Directions for Administration (DFA)

OEAA user will be able to select the items (and associated images) from the item bank to meet the content and process specifications of the assessment blueprints. The OEAA users will be able to assess the statistical characteristics of the selected assessment items, drag and drop them into a template to create item maps and assessment forms. All the associated information of the item (like graphics, directions, statistics etc) will be dropped into the template.

The users will be able to select an item from the item bank using a web-based test composition system and drag-drop the item to create test booklets (HTML format) which can then be saved within the system. The system will map the test items associated with a test booklet utilizing one predefined formatting template with necessary output layouts. The test booklet can then be converted to a PDF format as necessary.

Some attributes, such as the projected item characteristic curves, will be generated as the items are selected and will be available with the selected test maps.

Based on the statistics of the items selected, the system will also provide the anticipated test form characteristics such as:

- Projected Test Information Functions
- Projected Conditional Standard Error Curves
- Test Characteristic Curves
- Raw-To-Scale-Score lookup tables (if applicable)
- Projected reliability
- Comparisons to previous versions of assessments

Additionally, the system will provide information to develop test forms, review assessment blueprints for the operational assessments, select assessment items to meet the content and process specifications of the assessment blueprints; assess the statistical characteristics of the selected assessment items. OEAA users will be able to make changes to items from test booklets. Since the changes will be made to the items they will be available across all test booklets that have the item.

Statistical Analysis Module

This module will consist of the Statistical Analysis functionality that can be performed on the item statistics received from different tests (Pilot, Field and Operational) by an OEAA user (Psychometrician).

The statistical analysis will include:

- Item standard deviations
- Item p-values and adjusted p-values
- Item-total score correlations for both the correct and incorrect responses
- For constructed response items the percent of students in each score level (N counts used to determine those percentages)
- Provide Item Response Theory (IRT) parameters (a, b, and c when appropriate along with associated standard errors)
- Graphical representations of item statistics, such as Item Characteristic Curves
- Differential Item Functioning (DIF) statistics and graphics
- Item fit statistics
- Anticipated test form characteristics based on the statistics of the items selected, such as projected Test Information Functions, projected Conditional Standard Error Curves, Test Characteristic Curves, Raw-To-Scale-Score lookup tables (if applicable), projected reliability (based on conditional standard error), and comparisons to previous versions of assessments to enhance equating quality.

Security Module

This module will comprise of the authorization layer that will create and edit user profiles, assign users to roles using a role based functional access. OEAA users that have the super user role (typically a Security Administrator) will be able to assign roles and responsibilities of the individuals at OEAA and other users of the system. Based on the assigned roles, each user will have access to the appropriate functionality. During the requirements development phase a detailed list of user roles and a user role to function mapping will be created..

This module will also comprise of the authentication layer that will interface with the State approved authentication system (MEIS or Tivoli) to let users register and log in.

Reports Module

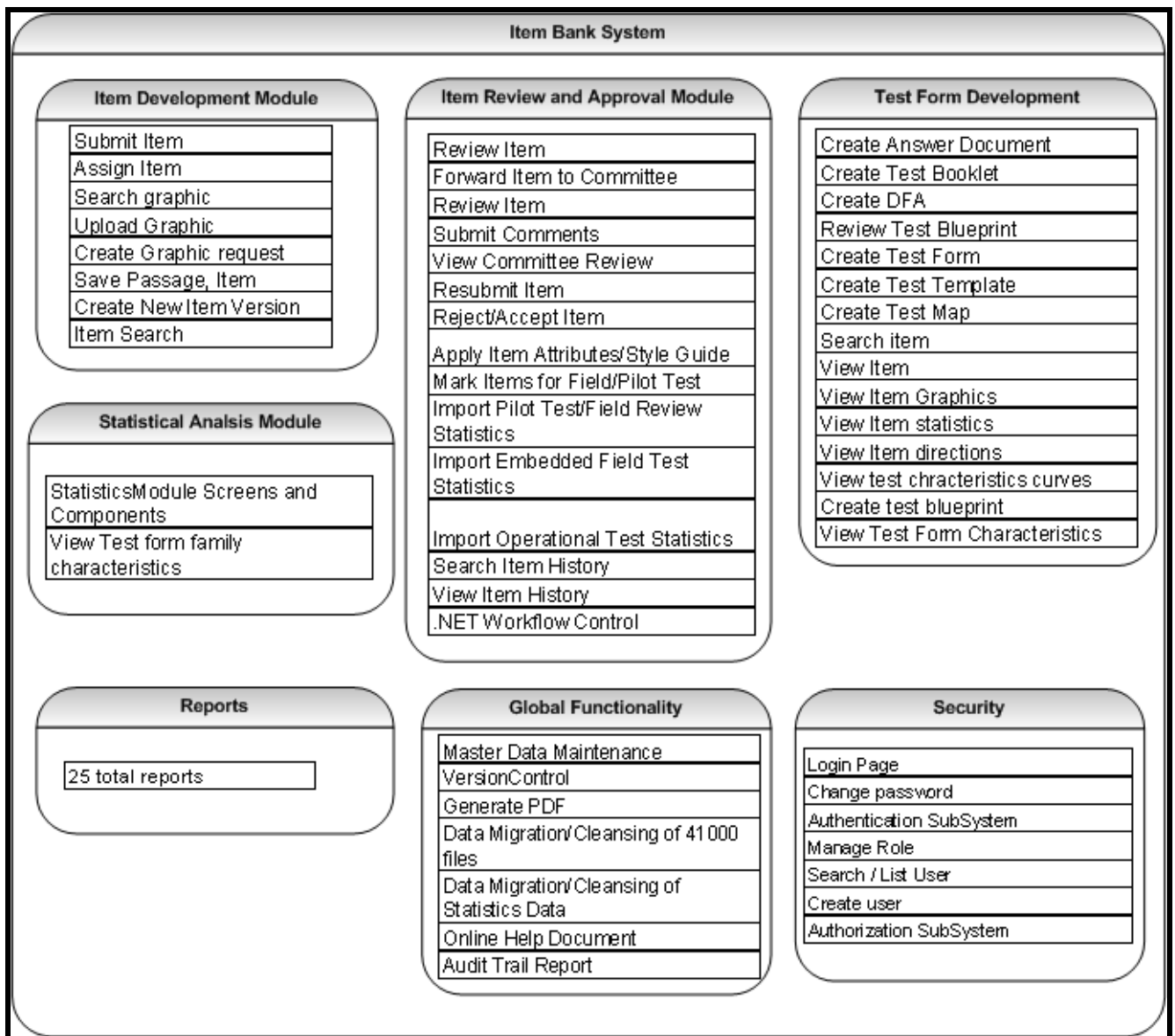
OEAA users will be able to generate reports (maximum of 25 reports – as per State’s response to vendor question # 54) based on the data available on the IBS database. The reports can be standard batch reports or reports that are generated in real-time out of a preselected set of parameters that can be specified in real-time. The report requirements will be gathered during the requirements development phase of the project.

Global Functionality Module

This module consists of Global functionality that affects all modules. They include:

- Master Data Maintenance - This will consist of screens that will be used to customize pre-selected list of business rules. The list of business parameters that can be customized will be identified during the requirements development phase.
- Online Help Document - CONTRACTOR will develop an Online Help document to provide screen and field-level help. It will also provide details on business rules specific to the screen and the actions that can be performed by the user.

- Version control capability - System will have version control capabilities so that user can make changes, create multiple test forms, test items and still retain the original version. System will store the following data for each version of the item:
 - Created by
 - Comments
 - Commented by
 - Updated by
 - Rejected by
 - Approved by
 - Time stamps of when the version was created
- PDF Generation - OEAA will be able to develop a PDF version of test booklets for printing purposes
- Audit Trail reports



B. Technical Solution / Requirements

Contractor's proposed technical solution addresses the requirements of the State as a custom developed .NET enterprise web application. This architecture will further be refined based on discussions with MDIT staff and final architecture approval will be obtained from MDIT and MDE staff.

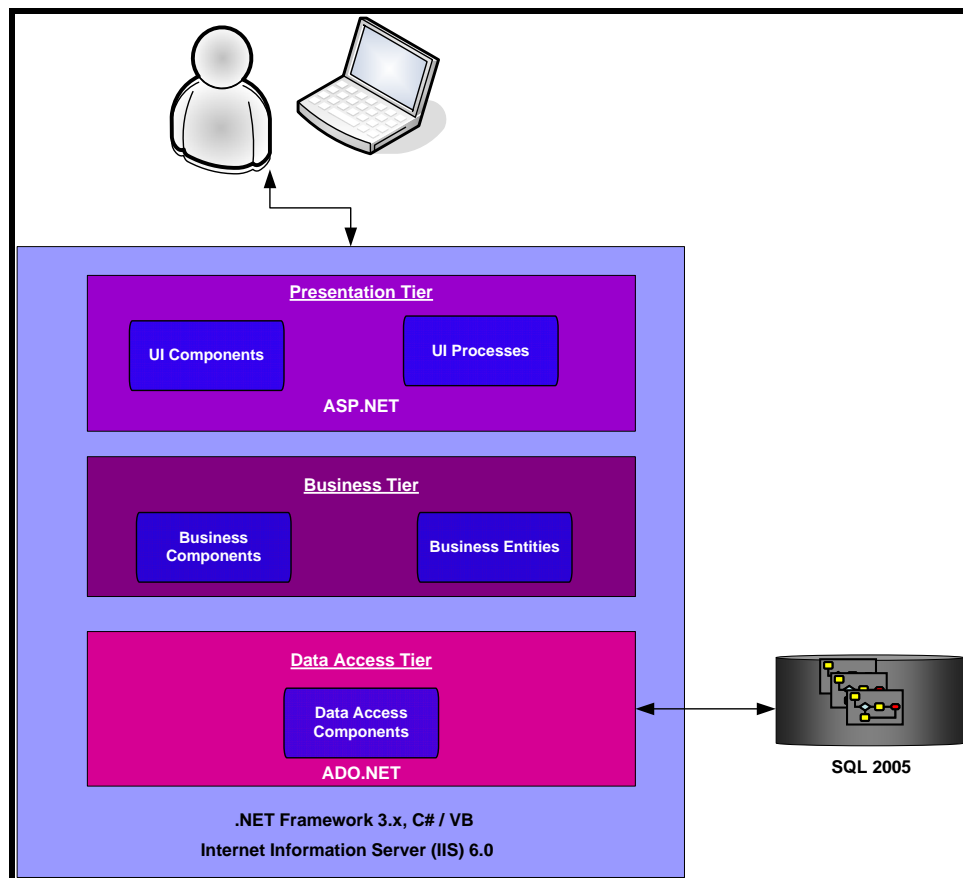
The application will be built on Microsoft's .NET Framework 3.x as requested by State to vendors question and answers. It will be designed for deployment on Microsoft's Windows 2003 with IIS 6.0. It will use SQL Server 2005 as a back-end database to store and retrieve the data required. The application will use Microsoft's ADO.NET as the data layer with .NET framework Data Provider for SQL Server as the data provider.

Application Architecture Approach

This includes the system and database design. Tasks include but are not limited to the following:

To support such operational requirements as maintainability, reusability, scalability, robustness, and security of the application, it is imperative to logically design the system as a three Layered Services Application. All of the goals mentioned above can be achieved by basing the application on three layers: presentation, business, and data; along with components that implement the security, operational management, and communication policies needed for the application.

The following section provides an insight into the responsibilities of each layer, while highlighting the types of components that compose each layer: The application will primarily be composed of a Presentation tier, Business Service tier and Data access tier. The following diagram represents the different tiers.



The specific responsibilities of each layer are:

Presentation Tier

The presentation layer will provide the application with an intuitive and interactive user interface. Its responsibility will be to format and display data extracted from the lower layers and to capture and validate data supplied by users. CONTRACTOR will follow the State's UI standards for the presentation layer.

This layer will be composed of two types of components:

- User Interface components: These components primary responsibility is to render the presentation to the user.
- User Interface Process Components: These components deal with the presentation logic for providing navigation through web pages.

Business Tier

Business tier consist of business components and entities. The Business Components and Entities contain the business logic and manage the transactions. Business components implement business rules and perform business tasks. Business Entities are used to pass data between components.

Data Access Tier

Data Access Components will abstract the semantics of the underlying data store and data access technology. The data access logic component will typically provide methods to perform Create, Read, Update, and Delete (CRUD) operations relating to a specific business entity in the application. These methods will be designed to be used by the business layer and at times by the user interface components to render reference data.

Microsoft Enterprise Library 3.x

Microsoft Enterprise Library 3.x is a collection of reusable software components (application blocks) from Microsoft designed to assist software developers with common enterprise development challenges (such as logging, validation, data access, exception handling, and many others). If this is allowed as per State's standards, CONTRACTOR will make use of this library. If this library is not allowed, CONTRACTOR will develop custom components.

Solution for key technical requirements

Upload Graphical Attachments

CONTRACTOR's proposed solution for graphical attachments is to save link to the scanned documents in the database tables. As an alternative, the uploaded files will be compressed and stored as a binary in the SQL Server 2005 database tables. Either solution does not include scanning of the uploaded files for viruses. CONTRACTOR will work with the State Technical experts to determine a suitable solution.

Data Migration

CONTRACTOR will use SQL Server Integration services to extract, transform and load (ETL) data from the existing files to the new system. The following data will be migrated:

- 20,000 MEAP
- 10,000 MI-Access
- 5,000 ELPA
- 5,000 MME
- 1,000 SCA

Please refer to the Data Migration Approach provided below for details on how CONTRACTOR will perform cleansing, mapping and migration of the data.

Psychometric Information

CONTRACTOR will use third party statistics software to provide the Statistical analysis information on this project. The possible third party software that can be used are:

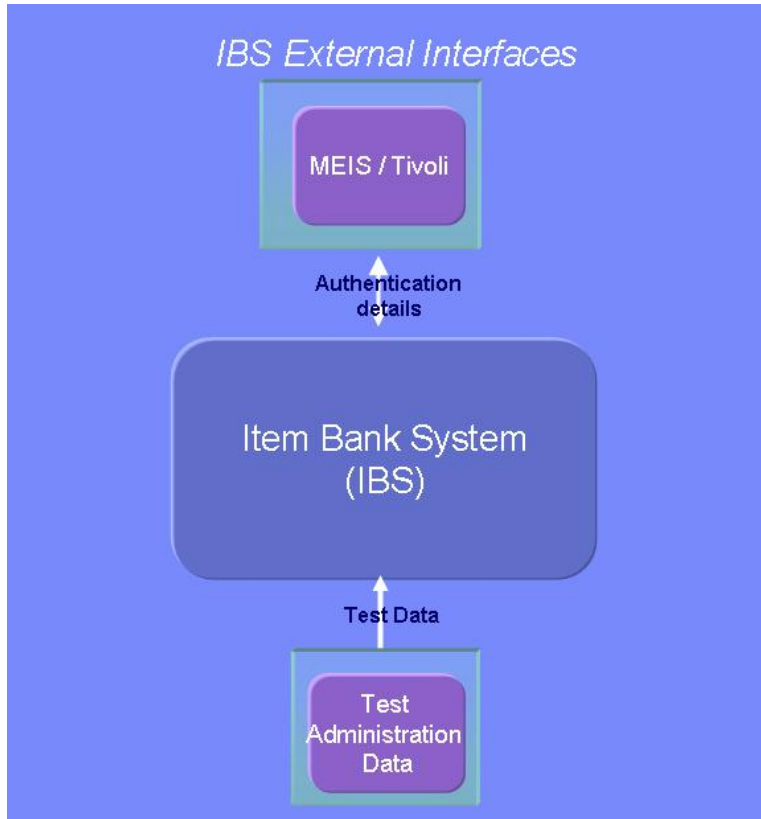
1. SAS – SAS statistics provides a wide range of statistical software, ranging from traditional analysis of variance to exact methods and dynamic data visualization techniques. It has multiple modules such as SAS/STAT, SAS/IML, SAS/GRAPH that can be used to provide the information and reports necessary for the project.
2. ConstructMAP - ConstructMap (formerly GradeMap) is a graphical, menu-driven software package that combines a multidimensional Item Response Theory (IRT) engine for estimating item and person parameters with tools for managing cross-sectional and longitudinal student response data and interpreting findings from such data. This statistical software package is

specifically written for Item Data Analysis and can quickly provide most of the Project requirements information and reports.

CONTRACTOR will work with the OEAA Psychometrician and MDIT Technical staff during the Design phase of the project to choose an appropriate tool based on the constraints, needs of the agency.

External Interfaces

The IBS interfaces with several external systems are represented below.



The following table identifies IBS interfaces with external systems.

Item Bank System (IBS) External Interfaces	
Interface Name	Interface Description
Test Admin Data	Data from test administration will be loaded into the IBS Database via a Batch process
MEIS / Tivoli	The Authentication layer will be implemented as an interface to the MEIS system or Tivoli based on MDIT recommendation. The State is in the process of replacing MEIS (MDE's preferred solution) with Tivoli. State will identify a suitable authentication system prior to the commencement of the System Design phase.

Software Recommendation/Requirements

Please find the software (and associated versions) that CONTRACTOR recommends be used on the Project. CONTRACTOR has validated the list with the environment information provided in accordance with the provisions of section 1.103. CONTRACTOR will work with the State to finalize the list during the design phase of the project. CONTRACTOR will also work with the State to decide the development language (C# or VB.NET).

Components	Software Version
Web Server	IIS 6.0

Application Server	Windows 2003 Server
Database	SQL Server 2005
Development Language	VB.NET / C#
Web Technologies	ASP.NET, XML, Javascript, HTML
Reports	SQL Reporting Services 2005
Statistical Analysis	SAS Analytics / ConstructMAP
IDE (Integrated Development Environment)	Visual Studio 2005 / 2008
.Net Framework	2.x or 3.0
Network Protocol	TCP/IP, HTTP, HTTPS
Transport	HTTP
Email Notifications	SMTP
Network	MS Active Directory and State email id
Office Productivity Software	MS Office 2003, MS Visio
Project Schedule Reporting	MS Project
Look and Feel Standards	State of Michigan eMichigan standards
Testing Tools	State will provide all necessary testing tools for contractor to execute load and performance/Load tests.
ETL Tools	SQL Server 2005-SQL Server Integration Services
Virtual Private Network	Software and tools needed for contractor personnel to access State environment thru VPN access
Configuration Management Software	Software and tools towards maintaining and managing software configuration including version control and check-in/check-out capability
Batch Job Scheduling Tools	Software and tools for scheduling batch jobs
Internet Access	Access to Internet Resources for onsite contractor personnel

C. Services

The following paragraphs provide details on some of the specific services contractor will provide during the project.

Contractor Data Migration Strategy

CONTRACTOR understands that data migration from the existing files is critical to the success of the project. Based on the information provided, there are 2 sets of data that need to be migrated:

1. Item, graphics data - Most test items are stored in either, MS Word, Quark, or Adobe Indesign formats. It includes 41000 items/ files - 20000 MEAP, 10000 MI-Access, 5000 ELPA, 5000 MME, and 1000 SCA. For these items, as specified the State will undertake to obtain the above data from NCS Pearson and Questar in a structured format consistent with the new system data model so that Contractor can load them same into the new system with appropriate transformation.
2. Statistics data – In addition to the above, the State also has Statistics data from past assessments. The section below describes Contractor approach to migrate this data from the current database to a new target system database. CONTRACTOR will work with the technical resources at the OEAA to understand the current data structure and tailor the approach defined here to meet the data migration needs at MDE.

CONTRACTOR will use SQL Server Integration services to extract, transform and load (ETL) data from the statistics database to the new system. CONTRACTOR will perform a design of the new database during the System Design phase. During this phase, CONTRACTOR DBA will identify data to be extracted from the Statistics database and cleansed. During application development CONTRACTOR will map the statistics data to the new system data structure. CONTRACTOR will also work with State to perform data conversion, load and configure data to new the database structure. During Integration and System Testing, CONTRACTOR will test the data quality to ensure that the data has been

migrated correctly. CONTRACTOR will repeat the data conversion, loading and migration prior to the Pilot Rollout and Full Implementation.

State Responsibilities

- The data to be migrated from the legacy is available in first normal form (See Definition below)
- The destination database is normalized to third normal form (See Definition below)
- State SME's will provide guidance and support to Contractor team members towards determining transformation rules and resolving data issues
- State will provide to CONTRACTOR the data pertaining to existing test items in a structured format consistent with the data model of the new system so that CONTRACTOR can upload the data using transformation services
- State has indicated that information pertaining to number of data tables and data elements containing statistical data cannot be provided at the time of ITB. Hence Contractor has used a basis of up to 5 tables from which statistical data will be migrated to new system. It is also assumed that the existing data will be ported to the new system model with no need for data cleansing.

Definitions for First, Second and Third Normal Form

First Normal Form (1NF)

First normal form (1NF) sets the very basic rules for an organized database:

- Eliminate duplicative columns from the same table.
- Create separate tables for each group of related data
- Identify each row with a unique column or set of columns

Second Normal Form (2NF)

Second normal form (2NF) further addresses the concept of removing duplicative data:

- Meet all the requirements of the first normal form.
- Remove subsets of data that apply to multiple rows of a table and place them in separate tables.
- Create relationships between these new tables and their predecessors through the use of foreign keys.

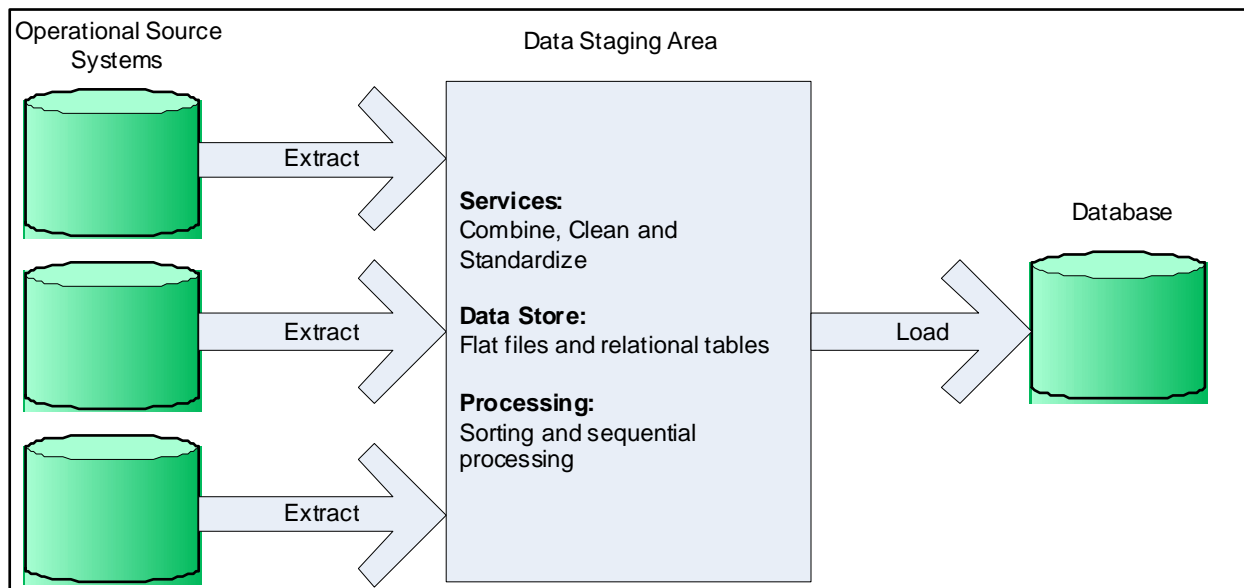
Third Normal Form (3NF)

Third normal form (3NF) goes one step further:

- Meet all the requirements of the second normal form.
- Remove columns that are not dependent upon the primary key.

Process

The third normal form requires that each non-key column is dependent on the primary key and only the primary key. To satisfy third normal form, such records should be decomposed into different tables. The first step would be to identify such columns where one column depends on another column, which in turn depends on the primary key. The next step would be to identify destination table and column for the source tables. Once the transformation rules are determined, data is extracted from source onto a staging area and then transformed to destination using ETL tools. The following diagram depicts the ETL process for data migration:



Approach

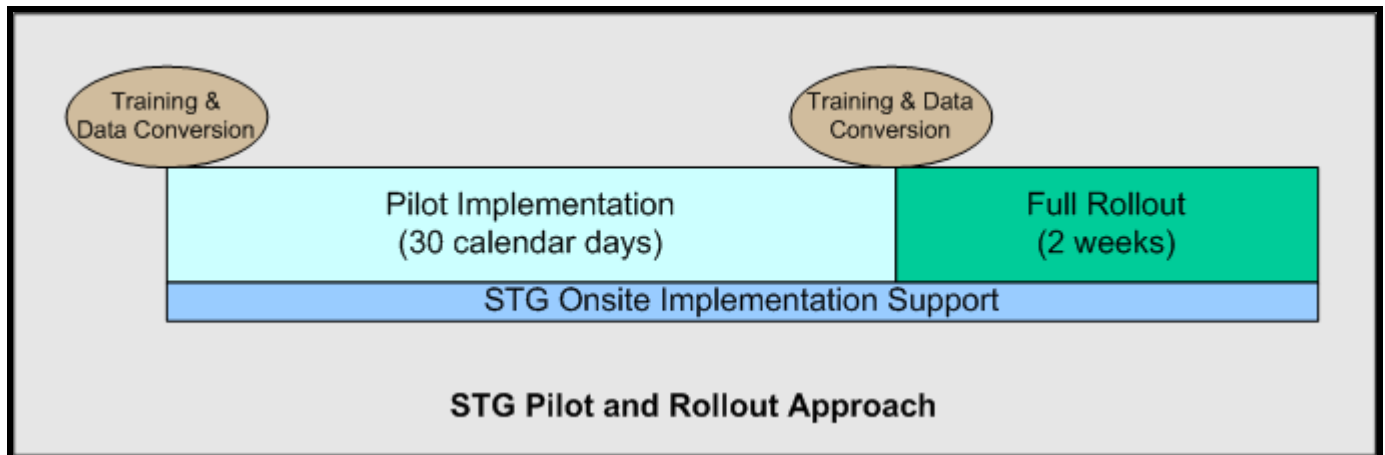
CONTRACTOR's approach for migrating data from legacy systems to the target database is described below.

- Create a data staging area for data storage and to process the data. The data staging area will be either based on relational technology or could be delimited flat files. Staging area table structure will be identical to source systems without any normalization. The data staging area processing includes activities such as sorting and sequential processing.
- If the staging area is based on relational technology, the tables do not contain any foreign key constraints. Foreign key constraints are not required so as to eliminate any sequencing of the data flow onto the staging area.
- Perform data extraction from legacy source to staging area for the required historical time period. This data extraction work flow can follow any sequence as the tables are not constrained by foreign key reference.
- Identify the columns in the source table which is not dependant on the primary key to implement third normal form.
- Identify the source table and the destination table column mapping
- Identify all data transformation rules between the source and the destination. Primary transformation is to move the non-primary-key-dependant-columns to different tables. Other potential transformations includes cleansing the data (correct misspellings, dealing with missing elements, or parsing into standard formats), combining data from multiple sources, code value conversions, date time conversions, handling of nulls, default values, and de-duplicating data.
- Create destination database and the tables
- Prepare a list of master tables and referenced tables of the destination database
- The master tables and reference tables must be transformed first preceding the referencing tables. This will be implemented by creating precedence constraints through a work flow for sequencing the data flow.
- Create data transformation tasks, work flow tasks, data transformation rules through the ETL tool.
- Create an error logging mechanism to write any unsuccessful records. This data will have to be re-loaded after fixing the errors.
- Identify the master tables at the destination whose data is not available at the source. Populate data for any such master tables that are needed for data transformation.
- Perform data transformation from staging to destination
- Correct the unsuccessful records with the help of source system experts and create a mechanism to load those data through SQL scripts or through separate ETL tasks.

- Validate transformed data (using front end application if possible through the UAT process)

Pilot and Rollout Approach

The application will be rolled out to the users in 2 phases -- a 30-calendar day Pilot implementation pilot with up to 30 participants representing state IT staff, MDE staff, and various teachers from around the State followed by a 2 week full implementation rollout to the entire user base. CONTRACTOR will develop an Installation Plan during the testing process that will contain a Pilot rollout plan and Full Implementation rollout plan. Please find an implementation approach for both the phases provided below.



Pilot Implementation Approach

The first phase is the Pilot Implementation for 30 calendar days with up to 30 participants representing state IT staff, OEAA staff. During this phase the new IBS application will be run along with the old system.

- Schedule of tasks – The pilot rollout plan will provide a list of pilot implementation tasks and the associated schedule for each task.
- Resources required – The pilot rollout plan will provide a list of personnel, hardware, software resources that will be necessary for the Pilot implementation. CONTRACTOR will identify dependencies and work with the State to acquire the resources per the project schedule.
- Selection of Pilot Sites – CONTRACTOR will work with the State to identify the school districts and higher education institutions that will be part of the Pilot based on infrastructure, personnel, and caseload.
- Selection of Pilot Trainers to be trained: State will identify the Pilot trainers that will need to be trained on the usage of the system.
- Support Documentation – CONTRACTOR will provide the following support documentation to the trainees and support staff prior to the Pilot implementation:
 - User Manual
 - Online Help
 - Training Manual
 - Installation Manual
 - Operations Manual
- Data cleansing, migration, loading and configuration for Pilot Sites - Prior to the Pilot, CONTRACTOR will perform data cleansing and migration of Production data to support the implementation at the Pilot sites. Please note that the data mapping and data transformation will have already been completed in the System Design phase. The data migration and testing of migrated data (of staging data) will have been completed in the System and Integration testing phases.

- Training – CONTRACTOR will provide training to the trainers identified. In addition the help desk support staff will be provided the necessary support documentation to handle support calls once the system is operational.
- User Setup – The pilot users from MDE, Higher education institutions, school districts will be setup initially during (or prior to the start of) the Pilot Implementation
- Pilot Rollout – The application will be rolled out to the Pilot users per the project schedule. The application link, online user guides will be communicated to the users either via email or a launch conference, meeting.
- Communication – CONTRACTOR will conduct weekly Pilot status meetings with the State Implementation team to coordinate activities, discuss status and resolve technical issues found during the pilot. These meetings could also include representatives from the Pilot sites. CONTRACTOR will also communicate with the State Project Managers to provide status and escalate issues. CONTRACTOR will also work with the State staff (MDIT and MDE) to plan the transition from the existing workflow to the new one.
- Post Implementation Support – CONTRACTOR will provide onsite post-implementation help to resolve workflow and application issues.

Full Rollout Approach

The second phase of the implementation is the Full Rollout phase, where the application will be rolled out to all the users. During the release planning CONTRACTOR will validate this approach with the State prior to developing the Installation plan.

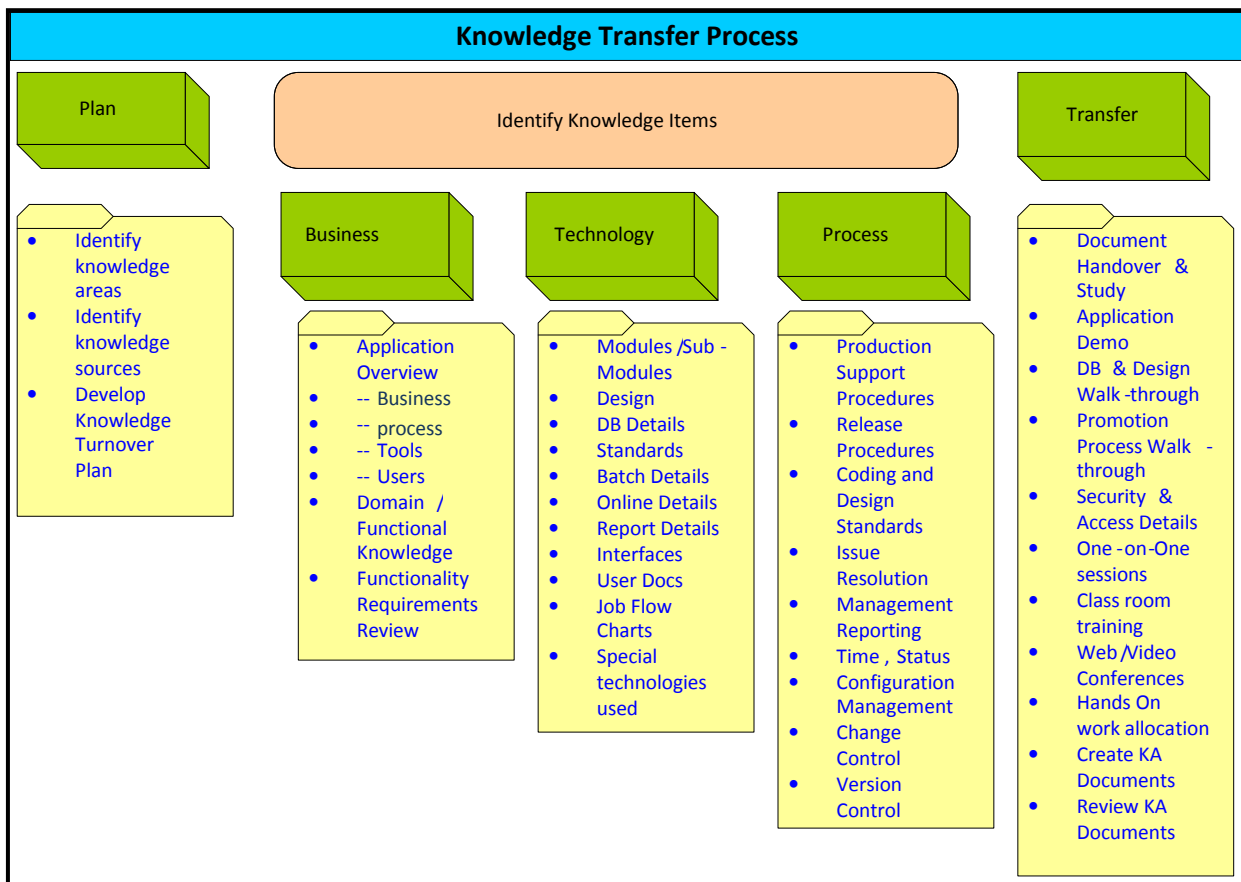
- Schedule of tasks – The full rollout plan (part of the Installation plan) will provide a list of implementation tasks and the associated schedule for each task.
- Resources required – The full rollout plan will provide a list of personnel, hardware, software resources that will be necessary for the full implementation. CONTRACTOR will identify dependencies and work with the State to acquire the resources per the project schedule.
- Selection of Trainers to be trained: State will identify the trainers that will need to be trained on the usage of the system.
 - Support Documentation – CONTRACTOR will update the support documentation based on the Pilot implementation
- Data cleansing, migration, loading and configuration - After the pilot completion and prior to the full rollout, CONTRACTOR will migrate the entire data from the current data files to the new IBS database, perform data loading, configuration and test the application for accuracy. Please note that this is to ensure that the data for transactions that have been performed during the Pilot period by the entities that did not participate in the Pilot gets copied over to the new application database. For details on the process to be followed by CONTRACTOR for data cleansing and migration please refer to the “Data Migration Approach” described in the Technical Solution section.
- Full Rollout – The application will be rolled out to all the users based on the installation plan. The application link, online user guides will be communicated to the users either via email or a launch conference, meeting.
- Communication – CONTRACTOR will conduct weekly status meetings with the State implementation team to coordinate activities, discuss status, and resolve technical issues found during the rollout. CONTRACTOR will also communicate with the State Project Managers to provide status and escalate issues. CONTRACTOR will also work with the State staff (MDIT and MDE) to plan the transition from the existing workflow to the new one.
- Post Implementation Support – CONTRACTOR will provide onsite post-implementation help to resolve workflow and application issues. The application call center support will be handled by State Help Desk. It is expected that most of the defects will originate as calls from the users. Upon receiving such a user call and identifying that this could be a potential defect, the call center representative will enter the details of the defect such as - Defect Description, Severity, business area, application screen, data input, Issue Type. A report of the defects that have been triaged as application defects will then be sent to the CONTRACTOR team for resolution.

D. Knowledge Transfer/Transition and Turnover Approach

CONTRACTOR will provide knowledge transfer to State business and operation support staff during the Transition phase. State will assign necessary MDE (business) and MDIT (technical) personnel towards receiving the knowledge transfer from CONTRACTOR. Knowledge transfer will be performed by CONTRACTOR to State team through meetings, one-on-one sessions and document handover. The knowledge transfer will be limited to the business and technical aspects of the application developed/modified by CONTRACTOR.

As requested by the State, CONTRACTOR will provide Transition over a one year period after the Warranty is completed. The transition phase is part of the Maintenance and Support phase. Therefore the CONTRACTOR resource providing maintenance support will also perform the transition activities. CONTRACTOR will provide progress reports on knowledge transfer activities on a monthly basis. CONTRACTOR will create a summary report describing the knowledge transfer performed by CONTRACTOR on each technical areas, accomplishments, corrective or remedial action taken, and risks in State's undertaking of full application support. CONTRACTOR will provide a summary report before 60 days of completion of the maintenance phase. CONTRACTOR will also update project documentation developed by CONTRACTOR to reflect the updated functionality of the system.

The following diagram illustrates CONTRACTOR's knowledge transfer methodology:



Plan

This KT process starts with a planning activity. CONTRACTOR team will work with State team to identify knowledge areas and sources and will develop a Knowledge Transfer (or Turnover) plan to define the tasks and associated work assignments for the Knowledge transfer. This plan will be provided 90 days prior to the final statewide implementation date. It will include:

- Responsibilities of the respective parties (OEAA, MDIT and CONTRACTOR) for each knowledge area
- Proposed transition schedule
- Level of resources required after transition.
- Backup plan for any failed transfers

Identify Knowledge Items

CONTRACTOR will identify the knowledge items for each application group. Knowledge items will be grouped into the following:

Business:

Business knowledge includes Business process overview, Application Overview and Application Domain / Functional Knowledge. Information such as Application portfolio, size, tools, end users, total users and concurrent users will be identified and documented under Application Overview.

Technology

Technology area knowledge includes details such as modules/sub-modules, design, database, standards, batch, online and reports. Technology information will be provided by conducting database and design walk-throughs and by performing screen and database mapping activity.

Process

Process area knowledge includes production support procedures, release procedures, issue resolution management, time/status reporting, configuration management, change control and version control.

Transfer

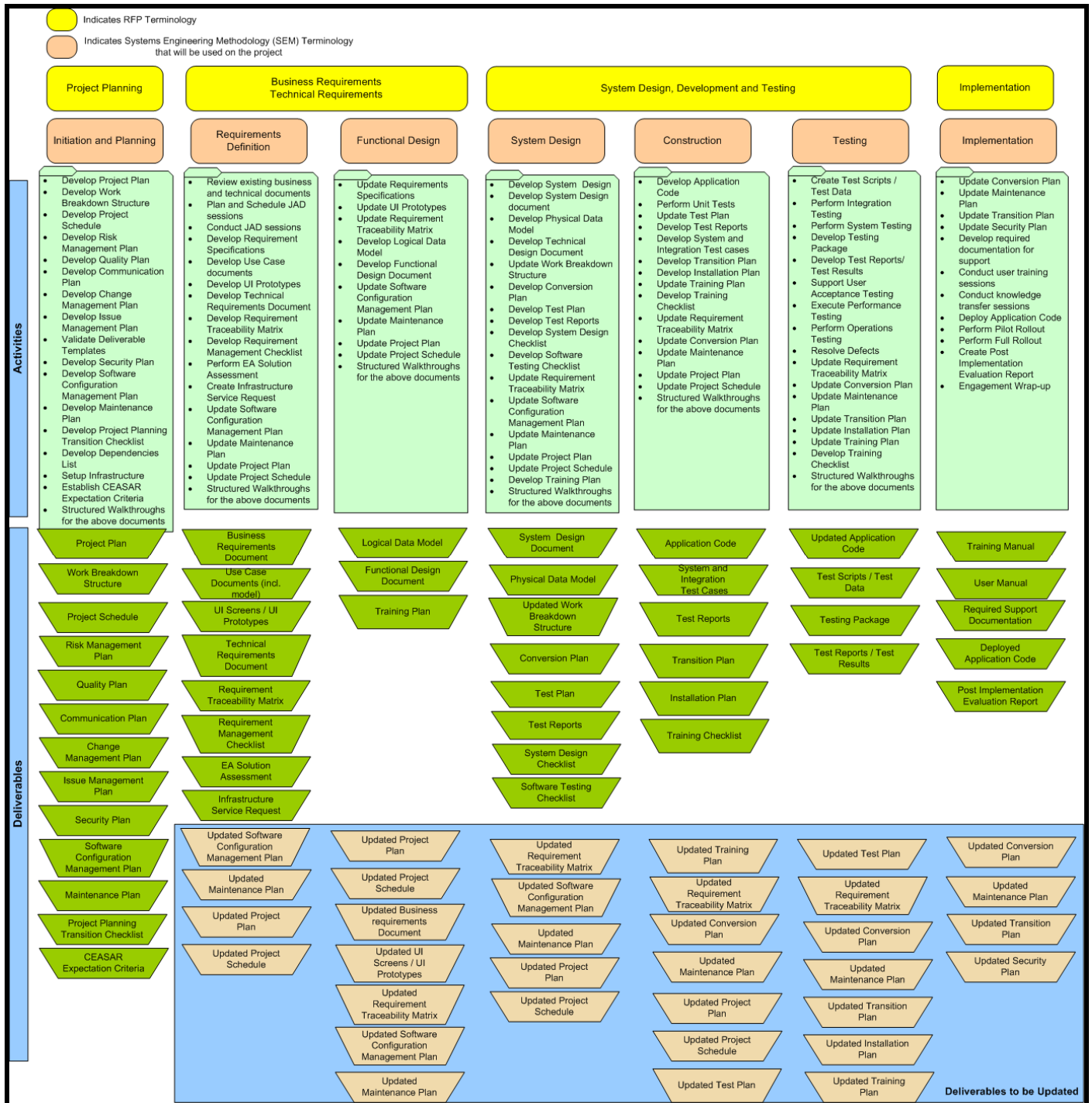
CONTRACTOR will provide all the available information and materials relevant to the project to State. CONTRACTOR will transfer knowledge on functional, technical and process areas through one-on-one sessions, and document walkthroughs.

Software Development Approach

The following sections detail the Software Development Approach that CONTRACTOR will follow on this initiative.

CONTRACTOR will leverage State's Project Management Methodology (PMM), State's Systems Engineering Methodology (MDIT SEM) defined under the State Unified Information Technology Environment (SUITE) for the purpose of executing this project. Project teams are equipped with forms, templates and tools supported by these frameworks.

The diagram below provides a summarized view of the project process. The activities in the diagram and the deliverables have been described in detail in the following paragraphs. The sections describe in detail most of the common activities and all the associated deliverables for each stage of the project.



Milestone number references provided in sections below are provided for referential purposes only and will not alter the responsibilities of the State and the Contractor in any manner.

Milestone 1 - Initiation and Planning Phase Activities and Deliverables

CONTRACTOR will assign a full-time Senior Project Manager for the purpose of this project. CONTRACTOR Senior Project Manager will follow the State's Project Management Methodology framework including:

- Work / Task management
- Requirements management
- Resource Management

- Risk management
- Issue management
- Change management
- Quality Assurance and
- Configuration management

Orientation Meeting

CONTRACTOR team members will participate in a project kickoff (or orientation) meeting to be convened by the State Project Manager. This will involve the project team members from CONTRACTOR and State employees currently assigned to the project. This is to introduce existing team members to each other and to review the project goals and objectives.

Develop Project Plan

CONTRACTOR Project Manager will develop a project management plan with the following details:

- a. Software Development Approach:
 - Project deliverables - A description of the deliverables to be provided under this contract
 - Project roles and responsibilities – A roles and responsibility matrix with Identification of roles and responsibilities, including the organization responsible
 - Resource Requirements - The labor, hardware, materials and supplies required to be provided by the State in meeting the target dates established
- b. Quality Management Plan - Detailed in the “Develop Quality Plan” section below
- c. Project Schedule (in MS Project) – Detailed in the “Develop Project Schedule” section below
- d. Issues Management Plan – Detailed in the “Develop Issue Management Plan” section below
- e. Risk Management Plan – Detailed in the “Develop Risk Management Plan” section below
- f. Communication Plan - Detailed in the “Develop Communication Plan” section below

CONTRACTOR will submit the project plan for State’s approval on or before 5 business days of the project start date.

Develop Work Breakdown Structure

CONTRACTOR Project Manager will create a Work Breakdown Structure (WBS) identifying all WBS elements during this stage of the project. This Work Breakdown Structure will be incrementally updated throughout the Initiation and Planning Stage of the project and reviewed with the CONTRACTOR team and State team members.

Develop Project Schedule

CONTRACTOR Project Manager will create a proposed project schedule based on the Work Breakdown Structure, using an automated tool such as Microsoft Project identifying all tasks and deliverables to be performed, duration for each task, principal schedule milestones, and overall time of completion.

The project schedule will be reviewed with the Project Team and State Project Manager for accuracy and feasibility. CONTRACTOR Project Manager will update this schedule throughout the life of the project.

Develop Risk Management Plan

A risk is an unknown circumstance or event that, if it occurs, may have a positive or negative impact on the Contract. 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.

To meet this requirement, the Contractor will adhere to the following risk management plan. A risk management plan format will be submitted to the State for approval within twenty (20) business days after the effective date of the contract. Once both parties have agreed to the format of the plan, it shall

become the standard to follow for the duration of the contract. The plan must be updated bi-weekly, or as agreed upon. The risk management plan will be developed in accordance with the State's PMM methodology and the PMBOK® (Project Management Institute).

CONTRACTOR Project Manager and State Project Manager will mutually define the risks associated with the project. This includes business as well as technical risks surrounding the project. They will assess the probability of occurrence of these risks as well as the severity of the impact if they occur. Based on probability and severity, the risks will be prioritized for mitigation. A preliminary mitigation plan will be defined. This will be done based on the advice received from project team members. At the outset, Contractor categorizes the project risks as business and technical. It is the responsibility of the entire project team (both CONTRACTOR and State) to proactively recognize and track these risks in a manner that best allows the project team to avoid or mitigate the risks so that the risks do not affect the goals of the project.

Risk Identification – During the Initiation and Planning Stage as well as throughout the project, the project team will identify risks that surround the project at any given point in time. These risks are grouped into Business and Technical risks. The risks are documented in a Risk Management Plan document.

Severity of Occurrence – For each risk item, the severity of occurrence of impact to the project is identified in terms of High, Medium and Low. The impact is visualized through discussions among relevant team members. Thresholds are established to qualify risks as High, Medium or Low

Probability of Occurrence – In addition to severity of occurrence, the probability of occurrence is assessed. This is based on the current situation in the project environment as well as past experiences within the client organization and projects based on similar technologies and processes. The probability of occurrence is categorized as High, Medium and Low.

Risk Priorities – Risk priorities are determined based on the probability of occurrence and severity of impact.

Mitigation Plan – Based on the risk priority, the steps to avoid or mitigate the risks are identified. This results in a series of action items for various project team members depending on the risk. All these action items are tracked through the project plan as tasks for follow up and completion.

Develop Quality Plan

CONTRACTOR Project Manager will develop a Quality Plan to include project scope summary, project deliverables, milestone checklist, acceptance criteria for deliverables, quality assurance activities to be performed during the project, project monitoring and control plans which address quality assurance activity areas identifying what and when audit reviews are required and how variance to acceptable criteria will be reported and resolved, and project team's quality responsibilities.

Develop Communication Plan

CONTRACTOR will develop a communication plan that summarizes when the team will meet with the State for progress review meetings, who needs to be part of such meetings, what status reports will be provided.

State Project Manager will be responsible for coordinating all State resources for the purpose of the execution of this project. State Project Managers will be the single point of contact for receiving deliverables, coordinating resources and addressing business and technical issues.

Develop Change Management Plan

Change management is defined as the process to communicate, assess, monitor, and control all changes to system resources and processes. The State also employs change management in its administration of the Contract.

If a proposed contract change is approved by the Agency, the Contract Administrator will submit a request for change to the Department of Management and Budget, Purchasing Operations Buyer, who will make recommendations to the Director of Purchasing Operations regarding ultimate approval/disapproval of change request. If the DMB Purchasing Operations Director agrees with the proposed modification, and all required approvals are obtained (including State Administrative Board), the Purchasing Operations 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 the DMB Purchasing Operations, risk non-payment for the out-of-scope/pricing products and/or services.**

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.

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.

The Contractor will employ the following change management procedures for items deemed out-of-scope. The Contractor will issue a Change Control Request (CCR) whenever the project suffers from an impact caused by a change in requirements or scope stated in this document. Within the CCR, all changes to effort, time and resources associated with the scope change will be identified for the State. The CCR will describe the effect on effort, cost and schedule. Either the Contractor or the State can raise a CCR at any time and the state may use the CCR process as a method to identify costs associated with desired scope changes or with the underlying impact. The Contractor may assess a separate cost to the State for the development of CCR information subject to the mutual agreement between the State and the Contractor. The CCR must be approved by both the State and the Contractor before any work begins; the Contractor will not be reimbursed for any activity associated with the CCR before it has been approved by State. The State will be responsible for such additional costs incurred by the Contractor to complete such deliverables and milestones using the following hourly rates when determining costs to the State for Change Control Request's (CCR). Hourly rates are defined in US Dollars.

Develop Issue Management Plan

CONTRACTOR Project Manager will develop an issue management plan to address project issues. The issue document / log will contain details including issue id, issue description, assigned to, date assigned, due date, priority, resource assigned, resolution date and resolution details. An escalation path will be identified in the plan for issues that need to be escalated further for resolution. CONTRACTOR will update the issue document / log and will provide the same along with the status report.

Validate Deliverable Templates

CONTRACTOR Project Manager will review the deliverable templates applicable for this project with the State Project Manger for the purpose of assessing detail and clarity in the templates. In cases where the State provided templates are not detailed enough and where State templates are not available, CONTRACTOR Project Manager will provide PRIDE® templates to the State Project Manager for review and will eventually use these templates for deliverables after obtaining approval from State Project Manager.

Develop Security Plan

CONTRACTOR will work with the State team to develop a Security Plan that will be incrementally updated throughout the life of the project. CONTRACTOR team will identify the Security Classification

of this application based on the security needs and requirements provided by the State Subject Matter Experts and MDIT & Agency Security Policies, Standards and Procedures.

Develop Software Configuration Management Plan

CONTRACTOR Project Manger will develop a Software Configuration Management Plan based on the needs of the project and MDIT & Agency Policies, Standards and Procedures. This plan will identify Configuration Management Tools to be used, Roles and Responsibilities of the team, Project Configuration Management Tasks, Configuration Control, Configuration Audits and Reviews and Archival and Retrieval of Configuration items.

Develop Maintenance Plan

CONTRACTOR Project Manager and State Project Manager will mutually develop initial version of the Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production. This plan will be incrementally updated throughout the life of the project as and when additional data becomes available.

Develop Project Planning Transition Checklist

CONTRACTOR Project Manager will create Project Planning Transition Checklist at the end of the Initiation and Planning Stage of the project for the purpose of reviewing the Initiation and Planning Stage work products and obtaining approval to proceed to the next stage of the project. CONTRACTOR will use this checklist for transition planning.

Develop Dependencies List

CONTRACTOR and State team will identify and list the components / interfaces that the new system will depend on. CONTRACTOR and State will also develop a detailed dependencies list for tasks to be completed by State personnel / other vendors in accordance with the project schedule.

Setup Infrastructure

CONTRACTOR will perform its project responsibilities onsite at the State premises identified in this contract. During the Engagement Startup stage, CONTRACTOR will work with the State to set up the project team member workstations, phone, network access. This includes:

- Allocation and set up of work stations for CONTRACTOR onsite team members
- Installing systems software
- Access to State network and internet
- Access to Email, phone

Establish CEASAR® Expectation Criteria

During the Initiation and Planning Stage, CONTRACTOR Project Manager will meet with the State Project Manager to set up the CEASAR® criteria. CEASAR® (Customer Expectations and Satisfaction Assessment Report) is a soft process, above and beyond a Statement of Work, used to capture Contractor's customer's expectations from Contractor's team members in a project and provides a mechanism to assess and track the performance against the expectations.

Structured Walkthroughs of the above documents

CONTRACTOR will conduct Structured Walkthrough of the deliverables in this phase and review the deliverables with the State. CONTRACTOR will obtain Stage Exit Approvals before proceeding to the next Phase.

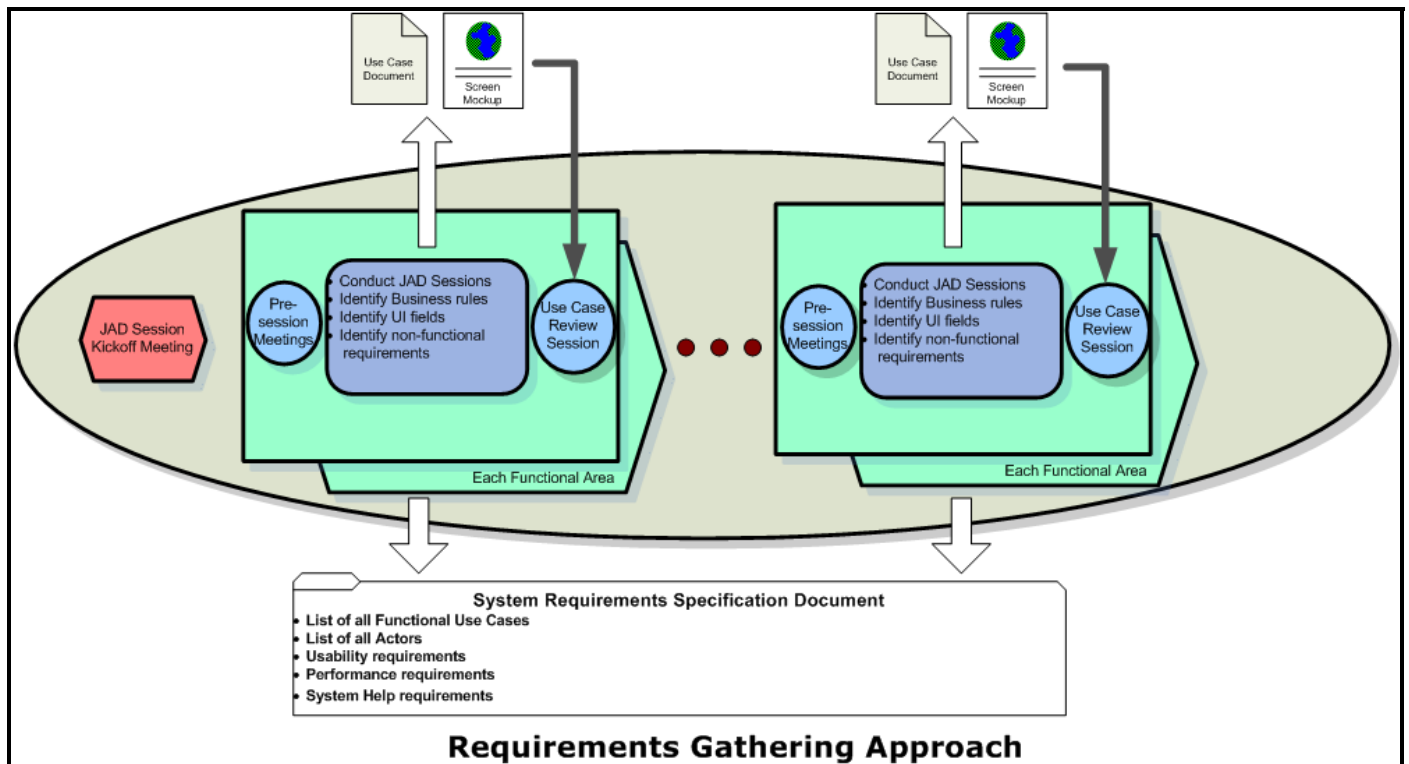
Deliverables:

Deliverable	Description	Format
Project Plan	Describes the project plan with an attachment of project schedule prepared in MS project.	MDIT SUITE PMM Template
Work Breakdown	Identifies and Describes all WBS elements included in the Project Scope.	MDIT SUITE PMM Template

Structure		
Project Schedule	Microsoft Project Plan identifying all tasks and deliverables to be performed, duration for each task, principal schedule milestones, and overall time of completion.	Microsoft Project Plan
Risk Management Plan	This document will identify the risks affecting completion of milestones and deliverables. This document will also identify the probability of the risk occurrence, its impact and available mitigation options.	MDIT SUITE PMM Template
Quality Plan	Quality Plan to include project scope summary, project deliverables, milestone checklist, acceptance criteria for deliverables, quality assurance activities to be performed during the project etc.	MDIT SUITE PMM Template
Communication Plan	Describes the process for communication during the project.	MDIT SUITE PMM Template
Change Management Plan	Defines the process for initiating, reviewing, approving and tracking change requests	MDIT SUITE PMM Template
Issue Management Plan	Identifies project issues, issue description, action items and issue resolution details.	MDIT SUITE PMM Template
Security Plan	Security Plan that identifies Security Classification of this application based on the security needs and requirements provided by the State Subject Matter Experts and MDIT & Agency Security Policies, Standards and Procedures.	MDIT SUITE SEM Template
Software Configuration Management Plan	This plan will identify Configuration Management Tools to be used, Roles and Responsibilities of the team, Project Configuration Management Tasks, Configuration Control, Configuration Audits and Reviews and Archival and Retrieval of Configuration items.	MDIT SUITE SEM Template
Maintenance Plan	Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production.	MDIT SUITE SEM Template
Project Planning Transition Checklist	Checklist to be used at the end of the Initiation and Planning Stage of the project for the purpose of reviewing the Initiation and Planning Stage work products and obtaining approval to proceed to the next stage of the project.	MDIT SUITE PMM Template
CEASAR® Expectation Criteria	Customer Expectations and Satisfaction Assessment Report. The criteria will identify critical success factors, establish customer expectations and degree of importance, setup review dates, and communicate expectations to team members.	PRIDE® Template

Milestone 2a - Requirements Definition Phase Activities and Deliverables:

The following provides Contractor's approach towards accelerating requirement-gathering process:



Techniques:

CONTRACTOR will leverage the following techniques to accelerate the requirement gathering process:

- JAD Sessions – Joint Application Development (JAD) is a technique/process that allows the development, management and customer groups to work together to build a product. JAD refers to the joint process of collecting requirements and resolving issues as early as possible through a series of meetings. The benefits of JAD include:
 - **Saves time, eliminates process delays and misunderstandings and improves system quality**
 - **Reduces function creep, most of which results from poor initial requirements**
 - **Avoids the requirements from being too specific and too vague, both of which cause trouble during implementation and acceptance**
- User Interface Prototypes – UI Prototyping is an iterative analysis technique in which users are actively involved in the mocking-up of the UI for a system. The benefits of UI prototyping include:
 - **Explores the problem space with the stakeholders.**
 - **Explores the solution space of the system.**
 - **Communicate the possible UI design(s) of the system**
 - **A potential foundation from which to continue developing the system.**

Review existing business and technical requirements documentation:

Contractor Project team members will review the current business and technical requirements documentation (including Appendix A and B) to understand the current business process, internal, external systems in use. To clarify any questions, issues based on the review of the current state documentation Contractor will conduct user interviews. This will further enhance Contractors understanding of the current system and business processes.

Plan and Schedule JAD sessions

CONTRACTOR Analysts will work with Agency business owner and other State subject matter experts to gather background information to develop session agenda, confirm the number of JAD sessions identified, requirement items that will be addressed at each JAD session, identify State SMEs required for each session, collect material necessary in preparation for the requirements sessions.

Kick-off JAD Sessions:

CONTRACTOR will conduct one (or more depending upon the number of Subject Matter Experts groups) JAD Sessions kick-off meeting(s) with the State Project Manager, SMEs and other related parties. The objectives of these meetings are to:

- Confirm scope of the application
- Explain the purpose of JAD sessions/workshops
- Plan and confirm the use case workshops
- Set objective for each workshop
- Notify and Invite participants - **The success of each workshop is dependent on the workshop participants. The State Project Managers should decide who the most appropriate people are to attend each workshop.**
- Set the expectations with respect to reviewing requirement deliverables and providing sign-offs.

Conduct JAD Sessions and Develop Use Case:

CONTRACTOR will conduct use case workshops with the subject matter experts. Prior to conducting JAD sessions CONTRACTOR PM will send a meeting notice with agenda to the session participants.

Use Cases are basically a method of capturing and validating functional requirements from the perspective of different classes of users of an application. Each use case defines a sequence of actions performed by the user while using the application. The use cases are documented in the form of Use Case diagrams and flow of events. The use case diagrams depict the interaction between the users (actors), processes (use cases) and systems (external interfaces). The use case method will be a very expeditious way of reviewing and confirming the requirements. It will also allow the project team to identify new requirements that may have been overlooked in the first round.

CONTRACTOR team members have adequate experience and training on conducting facilitated sessions with multiple participants. They follow good meeting management practices towards achieving meeting objectives. CONTRACTOR team will also use the following techniques in the workshops:

- **Parking Lot** - The parking lot is a place to 'park' issues that cannot be resolved in the workshop in a timely manner. It is a great help in moving the workshop along. Once an item is placed on the Parking Lot, there should be no other discussion on the issue. At the end of the workshop CONTRACTOR will review the Parking Lot to decide what, if any, action needs to be taken to resolve each issue.
- **Ground Rules** – CONTRACTOR will set ground rules (such as one conversation, one topic at a time, etc.,) with the participants at the start of the workshop. During the workshop, if anyone steps out of line, CONTRACTOR facilitator will remind the offender of the Ground Rules.

After each Use Case session, CONTRACTOR analysts will document the use cases and submit to appropriate parties for review and approval. The turn around time for the use cases will depend on the size and complexity of the business processes analyzed.

CONTRACTOR understands that during the requirements gathering sessions, there will need to visits to upto 6 designated higher education institutions within the State of Michigan to analyse the analyze business process requirements and the technical interoperability. The State Project Manager will identify the institutions that will need to be visited and notify CONTRACTOR PM for planning purposes. CONTRACTOR will work with the State to complete the analysis of the business processes and interoperability of the technology being developed.

Define Fields and Edits:

CONTRACTOR will identify required screens, fields and edits as part of the use case discussions. The defined screens, fields and edits will be used in developing the UI Prototype. UI prototype will be

provided as static HTML pages merely as a means of validating the screen content; it will not be a navigable demo nor will it contain any business logic.

Identify User Interface Requirements:

CONTRACTOR will gather the user interface related requirements. This includes requirements with respect to screen controls such as drop down box, buttons, links etc. CONTRACTOR will meet with user groups to define the look and feel requirements for the application. The UI requirements will be in conformity with the State UI/Look and Feel standards. In cases where an exception is required, CONTRACTOR will submit the same to State Project Manager for necessary approvals.

Develop Requirements Specification / Business Requirements document:

CONTRACTOR will develop Requirements Specification Document for the new system that defines:

- TO-BE business process
- System Requirements
 - Functional overview of new system
 - Input & Output fields
 - User interface goals and specifications related to look-and-feel, navigation, on-line help, data validation and data display System Interface
 - Subsystems include Imaging and Workflow subsystem, Communication system, and Correspondence and Printing subsystem
- Authentication and authorization requirements
- Reports

Develop Requirements Traceability Matrix

CONTRACTOR will create initial version of the requirements Traceability matrix to trace the business requirements to system requirements and to test cases. This matrix will be incrementally updated throughout the life of the project.

Develop Requirements Management Checklist

CONTRACTOR will complete the Requirements Management Checklist. This checklist is intended to provide system owners, project managers, and other system development and maintenance professionals with guidance in identifying and planning requirement management activities. The checklist reflects recognized requirement management activities to be performed throughout the information systems project life cycle.

Perform EA Solution Assessment

CONTRACTOR team will work with the State MDIT staff to complete the EA Solution Assessment document (as necessary) with Enterprise Architecture Team.

Create Infrastructure Service Request

CONTRACTOR will work with the State MDIT staff to create (as necessary) Infrastructure Service Request identifying Technical Architecture (environments required), Technical requirements, Availability and Recoverability requirements, Accessibility requirements, Performance requirements, Support Information, Initial Application Installation Plan, Procurement and Billing Information and Security Information.

Update Software Configuration Management Plan

CONTRACTOR Project Manger will update a Software Configuration Management Plan created in the previous phases of the project. This plan will identify Configuration Management Tools to be used, Roles and Responsibilities of the team, Project Configuration Management Tasks.

Update Maintenance Plan

CONTRACTOR Project Manager will update the Maintenance Plan created in the previous phases of the project identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the

purpose of maintaining the application once released to production. This plan will be incrementally updated throughout the life of the project as and when additional data becomes available.

Update Project Plan

CONTRACTOR Project Manager will update the Project Plan created in the previous phases of the project.

Update Project Schedule

CONTRACTOR Project Manager will update the Project Schedule created in the previous phases of the project.

Structured Walkthroughs of the above documents

CONTRACTOR will conduct Structured Walkthrough of the deliverables in this phase and review the deliverables with the State. CONTRACTOR will obtain Stage Exit Approvals before proceeding to the next Phase.

Deliverables:

Deliverable	Description	Format
Requirements Specification / Business Requirements Document	A detailed description of business requirements of the system	MDIT SUITE SEM Template
Use Case Model	Use Case decomposition of the business requirements	MS Visio
Use Case Documents	Describes the actors, user action, system response, basic flow and alternate flows	MS Word
Application screen mockup / UI Screens/ User Interface Prototypes	Screen mockup (prototype) of the application to be developed	HTML
Requirements Traceability Matrix	Describes the mapping between business requirements to system requirements and to test cases	MDIT SUITE SEM Template
Requirement Management Checklist	The checklist reflects recognized requirement management activities to be performed throughout the information systems project life cycle.	MDIT SUITE SEM Template
EA Solution Assessment	Present solution to the EA team for review and approval.	MDIT SUITE SEM Template
Infrastructure Service Request	Infrastructure Service Request based on Requirements Specification.	MDIT SUITE SEM Template
Previous Stage Deliverables that will be updated		
Updated Software Configuration Management Plan	This plan will identify Configuration Management Tools to be used, Roles and Responsibilities of the team, Project Configuration Management Tasks, Configuration Control, Configuration Audits and Reviews and Archival and Retrieval of Configuration items.	MDIT SUITE SEM Template
Updated Maintenance Plan	Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production.	MDIT SUITE SEM Template
Updated Project Plan	Updated project plan	MDIT SUITE PMM Template
Updated Project Schedule	Updated project schedule	MS Project

Functional Design Phase Activities and Deliverables:

Update Requirements Specification / Business Requirements document:

CONTRACTOR will update Requirements Specification Document which includes Requirements Analysis Technique, System Requirements: Functional, Input & Output, Performance, User Interface,

System Interface, Communication, Computer Security and Access, Backup and Recovery, Preliminary Implementation and System Test requirements.

Update Requirements Traceability Matrix

CONTRACTOR will update initial version of the requirements Traceability matrix created in the previous phase

Develop Logical Data Model:

CONTRACTOR will identify any new tables that may be necessary and will create logical data model. The Logical Data Model will contain:

- Entity relationship diagram (ERD)
- Data element dictionary (Entities, Attributes, Unique Identifiers, Primary Unique Identifiers, Relationships)

Develop Functional Design Document

CONTRACTOR will develop Functional Design Document describing Business Processes, System Users, Dependencies and Limitations, Configuration Identification, Data Design and Control, System Interface Design and Security Structure.

Update Software Configuration Management Plan

CONTRACTOR Project Manger will update a Software Configuration Management Plan created in the previous phases of the project. This plan will identify Configuration Management Tools to be used, Roles and Responsibilities of the team, Project Configuration Management Tasks, Configuration Control, Configuration Audits and Reviews and Archival and Retrieval of Configuration items.

Update Maintenance Plan

CONTRACTOR Project Manager will update the Maintenance Plan created in the previous phases of the project identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production. This plan will be incrementally updated throughout the life of the project as and when additional data becomes available.

Update Project Plan

CONTRACTOR Project Manager will update the Project Plan created in the previous phases of the project.

Update Project Schedule

CONTRACTOR Project Manager will update the Project Schedule created in the previous phases of the project.

Structured Walkthroughs of the above documents

CONTRACTOR will conduct Structured Walkthrough of the deliverables in this phase and review the deliverables with the State. CONTRACTOR will obtain Stage Exit Approvals before proceeding to the next Phase.

Deliverables:

Deliverable	Description	Format
Logical data model	Logical data model of any new tables describing entities and relationships	MS Visio
Functional Design Document	Describes Business Processes, System Users, Dependencies and Limitations, Configuration Identification, Data Design and Control, System Interface Design and Security Structure.	MDIT SUITE SEM Template
Previous Stage Deliverables that will be updated		
Updated Requirements Specification / Business	A detailed description of business requirements of the system	MDIT SUITE SEM Template

Requirements Document		
Updated Application screen mockup / UI Screens/ User Interface Prototypes	Screen mockup (prototype) of the application to be developed	HTML
Updated Requirements Traceability Matrix	Describes the mapping between business requirements to system requirements and to test cases	MDIT SUITE SEM Template
Updated Software Configuration Management Plan	This plan will identify Configuration Management Tools to be used, Roles and Responsibilities of the team, Project Configuration Management Tasks, Configuration Control, Configuration Audits and Reviews and Archival and Retrieval of Configuration items.	MDIT SUITE SEM Template
Updated Maintenance Plan	Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production.	MDIT SUITE SEM Template
Updated Project Plan	Updated project plan	MDIT SUITE PMM Template
Updated Project Schedule	Updated project schedule	MS Project

Milestone 2b - System Design Phase Activities and Deliverables:

Develop System Design

CONTRACTOR will validate and update the system design and hardware recommendations provided in this proposal with State's IT team. This includes reviewing and validating the hardware requirements for the test and production environments. State will be responsible for procuring and installing hardware stipulated in the recommendations. CONTRACTOR will conduct joint design sessions with MDIT technical staff and technical experts of the external interfaces.

Develop Physical Data Model

Based on the Logical Data Model detailed earlier, CONTRACTOR will develop a Physical Data Model for the SQL Server version approved by MDIT. The data model will be supported by detailed data dictionary that provides information on the tables, field definitions, rules, constraints, attributes, triggers, indexes of the new IBS database.

Develop Data Migration routines

CONTRACTOR will perform a design of the new database during the System Design phase. During this phase, CONTRACTOR DBA will identify data to be extracted from current data files and cleansed. For the data that needs to be migrated, CONTRACTOR will also develop data transformation routines as described under the Data Migration Strategy.

Develop Technical Design document

CONTRACTOR will develop a system design document (or "Technical Solutions Document") containing System Architecture, Data Design (Physical Data Model), Program Specifications including class models, modules and description of data flows. CONTRACTOR will also analyze if the current application components need to be replaced or can be leveraged and document the same.

CONTRACTOR will also:

1. Translate requirements into a set of deliverables that can be used to drive and support the building of software artifacts; such as code, configuration data, and rules; with proper use of domain-related typing wherever possible.
2. Include the following items:
 - i. Proposed schema
 - ii. A set of high-level classes to be implemented
 - iii. Business rules to be deployed
 - iv. Configuration changes in the application or framework to enable the necessary functionality

Please note that web page mockups, descriptions of UI objects (menus, navigational items) will be developed as part of the Use Case documents. Also the Unit Test plan and System Test plan are documents that will be developed during the Design Phase and Construction phase respectively. Please refer to the “Develop Test Plan” section provided below.

CONTRACTOR will work with the State MDIT experts to ensure that the proposed architecture is:

1. Compliant with State of Michigan policies, standards and guidelines
2. Compliant with E-Michigan’s *Look and Feel Standards for E-Government Applications* and *Usability Guidelines for E-Government Applications* that ensures consistency and uniformity in the State of Michigan Web sites.

Update Work Breakdown Structure

CONTRACTOR Project Manager will update a Work Breakdown Structure (WBS) created in the previous phases identifying all WBS elements during this stage of the project. This Work Breakdown Structure will be incrementally updated throughout the Initiation and Planning Stage of the project and reviewed with the CONTRACTOR team and State team members.

Develop Data Conversion Plan

CONTRACTOR will develop a Conversion Plan identifying Purpose, Conversion Activities including Conversion Tasks/Subtasks, Resources, Schedule, and Conversion Requirements including Input Data, Specifications, Output Data and quality assurance approach. This document will be updated through out the project and will detail all the data migration, cleaning tasks, and transformation routines.

Develop Test Plan

CONTRACTOR will develop a Test plan. The plan will describe the methodology for Unit test, System test, Regression test, Performance/Stress test, Integration test and User Acceptance testing. The test plan will contain testing approach, test scenarios, tools and environment to be used, security risks in each type of test, resources needed from CONTRACTOR and State, schedule, approach for validation of test results and corrective action to fix issues and bugs.

Develop Test Reports

CONTRACTOR will develop initial Test Reports identifying Requirements to be Tested, Testing Types Applicable including Test Data and Expected Results, and Pass/Fail Criteria.

Develop System Design Checklist

CONTRACTOR will develop System Design Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning software design activities. The checklist reflects recognized design activities to be performed throughout the information system project life cycle.

Develop Software Testing Checklist

CONTRACTOR will develop Software Testing Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning testing activities. The checklist reflects recognized testing activities to be performed throughout the information system project life cycle.

Update Requirements Traceability Matrix

CONTRACTOR will update initial version of the requirements Traceability matrix created in the previous phase.

Update Software Configuration Management Plan

CONTRACTOR Project Manger will update a Software Configuration Management Plan created in the previous phases of the project. This plan will identify Configuration Management Tools to be used, Roles and Responsibilities of the team, Project Configuration Management Tasks, Configuration Control, Configuration Audits and Reviews and Archival and Retrieval of Configuration items.

Update Maintenance Plan

CONTRACTOR Project Manager will update the Maintenance Plan created in the previous phases of the project identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production. This plan will be incrementally updated throughout the life of the project as and when additional data becomes available.

Update Project Plan

CONTRACTOR Project Manager will update the Project Plan created in the previous phases of the project.

Update Project Schedule

CONTRACTOR Project Manager will update the Project Schedule created in the previous phases of the project.

Develop Training Plan

CONTRACTOR will develop a training plan which will include the subject areas (curriculum), training schedule and the number of hours needed. This will enable the State to schedule a training site and communicate the same to the State staff.

Structured Walkthroughs of the above documents

CONTRACTOR will conduct Structured Walkthrough of the deliverables in this phase and review the deliverables with the State. CONTRACTOR will obtain Stage Exit Approvals before proceeding to the next Phase.

Deliverables:

Deliverable	Description	Format
System Design document	System Design Document containing System Architecture, Data Design (Physical Data Model), Program Specifications including class models, modules and description of data flows.	MDIT SUITE SEM Template
Test Plan	Describes the methodology for Unit test, System test, Regression test, Performance/Stress test, Integration test and User Acceptance testing. The test plan will contain testing approach, test scenarios, tools and environment to be used, security risks in each type of test, resources needed from CONTRACTOR and State, schedule, approach for validation of test results and corrective action to fix issues and bugs.	MDIT SUITE SEM Template
Test Reports	Test Reports identifying Requirements to be Tested, Testing Types Applicable including Test Data and Expected Results, and Pass/Fail Criteria.	MDIT SUITE SEM Template
System Design Checklist	System Design Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning software design activities.	MDIT SUITE SEM Template
Software Testing Checklist	Software Testing Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning testing activities.	MDIT SUITE SEM Template
Training Plan	Describes the training plan	MDIT SUITE SEM Template
Previous Stage Deliverables that will be updated		
Updated Requirements Traceability Matrix	Describes the mapping between business requirements to system requirements and to test cases	MDIT SUITE SEM Template
Updated Software Configuration	This plan will identify Configuration Management Tools to be	MDIT SUITE SEM

Management Plan	used, Roles and Responsibilities of the team, Project Configuration Management Tasks, Configuration Control, Configuration Audits and Reviews and Archival and Retrieval of Configuration items.	Template
Updated Maintenance Plan	Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production.	MDIT SUITE SEM Template
Updated Project Plan	Updated project plan	MDIT SUITE PMM Template
Updated Project Schedule	Updated project schedule	MS Project
Updated Work Breakdown Structure	Identifies and Describes all WBS elements included in the Project Scope.	MDIT SUITE SEM Template
Updated Data Conversion Plan	Conversion Plan will provide details on purpose, conversion Activities including Conversion Tasks/Subtasks, Resources, Schedule, and Conversion Requirements including Input Data, Specifications, Output Data, Validation, and Security Requirements.	MDIT SUITE SEM Template

Milestone 3 - Construction Phase Activities and Deliverables:

Develop Application Code

CONTRACTOR will develop the application code components as per requirement specifications, design, screen mockup and use case requirements. During this phase, CONTRACTOR will map the current data to the new system data structure. CONTRACTOR will also work with State to perform data conversion, load and configure data to new the database structure.

Perform Data Migration, Cleansing

- Based on the Data migration plan and the transformation rules identified during the design phase, CONTRACTOR will perform data migration and cleansing of the Staging data. This data will be used for System testing and UAT. State will provide guidance for data cleansing resolving conflicts including duplicates and other inconsistencies

- CONTRACTOR understands that data migration from the existing files is critical to the success of the project. Based on the information provided, there are 2 sets of data that need to be migrated:

1. Item, graphics data - Most test items are stored in either, MS Word, Quark, or Adobe Indesign formats. It includes 41000 items/ files - 20000 MEAP, 10000 MI-Access, 5000 ELPA, 5000 MME, and 1000 SCA. For these items, as specified the State will undertake to obtain the above data from NCS Pearson and Questar in a structured format consistent with the new system data model so that Contractor can load them same into the new system with appropriate transformation.
2. Statistics data – In addition to the above, the State also has Statistics data from past assessments.

Perform Unit Tests

CONTRACTOR will perform unit tests on the developed/modified programs. The purpose of these tests is only to test the correctness of the program logic at a screen/functional level. In addition, these tests will also test the navigation to the next application component in a business process sequence.

Update Test Plan

CONTRACTOR will update the Test plan created in the previous phases of the project. The plan will describe the methodology for Unit test, System test, Regression test, Performance/Stress test, Integration test and User Acceptance testing. The test plan will contain testing approach, test scenarios, tools and environment to be used, security risks in each type of test, resources needed from

CONTRACTOR and State, schedule, approach for validation of test results and corrective action to fix issues and bugs.

Develop Test Reports

CONTRACTOR will develop initial Test Reports identifying Requirements to be Tested, Testing Types Applicable including Test Data and Expected Results, and Pass/Fail Criteria.

Develop System Integration Test Cases

CONTRACTOR will develop System Integration test cases for various business scenarios, security testing and transactions. CONTRACTOR will commence this activity during the Development Phase of the project and will conclude this before System Integration Testing. CONTRACTOR will work with appropriate subject matter experts to validate the test cases.

Develop Transition Plan

CONTRACTOR will develop an initial version of Transition Plan describing Project Objectives, System Description, Plan Objectives, Outstanding Issues, Infrastructure Services, Operation Scenarios, and Transition Planning.

Develop Installation Plan

CONTRACTOR will develop an initial version of Installation Plan describing Project Objectives, System Description, Roles and Responsibilities, Installation Environment, Installation Schedule, Change Control Procedure, Installation Test Procedure, Assumptions, Dependencies, Risks and Resource Requirements.

Update Training Plan

CONTRACTOR will update the training plan created in the previous phases of the project which will include the subject areas (curriculum), training schedule and the number of hours needed. This will enable the State to schedule a training site and communicate the same to the State staff.

Develop Training Checklist

CONTRACTOR will develop Training Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning training activities. The checklist reflects recognized training activities to be performed throughout the information system project life cycle.

Update Requirements Traceability Matrix

CONTRACTOR will update initial version of the requirements Traceability matrix created in the previous phase.

Update Data Conversion Plan

CONTRACTOR will update the Conversion Plan created in the previous phases of the project with the updates from “Perform Data Migration, Cleansing” task completed in this phase. The information will be used during the conversion of Production data in the later stages.

Update Maintenance Plan

CONTRACTOR Project Manager will update the Maintenance Plan created in the previous phases of the project identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production. This plan will be incrementally updated throughout the life of the project as and when additional data becomes available.

Update Project Plan

CONTRACTOR Project Manager will update the Project Plan created in the previous phases of the project.

Update Project Schedule

CONTRACTOR Project Manager will update the Project Schedule created in the previous phases of the project.

Structured Walkthroughs of the above documents

CONTRACTOR will conduct Structured Walkthrough of the deliverables in this phase and review the deliverables with the State. CONTRACTOR will obtain Stage Exit Approvals before proceeding to the next Phase.

Deliverables:

Deliverable	Description	Format
Developed Application code	Application code including source code and conversion program developed as per design, screen mockup and use case documents	Code bundle
Data Migration Output Data	Data output from execution of data migration scripts. The output will be used for testing purposes.	Database / Data Files
Test Reports	Test Reports identifying Requirements to be Tested, Testing Types Applicable including Test Data and Expected Results, and Pass/Fail Criteria.	MDIT SUITE SEM Template
Transition Plan	Describes Project Objectives, System Description, Plan Objectives, Outstanding Issues, Infrastructure Services, Operation Scenarios, and Transition Planning.	MDIT SUITE SEM Template
Installation Plan	Describes Project Objectives, System Description, Roles and Responsibilities, Installation Environment, Installation Schedule, Change Control Procedure, Installation Test Procedure, Assumptions, Dependencies, Risks and Resource Requirements	MDIT SUITE SEM Template
System Integration Test Cases	System Integration Testing test cases for various business scenarios.	MS Word
Training Checklist	Training Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning training activities.	MDIT SUITE SEM Template
Previous Stage Deliverables that will be updated		
Updated Requirements Traceability Matrix	Describes the mapping between business requirements to system requirements and to test cases	MDIT SUITE SEM Template
Updated Data Conversion Plan	Conversion Plan identifying Purpose, Conversion Activities including Conversion Tasks/Subtasks, Resources, Schedule, and Conversion Requirements including Input Data, Specifications, Output Data, Validation, and Security Requirements.	MDIT SUITE SEM Template
Updated Maintenance Plan	Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production.	MDIT SUITE SEM Template
Updated Test Plan	Identifies the methodology for testing	MS Word
Updated Project Plan	Updated project plan	MDIT SUITE SEM Template

Updated Training Plan	Describes the training plan	MDIT SUITE SEM Template
Updated Project Schedule	Updated project schedule	MS Project

Testing Phase Activities and Deliverables:

Milestone 4: System and Integration Testing:

CONTRACTOR will fully complete/support the following tests prior to the deployment of the application code in the production environment:

- Unit testing
- Integration Testing
- System Testing
- User Acceptance Testing
- Performance/Load Testing
- Operations Testing

A Test plan for entire project covering all functions will be created during the Design phase of the project. The Test plan will describe the methodology for Unit test, System test, Performance test, Integration test, Operations Testing and User Acceptance testing. The Test plan will contain testing approach, resources from CONTRACTOR and State, schedule, validation of test results and corrective action to fix issues and bugs. The Test plan will be finalized prior to the start of system testing.

Unit testing will be performed during the Construction / Development phase. The unit tested code will be installed on the State's Testing servers where CONTRACTOR will complete the System Integration testing. State will perform User Acceptance Testing against the Testing Servers. CONTRACTOR will support User-Acceptance Testing through defect resolution.

Develop Test Scripts / Test Data

CONTRACTOR will develop System Integration test cases (Test Scripts) and Create Test Data for various business scenarios, security testing and transactions. CONTRACTOR will commence this activity during the Development Phase of the project and will conclude this before System Integration Testing. CONTRACTOR will work with appropriate subject matter experts to validate the test cases. CONTRACTOR will develop System Integration test cases for various business scenarios and transactions. CONTRACTOR will commence this activity during the development phase of the project and will conclude this before the beginning of System Integration testing. CONTRACTOR will work with appropriate subject matter experts to validate the test cases.

Perform Integration Testing

CONTRACTOR will work with the MDIT technical staff and other technical experts in charge of the external interfaces of the IBS application to perform Integration tests. CONTRACTOR will validate the results and will make corrective actions for issues (within IBS) resulting from the integration tests. Integration testing is intended to test the integration of the application within its components and external interfaces. Integration testing will be executed at the test environment provided by State. State will need to ensure that the necessary interfaces are ready (developed and system tested) for testing in time for the integration testing. CONTRACTOR will identify start date of Integration testing in its project schedule.

Perform System Testing

CONTRACTOR will perform System tests, validate the results and will make corrective actions for issues resulting from the tests. System testing is intended to test the business functions of the application within its components and external interfaces. During Integration and System Testing, CONTRACTOR will test the data quality to ensure that the data has been migrated correctly. System testing will be executed at the test environment provided by State.

Develop Testing Package

CONTRACTOR will develop Testing Package. This package will contain Integration and System Test Checklist, Error Reporting and Tracking Checklist, Pre-Acceptance Checklist, and User Acceptance Checklist.

Develop Test Reports / Test Results

CONTRACTOR will develop Test Reports identifying Requirements to be Tested, Testing Types Applicable including Test Data and Expected Results, and Pass/Fail Criteria.

Milestone 5 - User Acceptance Testing

Test Data

CONTRACTOR will work with the State to prepare and load the entire test data needed to conduct user acceptance testing to the test databases before commencement of user acceptance testing. The UAT will be performed against the data that has been migrated from the existing databases. This will serve as the test of the migrated data. Any defects with the transformation routines will be fixed during this stage.

Online Help Document

CONTRACTOR will develop an Online Help document that will assist the users understand the business processes, how the processes are implemented in the system, provide screen and field-level help. The document will be available in an electronic format during UAT.

Support User Acceptance Tests

User Acceptance Tests will be performed by Business users and State will be responsible for performing UAT. State users will use the System Test Cases created during the development stages. The test cases will include scripts to test a complete student test cycle. State users can add more test cases to cover additional test scenarios if they deem necessary. State will assign necessary amount of testing resources to perform the user acceptance testing within the time-boxed duration of sixty calendar days. It is anticipated that there will be at least two test cycles within the allotted time-period. The User Acceptance Test is performed to validate the functionality of the entire system from a business usage perspective. State Project Manager will assist CONTRACTOR Project Manger in scheduling this activity within a time-boxed duration provided in a separate table in "Project Schedule" section. CONTRACTOR will assist State Business Customers in performing the User Acceptance Test by providing clarifications on application functionality.

CONTRACTOR will support UAT by:

- Provide business and technical assistance
- Monitoring system performance.
- Investigating why data was not processed.
- Monitoring computer resource usage.
- Participating in problem review meetings.
- Investigating problems and identifying potential problems.
- Answering user questions about the system.
- Investigating and ensuring user access to the system in the UAT environment.
- Generally helping the users execute tests and review results.

Test Environment

State will provide test environment for all testing purposes. This test environment shall contain all server tiers needed for operations including web access, web application, application server and database server. CONTRACTOR will deploy all application components to the test environment.

Resolve Defects

CONTRACTOR will fix application defects reported by the business users during user acceptance. CONTRACTOR will submit these fixes to the users for re-testing and validation. CONTRACTOR will

track all UAT defects in a defects log and provide updates to State Project Manager. Metrics pertaining to progress of testing activities and defects will be tracked periodically towards managing the Testing phase effectively. For all project purposes, a defect is defined as instance of application behavior in the software code developed by CONTRACTOR, that represents a lack of compliance with the State of Michigan approved requirement specifications and associated technical design deliverables developed by CONTRACTOR.

Milestone 6 - Execute Performance Testing

CONTRACTOR will conduct performance/stress test on the application for peak loads after User acceptance Testing is complete. State will provide all the necessary software / tools necessary for executing the performance testing. Performance testing will be executed in the test environment provided by the State.

System Performance is a function of various factors including Hardware capacity, network throughput, database performance, data volume and user concurrency and application design. CONTRACTOR will be responsible for performance issues to the extent they pertain to code developed by CONTRACTOR based on technical design approved by State. State will be responsible for all other factors.

Perform Operations Testing

Operations Testing consists of testing technical operational of the application such as Startup, Shutdown, batch processing, error recovery, system backup and recovery procedures etc. CONTRACTOR will work with the State MDIT technical staff to perform Operations Testing in parallel with User Acceptance Testing (UAT) toward the latter half of UAT. This testing is typically performed on an environment that is similar to the Production environment. State will need to provide an environment that closely resembles the Production environment for this testing.

Update Requirements Traceability Matrix

CONTRACTOR will update initial version of the requirements Traceability matrix created in the previous phase.

Update Data Conversion Plan

CONTRACTOR will update the Conversion Plan created in the previous phases of the project with the results of the system testing and UAT. Any tweaks to the data transformation routines will be captured here. The lessons learned will be applied to the migration of data during Production deployment. identifying Purpose, Conversion Activities including Conversion Tasks/Subtasks, Resources, Schedule, and Conversion Requirements including Input Data, Specifications, Output Data, Validation, and Security Requirements.

Update Maintenance Plan

CONTRACTOR Project Manager will update the Maintenance Plan created in the previous phases of the project identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production. This plan will be incrementally updated throughout the life of the project as and when additional data becomes available.

Update Transition Plan

CONTRACTOR will update Transition Plan created in the previous phases of the project describing Project Objectives, System Description, Plan Objectives, Outstanding Issues, Infrastructure Services, Operation Scenarios, and Transition Planning.

Update Installation Plan

CONTRACTOR will update Installation Plan created in the previous phases of the project describing Project Objectives, System Description, Roles and Responsibilities, Installation Environment, Installation Schedule, Change Control Procedure, Installation Test Procedure, Assumptions, Dependencies, Risks and Resource Requirements.

Update Training Plan

CONTRACTOR will update the training plan created in the previous phases of the project which will include the subject areas (curriculum), training schedule and the number of hours needed. This will enable the State to schedule a training site and communicate the same to the State staff.

Develop Training Checklist

CONTRACTOR will develop Training Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning training activities. The checklist reflects recognized training activities to be performed throughout the information system project life cycle.

Structured Walkthroughs of the above documents

CONTRACTOR will conduct Structured Walkthrough of the deliverables in this phase and review the deliverables with the State. CONTRACTOR will obtain Stage Exit Approvals before proceeding to the next Phase.

Deliverables

Deliverable	Description	Format
Application code (updated)	Application code developed as per design, screen mockup and use case documents	Code bundle
Test Scripts / Test Data	Test scripts containing the system integration test cases.	MS Word
Testing Package	Contains Integration and System Test Checklist, Error Reporting and Tracking Checklist, Pre-Acceptance Checklist, and User Acceptance Checklist.	MDIT SUITE SEM Template
Performance Test Results	Performance test the application for peak loads	MDIT SUITE SEM Template
Test Reports / Test Results	Test Report identifying tested test cases with results of the test	MDIT SUITE SEM Template
Training Checklist	Training Checklist intended to provide system owners, project managers, configuration managers, and other information system development and maintenance professionals with guidance in identifying and planning training activities.	MDIT SUITE SEM Template
Previous Stage Deliverables that will be updated		
Updated Requirements Traceability Matrix	Describes the mapping between business requirements to system requirements and to test cases	MDIT SUITE SEM Template
Updated Data Conversion Plan	Conversion Plan identifying Purpose, Conversion Activities including Conversion Tasks/Subtasks, Resources, Schedule, and Conversion Requirements including Input Data, Specifications, Output Data, Validation, and Security Requirements.	MDIT SUITE SEM Template
Updated Maintenance Plan	Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production.	MDIT SUITE SEM Template
Updated Transition Plan	Describes Project Objectives, System Description, Plan Objectives, Outstanding Issues, Infrastructure Services, Operation Scenarios, and Transition Planning.	MDIT SUITE SEM Template
Updated Installation Plan	Describes Project Objectives, System Description, Roles and Responsibilities, Installation Environment, Installation Schedule, Change Control Procedure, Installation Test Procedure, Assumptions, Dependencies, Risks and Resource Requirements	MDIT SUITE SEM Template
Updated Training Plan	Describes the training plan	MDIT SUITE SEM Template
Updated Test Plan	Identifies the methodology for testing	MS Word

Implementation Phase Activities and Deliverables:

Milestone 7a - Deploy application code

CONTRACTOR will work with the State Technical staff to deploy all the application code components in the production environment as part of deployment. CONTRACTOR will follow the state's configuration management system for deploying code.

Prior to the deployment of the code, CONTRACTOR will migrate the production data to the new data structure using the data transformation routines, clean, load and configure data.

Provide Training

Approach

CONTRACTOR will provide training to the users and trainers on the application end-user functionality on a "Train-the Trainer" basis for 10 sessions as specified by the State in its responses to vendor questions, CONTRACTOR estimates that of the 10 sessions 2 to 3 sessions will be completed prior to Pilot implementation and the remaining sessions will be completed during Pilot implementation for the users included in the full rollout. For the training of the Technical Staff please refer to the Knowledge Transfer section below. Training will be provided prior to pilot for the Pilot users and during the pilot for the users affected by the full rollout.

Materials

CONTRACTOR will develop the following documentation for the training:

- User Manual
- Online Help
- Training Manual
- Installation Manual
- Operations Manual

The documentation will be provided in an electronic format to the State. Paper copies will be provided as necessary. An online help guide will be provided for use by the users during UAT. Please refer to the Testing phase for details on the online help document.

CONTRACTOR will also develop a Help Desk Guide with processes and scripts to support the new application, data and workflow. CONTRACTOR will share interim versions of the Guide with the State. The Final document will be provided prior to the Pilot, with updates made as necessary after Pilot. All training manuals, training plans and other documentation provided become the property of the State.

7b - Pilot Implementation Phase

The application will rolled out to the users in 2 phases. The first phase is the Pilot Implementation for 30 calendar days for up to 30 participants representing state IT staff, MDE staff, and various teachers from around the State. During this phase the new IBS application will be run along with the old system. State will select the entities that will be part of the Pilot.

Prior to the Pilot, CONTRACTOR will perform data cleansing and migration of Production data to support the implementation at the Pilot sites. Please note that the data mapping and data transformation will have already been completed in the System Design phase. The data migration and testing of migrated data (of staging data) will have been completed in the System and Integration testing phases.

CONTRACTOR will also train the necessary users for the Pilot period. CONTRACTOR estimates that of the 10 training sessions 2 or 3 training sessions will be completed prior to Pilot implementation and the remaining training sessions will be completed during Pilot implementation for the users included in the full rollout. During the pilot CONTRACTOR will provide business and technical support of the new application at the Pilot sites.

7c - Full Rollout Phase

The full rollout phase will be executed over a time-boxed period of 10 business days. After the pilot completion and prior to the Full rollout period, CONTRACTOR will again migrate the data from the current Production data files to the new IBS database, perform data loading, configuration and test the application for accuracy. For details on the process to be followed by CONTRACTOR for data cleansing and migration please refer to the “Data Migration Approach” described in the Technical Solution section.

CONTRACTOR will work with the State to schedule and coordinate the activities, identify and solve issues related to the full rollout of the application. CONTRACTOR will work with the State to plan the rollout of the application over a time-boxed duration specified in the “Timeboxed duration” of the Milestone Schedule.

Update Data Conversion Plan

CONTRACTOR will update the Data Conversion Plan created in the previous phases with the updates from the data conversion, migration of Production data completed during deployment.

Update Maintenance Plan

CONTRACTOR Project Manager will update the Maintenance Plan created in the previous phases of the project identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production. This plan will be incrementally updated throughout the life of the project as and when additional data becomes available.

Update Transition Plan

CONTRACTOR will update Transition Plan created in the previous phases of the project describing Project Objectives, System Description, Plan Objectives, Outstanding Issues, Infrastructure Services, Operation Scenarios, and Transition Planning.

Update Security Plan

CONTRACTOR Project Manager will update the Security Plan created in the previous phases of the project. CONTRACTOR team will identify the Security Classification of this application based on the security needs and requirements provided by the State Subject Matter Experts and MDIT & Agency Security Policies, Standards and Procedures.

Develop required documentation for support

CONTRACTOR will develop the following documentation for application support. CONTRACTOR will provide all the documents to State prior to implementation date.

- User Manual
- Online Help
- Training Manual
- Installation Manual
- Technical Design documents (including Data dictionary, physical data model, Module specifications)
- Installation Manual
- Operations Manual

Create Post Implementation Evaluation Report

CONTRACTOR will create Post Implementation Evaluation Report containing General Information, Staffing and Skills, Project Organizational Structure, Schedule Maintenance, Cost Management, Risk Management, Quality Control, Change Management, Communications Management, Customer Expectation Management and Lessons Learned.

Provide Knowledge Transfer to Operations

CONTRACTOR will provide knowledge transfer to 6 members of the State technical staff during this phase of the project. State will assign necessary personnel towards receiving the knowledge transfer

from CONTRACTOR. Knowledge transfer will be performed by CONTRACTOR to State team through meetings, one-on-one sessions and document handover.

CONTRACTOR will have provided the Technical Architecture documents, Installation Manual and Operations manual to the technical staff prior to the Knowledge Transfer meetings. CONTRACTOR will update these documents as necessary during the course of the contract.

Deliverables:

Deliverable	Description	Format
Training Manual	Training material for conducting training	MS Word
Installation Manual	Manual providing application installation procedures	MS Word
Operations Manual	Manual providing procedures for running the application in the production environment	MS Word
User Manual	User Manual describing the system	MS Word
Source Code documentation	Line and Block documentation of the source code	Code bundle
Application code (updated)	Application code developed as per design, screen mockup and use case documents	Code bundle
Training	Training Sessions	Meetings
Knowledge Transfer to Operations	Knowledge Transfer Sessions	Meetings and documents
Post Implementation Evaluation Report	Provides details on the outcome of deployment, pilot rollout and full out activities	MDIT SUITE PMM Template
Previous Stage Deliverables that will be updated		
Updated Data Conversion Plan	Conversion Plan identifying Purpose, Conversion Activities including Conversion Tasks/Subtasks, Resources, Schedule, and Conversion Requirements including Input Data, Specifications, Output Data, Validation, and Security Requirements.	MDIT SUITE SEM Template
Updated Maintenance Plan	Maintenance Plan identifying Scope of Maintenance, Maintenance Team Roles and Responsibilities, Assumptions, Constraints and Dependencies, Management Approach and Technical Approach for the purpose of maintaining the application once released to production.	MDIT SUITE SEM Template
Updated Transition Plan	Describes Project Objectives, System Description, Plan Objectives, Outstanding Issues, Infrastructure Services, Operation Scenarios, and Transition Planning.	MDIT SUITE SEM Template
Updated Security Plan	Security Plan that identifies Security Classification of this application based on the security needs and requirements provided by the State Subject Matter Experts and MDIT & Agency Security Policies, Standards and Procedures.	MDIT SUITE SEM Template

Milestone 8 - Warranty Phase Activities & Deliverables

Warranty

- a. CONTRACTOR will provide a warranty provision for the products and services resulting from this statement of work beginning when application is installed in the production environment.
- b. CONTRACTOR will provide warranty of ninety (90) calendar days from the date the relevant application components are deployed in production environment.
- c. During the warranty period, CONTRACTOR will correct any defective element of the application that fails to perform in accordance with the requirements as defined in the approved requirement specifications and associated technical design.
- d. For the purpose of warranty, a defect is defined as instance of application behavior that represents a lack of compliance with the approved requirement specifications and associated technical design developed by CONTRACTOR (significant or

material defects). CONTRACTOR will fix such defects identified during the warranty periods at no additional cost to the State.

- e. The State agrees to notify CONTRACTOR of such defects within three (3) days of occurrence of such defect in the production environment. The State will appropriately triage the defect and ascertain that it requires CONTRACTOR repair.
- f. Corrective action by CONTRACTOR may include, but is not limited to repairing or replacing the nonconforming element.
- g. This warranty is limited to the extent such defects do not meet the business functionality that is represented in the State approved requirement specifications and associated technical design. This warranty is limited to those defects that are directly attributed to software code developed by CONTRACTOR. This warranty does not cover for any issues pertaining to system throughput and performance to the extent such issues are not attributed to the code developed by the contractor.
- h. CONTRACTOR is not responsible for any defects arising from components not developed by CONTRACTOR and/or other components / interfaces that have been developed or modified by others.
- i. In the event deployment of application components is delayed due to reasons attributed to the State, then warranty for the relevant application components will begin from the date the application was accepted under the user acceptance test process.
- j. CONTRACTOR is not responsible for providing any warranty on components should any component or work product be modified by anyone other than CONTRACTOR personnel assigned by Contractors Project Manager during the period of warranty.

Engagement Wrap-up Activities and Deliverables

CONTRACTOR will perform the project closure activities:

- Receive CEASAR® Evaluation. Please refer to the CEASAR section in the document for detailed information on the CEASAR® process
- Document Lessons Learned – CONTRACTOR will conduct a meeting with State team members to discuss lessons learned from the project. These are used to make improvements in future projects.

Maintenance and Support Phase activities and deliverables

CONTRACTOR will provide one qualified resource that is trained and familiar with the system to work onsite at the State's facilities to support the IBS application during the maintenance phase. This resource will be the single point of contact for project issues during the maintenance period during regular business hours of MDE (7 AM - 6 PM EST). Upon State's notification of any maintenance issue or an enhancement, the CONTRACTOR resource will work with the MDE, MDIT to investigate resolutions or solutions. Resolutions will depend on the severity of the problem. All releases to the Production environment will be according a mutually agreed schedule with MDIT, MDE.

CONTRACTOR will provide the following services for the system support / maintenance phase of the project:

- System Maintenance and Enhancement Activities:
 - Any routine file maintenance to update any information required for operation of the system such as data changes, constructing new edits, investigating batch job failures, investigating and correcting application defaults, repairing jobs run incorrectly, repairing problems due to system software failures, repairing problems due to operator or schedule error, rectifying problems due to web page, program, object, class, scripts, control language, or database errors, repairing security problems, repairing and restoring corrupted files, table structures, and databases, rectifying incorrect documentation, and repairing problems due to jobs run with incorrect data.
 - Plan and assist MDIT to perform the installation, including configuration, setup and testing of the Item Bank System
- Adaptive and Preventive Maintenance Activities:

- Upgrades or patches of the application server, Windows components, java virtual machine, operating system, RDMBS, or other system and application software.
- Software modifications and upgrades necessary because of expiring vendor support.
- Hardware, database, or application conversions that do not modify user functionality.
- One-time loads or reformats of user data.
- Report distribution changes.
- Disaster recovery plan activities.
- Performance Maintenance Activities:
 - Improve the performance, maintainability, or other attributes of an application system.
 - Data table restructuring.
 - Data purges and or archiving to reduce/improve data storage.
 - Run time improvements.
 - Replace utilities to reduce run time.
 - Potential problem correction.
 - Data set expansions to avoid space problems.

CONTRACTOR is available for renewal of the maintenance past the contract period for subsequent years. Such requests should be made by the State Project Manager to the CONTRACTOR delivery executive in advance so appropriate resource can be assigned to the project when necessary.

E. Other Services

Future Enhancement Activities and Scope Modifications

CONTRACTOR will provide enhancements to the IBS application utilizing effort of up to 2,000 reserved bank hours. CONTRACTOR understands that future enhancements will be implemented as follows: The State will prepare a statement of work that describes the enhancement and present it to CONTRACTOR. CONTRACTOR will respond with a work plan to implement the enhancement along with the number of hours by staffing category necessary to execute the work. The State will review the proposal and if acceptable will issue a purchase order for the work. Upon approval of the purchase order, CONTRACTOR will commence the work towards implementing the enhancements

Change Management, Section 1.403 of this Contract, provides pricing for the optional reserved bank of 2,000 hours.

System enhancements / scope modifications include changes to the system that are necessary to meet:

- a. New State policy requirements,
- b. New Federal regulations,
- c. New technology requested by the State, or
- d. Accommodate new or updated interfaces requested by the State.

Deliverable(s)

- Updated Application Source Code Artifacts – The Contractor will follow the agreed upon procedures to modify, test, and implement code.
 - Updated Documentation
 - Updated Training and Transition of Knowledge of SOM support staff
 - a. The Contractor will update any documentation that has been previously created by the Contractor to reflect the updated and enhanced functionality of the application/system.
 - b. The Contractor will provide updated versions of all systems, user, training, and operations documentation prior to the implementation date.
 - c. Documentation must meet all requirements of the approved Documentation Standards Plan and be provided in electronic and hard copy, if requested by State.
 - d. Documentation includes:

- i. Complete system documentation.
- ii. User manuals (administrator and authorized user).
- iii. Training manuals.
- iv. Glossary
- v. Updates to the Help Desk Guide to reflect new functionality as it is released.
- vi. All operations procedures not covered in a user manual and requested by the State.

1.200 Roles and Responsibilities

1.201 Contractor Staff, Roles, and Responsibilities

A. Contractor Staff

The Contractor has identified a **Single Point of Contact (SPOC)**. The duties of the SPOC shall include, but not be limited to:

- supporting the management of the Contract,
- facilitating dispute resolution, and
- advising the State of performance under the terms and conditions of the Contract.

The State reserves the right to require a change in the current SPOC if the assigned SPOC is not, in the opinion of the State, adequately serving the needs of the State.

Contractor Single Point of Contact	Mr. Shanta Santaprakash Vice President Systems Technology Group, Inc. Voice: 248.643.9010 ext. 111 Email: shanta@stgit.com
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The Contractor fully understands the strategic importance of this initiative. Considering the same, it is very critical that the resources assigned to the project are of high caliber in technical and professional competence. Contractor will provide a team of consultants that is sufficient to meet the project deliverables, timeline and skills identified in the table below stated in this contract.

Contractor will not intentionally re-assign staff from this project team. Should such removal cause a delay in project schedule or affect contractor's ability to complete deliverables and milestones per project schedule and this statement of work or in such a manner as to cause undue costs to the State.

The Contractor retains the right to manage, control, direct, assign all the Contractor's resources servicing this contract so that the Contractor can achieve the objectives and deliverables as stated in this proposal and under this contract. Hence, the Contractor will not be subject to any liquidated damages listed under section 2.243 (b), (c) and (d) with respect to the Contractor personnel.

- The Contractor will notify the State of any changes to the Contractor's personnel for positions identified in the table below. For those replacements that occur after the project has commenced, Contractor will provide the following information to the State:
 - Notify the State which resource is being replaced and reason for replacement
 - Notify the State of any risks contractor believes such replacement will have on contractor's ability to complete the deliverables in accordance with the schedule stated in this agreement. . If such risks are identified by the contractor, contractor will provide a risk mitigation plan to the State.
 - Notify the State of new replacement resource name and provide a resume. Such new replacement resource will have necessary skills to ensure that the contractor team collectively continues to possess the skills identified in the table below.

Position	Project Responsibilities
<p><u>Project Manager</u></p> <p>Minimum 3 years project management experience in IT projects of similar size & scope.</p> <p>Minimum 3 years of experience in the education field, implementing data management/decision support tools</p> <p>Minimum 3 to 5 years of professional experience directing & facilitating information technology developers.</p> <p>Minimum 3 years technical experience as systems architect, technical lead or senior analyst.</p> <p>Possession of a bachelor's degree preferably in information technology, engineering or business or equivalent experience. Project Management Professional (PMP) certification preferred but not required.</p>	<p>The Contractor's Project Manager will interact with the designated personnel from the State to insure a smooth transition to the new system. The project manager/technical lead will coordinate all of the activities of the Contractor personnel assigned to the project. The Contractor's project manager responsibilities include:</p> <p><u>Management Responsibilities</u></p> <ul style="list-style-type: none"> • Operational management of project • Single point of contact for all CONTRACTOR issues • Manage the daily project activities of CONTRACTOR project team • Communicate project status as specified in the communication plan • Maintain and update project schedule • Identify issues, risks, concerns and work with State, CONTRACTOR team to identify resolutions, mitigation plans • Escalate unresolved issues, risks • Monitor changes in scope, schedule and invoke change management process as necessary • Ensure the completeness, accuracy, and integrity of deliverables whether developing or reviewing • Interacts with State Project Manager for the purpose of IT coordination (quality, standards, interfaces etc.) • Coordinate with State personnel for project processes and technology related matters. • Assist in preparing and attending meetings to discuss various issues, as well as perform analysis of these issues and develop proposed solutions • Provide information for Executive Review. • Insure all program and system documentation is complete before approvals and payments are made. <p><u>Technical Responsibilities</u></p> <ul style="list-style-type: none"> • Participate in Use Case sessions • Participate in technical review sessions with clients and technical teams • Develop test strategies and test plans • Conduct training sessions • Co-ordinate and participate in development and testing activities.
<p><u>Senior Enterprise Architect</u></p> <p>Experience in performing IT architectural assessments in projects similar in size and scope to this project.</p> <p>Experience proposing new system architectural designs and technical specifications in projects similar in size and scope to this project.</p> <p>Minimum 3 to 5 years experience in architectural design and systems analysis and design with a wide range of operating</p>	<p><u>Management Responsibilities</u></p> <ul style="list-style-type: none"> • Reports to the Contractor Project Manager <p><u>Technical Responsibilities</u></p> <ul style="list-style-type: none"> • Work with technical teams towards developing technical architecture model • Design and develop API, Web Services Interfaces • Develop logical diagrams to interpret functional requirements • Develop specifications for the physical deployment of the System • Identify product components and interfaces • Identify major reuse approaches and sources • Work with interfacing application specialists in relation to application integration strategies • Communicate and get agreement in various architecture options to be followed for the project • Ensure that the technical components definition complies with the technical architecture standards • Develop a technical architecture model based on technical strategy and technical needs of the application • Conduct & participate in technical review sessions with clients and technical teams • Develop Test Strategies and Test Plans • Lead development and testing activities. • Conduct code review activities

Position	Project Responsibilities
<p>systems, databases and development tools.</p> <p>Minimum 3 to 5 years experience with Object Oriented design and development</p> <p>Minimum 3 to 5 years experience with SQL Server databases.</p> <p>Requires a Bachelor's degree in an information technology related field and a minimum of three to five years of experience in the field or in a related area. A master's degree is preferred but not required.</p>	<p><u>Quality Assurance responsibilities</u></p> <ul style="list-style-type: none"> • Develop deliverables standards including document deliverables and program deliverables • Review deliverables for adherence to standards • Perform sample code reviews • Perform System Testing • Work with State on Integration Testing • Conduct Performance Testing • Support User Acceptance Testing • Work with State on Operations Testing <p><u>Training/Knowledge Transfer Responsibilities</u></p> <ul style="list-style-type: none"> • Conduct Technical training/knowledge transfer sessions • Conduct System Administrator training sessions • Develop training material for Technical training, System administrator sessions • Develop/Update Technical documentation
<p><u>Senior Database Administrator</u></p> <p>Minimum 5 years of experience working with SQL and relational databases</p> <p>Minimum 3 to 5 years experience with configuration management, including version control integrated within a software development life cycle in SQL Server.</p> <p>Minimum 2 years in scripting build processes for large application, including SQL scripting for performing database modifications/updates.</p> <p>Possession of a bachelor's degree preferably in information technology, engineering or business. A master's degree with appropriate certifications is preferred but not required</p>	<p><u>Database Administration Responsibilities</u></p> <ul style="list-style-type: none"> • Work with the project team to identify data requirements • Develop data modeling methodologies • Map data from different sources • Identify data elements • Develop logical and physical data models <p><u>Data Migration Responsibilities</u></p> <ul style="list-style-type: none"> • Identify data to be extracted from current files and cleansed • Map current data to the new system data structure • Work with State to perform data conversion • Load and configure data to new database
<p><u>Senior Systems Analyst / Training Specialist</u></p> <p>The senior position requires three to five</p>	<p><u>Analyst Responsibilities</u></p> <ul style="list-style-type: none"> • Conduct Use Case sessions • Develop Use Case models • Conduct & participate in technical review sessions with clients and technical teams

Position	Project Responsibilities
<p>years experience in application development analysis and the expert position requires six to eight years of up to date current experience.</p> <p>Minimum of 3 to 5 years experience in the design, development & implementation in the proposed application language/architecture.</p> <p>Minimum of 3 to 5 years experience in directing, facilitating & issue resolution in the areas systems & data.</p> <p>Minimum of 2 years experience in quality assurance.</p> <p>Minimum of 1 to 2 years experience in developing and providing training & training materials.</p> <p>Minimum of 1 to 2 years experience in identifying the training needs of the potential participants.</p>	<ul style="list-style-type: none"> • Develop design deliverables • Develop technical and end user documentation Documents • Develop test strategies and test plans • Conduct training sessions • Conduct knowledge transfer sessions <p><u>Training Responsibilities</u></p> <ul style="list-style-type: none"> • Develop training material including training plan, training presentation • Develop Support documentation including Instructor's manual, User Manual, Training Manual, Help Desk Guide, Online User Interface Guide • Ensure documents created by other CONTRACTOR project team member for quality and consistency. • Provides business process training to end users, MDE staff (for pilot and full rollout users) <p><u>Common Management Responsibilities</u></p> <ul style="list-style-type: none"> • Manage developer teams • Provide guidance and clarification to developers • Provide status reports <p><u>Quality Assurance responsibilities</u></p> <ul style="list-style-type: none"> • Develop deliverables standards including document deliverables and program deliverables • Review deliverables for adherence to standards • Perform sample code reviews • Perform System Testing • Assist User Acceptance Testing • Co-ordinate development and testing activities <p><u>Technical Architecture Specific</u></p> <ul style="list-style-type: none"> • Responsible for reviewing approved business requirements and identifying strategy for technical architecture • Work with technical teams (IT representatives) towards identifying technical architecture components

B. On Site Work Requirements

1. Location of Work

CONTRACTOR team will perform the project from out of either the State's facilities at
**Hannah Building, 608 W. Allegan St,
Lansing, Michigan**

Or

Contractor's development facilities at

**3155 W. Big Beaver Road
Troy, MI 48084**

The following table provides primary location from where work will be performed during each project milestone

Project Milestone	Primary Work Location	Estimated number of STG personnel at State's facilities
Engagement Startup	State's Facilities	5 to 7 STG personnel

Requirements Gathering and Functional Design	State's Facilities	5 to 7 STG personnel
System Design	STG's facilities (Some team members may be located at State's facilities)	2 to 4 STG personnel
Development & Unit Test (Statistical Reporting only)	STG's facilities (Some team members will be located at State's facilities)	3 to 5 STG personnel
System and Integration Testing	STG's facilities (Some team members will be located at State's facilities)	3 to 5 STG personnel
User Acceptance Testing	State's Facilities	3 to 5 STG personnel
Performance/Load Testing	State's Facilities	3 to 5 STG personnel
Deployment	State's Facilities	3 to 5 STG personnel
Pilot Rollout	State's facilities	1 to 3 STG personnel
Full Rollout	State's facilities	1 to 3 STG personnel
Warranty	STG's facilities (Some team members may be located at State's facilities)	1 to 2 STG personnel
Transition, Maintenance and Support Services	State's Facilities	1 STG personnel

2. Hours of Operation:

- b. Normal State working hours are 8:00 a.m. to 5:00 p.m. EST, Monday through Friday. No overtime will be authorized or paid.
- c. The State will attempt to provide to the Contractor team members access to State project site facilities between the hours of 7:00 a.m. to 6:00 p.m. EST, as needed during the course of the project.
- d. The State is not obligated to provide State management of assigned work outside of normal State working hours.
- e. Contractor shall observe the same standard holidays as State employees. The State does not compensate for holiday pay.

3. Travel:

- a. No travel or expenses will be reimbursed. This includes travel costs related to training provided to the State by Contractor.
- b. Travel time will not be reimbursed.

4. Additional Security and Background Check Requirements:

Contractor must present certifications evidencing satisfactory Michigan State Police Background checks ICHAT and drug tests for all staff identified for assignment to this project.

In addition, proposed Contractor personnel will be required to complete and submit an RI-8 Fingerprint Card for the National Crime Information Center (NCIC) Finger Prints, if required by project.

Contractor will pay for all costs associated with ensuring their staff meets all security and background check requirements

1.202 State Staff, Roles, and Responsibilities

As specified by the State in its response to vendor questions, State will provide workstations, necessary hardware and software licenses, and all testing tools including performance/load testing tools, phone,

access to copier and fax machine, and network access to perform all the necessary project activities to all the CONTRACTOR project team members that work at the State premises. State will provide to all contractor personnel access to state network through Virtual Private Network (VPN).

State will not provide workstations, necessary development hardware and software licenses, phone to Contractors team that work at Contractors office.

Contractor will provide laptops to contractor personnel on a temporary basis until State can provide laptops to the Contractor personnel. State will allow for contractor provided laptops to access to the State of Michigan network and State VPN network towards accessing State network resources for executing contractor responsibilities.

The State project team will consist of Executive Subject Matter Experts (SME's), project support, and a MDIT and Agency project manager:

Executive Subject Matter Experts

The Executive Subject Matter Experts representing the business units involved will provide the vision for the business design and how the application shall provide for that vision. They shall be available on an as needed basis. The Executive SME's will be empowered to:

- Resolve project issues in a timely manner
- Review project plan, status, and issues
- Resolve deviations from project plan
- Provide acceptance sign-off
- Utilize change control procedures
- Ensure timely availability of State resources
- Make key implementation decisions, as identified by the Contractor's project manager, within 48-hours of their expected decision date.

Name	Agency/Division	Title
Joseph Martineau	MDE/OEAA	Director
Al Gat	MDE/OEAA	Agency Business Owner

State MDIT Project Manager(s)

MDIT will provide a Project Manager who will be responsible for the State's infrastructure and coordinate with the Contractor in determining the system configuration.

The State's Project Manager will provide the following services:

- Provide State facilities, as needed
- Coordinate the State resources necessary for the project
- Facilitate coordination between various external contractors
- Facilitate communication between different State departments/divisions
- Provide acceptance and sign-off of deliverable/milestone
- Review and sign-off of timesheets and invoices
- Resolve project issues
- Escalate outstanding/high priority issues
- Utilize change control procedures
- Conduct regular and ongoing review of the project to confirm that it meets original objectives and requirements
- Document and archive all important project decisions
- Arrange, schedule and facilitate State staff attendance at all project meetings.

Name	Agency/Division	Title
Glenn Gorton	MDIT	Client Services Director – DIT Agency Services MDE, CEPI

Mohamed Peeran	MDIT	Project Manager - Contractor
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MDIT shall provide a Contract Administrator whose duties shall include, but not be limited to, supporting the management of the Contract.

Name	Agency/Division	Title
Ann Lindberg	MDIT/Agency Services - MDE	Contract Administrator

1.203 Other Roles and Responsibilities

Additional State Responsibilities

1. The State will be responsible for coordinating the availability and cooperation of all parties / vendors for the purpose of providing necessary information required for this project at appropriate times when needed during the project. The Contractor's Project Manager will develop a schedule of SME requirements during the Engagement Startup phase.
2. State will provide the data to be migrated from NCS Pearson and Questar in a structured format so that CONTRACTOR can load them same into the new system with minimal transformation
3. The State Project Manager will be responsible for distributing the Contractor's deliverables to the appropriate State personnel (including 3rd party agents if required).
4. The State Project Manager will be responsible for coordinating the review and approval activities for the deliverables submitted in accordance with the project plan.
5. The State will be responsible for providing necessary meeting room facilities for conducting project meetings including work sessions during the course of the project.
6. The State Subject Matter Experts (SME's) and technical personnel will be available, actively participate, and perform duties per the mutually agreed upon project plan for providing Contractor with information necessary for contractor to complete its scope of responsibilities in accordance with the mutually agreed upon project plan. Such project plan will be in accordance with the milestone schedule and time boxed activities stated in this contract.
7. State is responsible for coordinating the dependencies with all State agencies and 3rd parties and ensures that the dependent activities are completed in accordance with the contractor proposed schedule.
8. The State MDIT Project Manager will act as a single point of contact for the purpose of coordinating the definition of requirements and associated information including those pertaining to participating agencies, other interfacing business entities and 3rd party agencies.
9. State understands the importance of delivering this project on time and within budget, and will provide the appropriate subject matter experts during the requirements gathering and design of the application phases. Each State resource will be available to provide contractor with business and/or technical clarifications, issue resolutions and provide business and/technical details within the schedule stated in this contract.
10. State will provide the necessary hardware, software, tools, and utilities to Contractor personnel assigned to work onsite at State's facilities, in order for contractor to complete the deliverables and milestones in accordance with the milestone schedule specified in this contract.
11. State understands the importance of delivering this project on time and within budget, and will provide the appropriate subject matter experts during the requirements gathering and design of the application phases. Each State resource will be available to provide contractor with business and/or technical clarifications, issue resolutions and provide business and/technical details in order for contractor to complete the deliverables and milestones in accordance with the milestone schedule specified in this contract.

1.300 Project Plan

1.301 Project Plan Management and Deliverables

Orientation Meeting: CONTRACTOR will attend orientation meeting in Lansing, Michigan to discuss the content and procedures of the Contract at no cost to State

Performance Review Meeting: Project performance will be reviewed during weekly status meetings and Monthly Steering committee meetings. CONTRACTOR will attend these meetings either at Lansing, MI or by teleconference at no cost to State

CONTRACTOR Project Manager will meet with State Project Manager and other designated State personnel on a weekly basis (or as per the mutually agreed frequency) to review the status of the project, review performance and address project issues. CONTRACTOR will submit status reports to State Project manager as per the mutually agreed frequency. CONTRACTOR project manager will communicate all issues requiring escalation to CONTRACTOR Delivery Executive. State will provide to CONTRACTOR team members necessary access to State facilities for the purpose of attending meeting and working on other project matters. CONTRACTOR Project Manager and State Project Manager will mutually develop a communication plan that describes the process for communication during the project.

Project Control:

- CONTRACTOR will execute the project under the direction and control of the MDE and MDIT.
- CONTRACTOR will leverage State’s Project Management Methodology (PMM), State’s Systems Engineering Methodology (MDIT SEM) defined under the State Unified Information Technology Environment (SUITE) for the purpose of executing this project. Project teams are equipped with forms, templates and tools supported by these frameworks.
- CONTRACTOR submitted a Preliminary Project Plan with their proposal. CONTRACTOR will submit an updated Project plan to the State project managers for approval within 10 working days of the Project Kickoff meeting. The plan will be progressively elaborated as the project moves through the different stages.
- Refer to the “Develop Project Plan” section below for the content to be included in the Project Plan
- CONTRACTOR will use MS Project to record and report the project schedule.

Reports: CONTRACTOR will discuss project status reporting format at the orientation meeting and once both parties agree to the format of the report, CONTRACTOR will follow that format for the duration of the contract.

In summary, CONTRACTOR will provide the following reports:

- Weekly Project Status – through weekly status reports
- Monthly Updated project plan – Updated Microsoft Project schedule
- Summary of activity during the period – Included in weekly status report
- Accomplishments – included in weekly status report
- Deliverables Status – included in weekly status report
- Schedule Status – included in weekly status report and updated project schedule file
- Action Items Status – Action Item Log
- Issues – Issues Log
- Change Control – Change Control Log
- Maintenance Activity – List of defects and issues under maintenance log

Milestone Schedule

The estimated completion dates (business days from the project start date) is listed below for the significant Project Milestones:

Milestone/Deliverable Schedule/Pay Points	Deliverables	Estimated Completion Date (Business days from Start date of Project)
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Milestone 1 -Engagement Startup	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (initial) • Software Configuration Plan (initial) • Maintenance Plan (initial) • Project Planning Transition checklist • CEASAR criteria • Dependencies List 	5
Milestone 2a - Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (initial) • Requirements Management Checklist • Functional Design Document • Training Plan (initial) 	35
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	55
Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> • Application Code components • System Integration Test Cases • Test Reports (updated) • Transition Plan (initial) • Installation Plan (initial) • Data Migration Output Data 	95
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • Test Scripts/Test Data • Testing Package • System Test Report (final) • Performance Test Results • Training Checklist 	115
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • User Acceptance Test Report (final) 	159
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> • Performance Test Report (final) • Installation Plan (final) • Training Plan (final) • Requirements Traceability Matrix (final) 	169

Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> • Training • Training Manual • User Manual • Installation Manual • Operations Manual • Deployed Application Code • Post Implementation Evaluation Report (Deployment) 	179
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> • Post Implementation Evaluation Report (Pilot) 	201
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> • Conversion Plan (final) • Maintenance Plan (final) • Transition Plan (final) • Security Plan (final) • Post Implementation Evaluation Report (Full Rollout) • Knowledge Transfer to Operations 	211
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> • Warranty Defects log with list and status of defects 	277
Transition , Maintenance and Support Services Completed	After conclusion of warranty period as specified in the schedule above, Contractor will provide one resource onsite at State facilities towards the above Transition and Maintenance and Support services. This Maintenance and Support services will commence for a period of 24 months following the warranty period (until the end of the 3 year contract period)	

The Contractor assumes that there will be no time gap between any two subsequent activities.

Time boxed activities:

The Contractor has proposed the following time boxed activities for the different stages of the project in the interest of managing to the project schedule and the timeline that the State provided. The Contractor and the State will validate the durations suggested by the Contractor after requirements gathering and will mutually address the impact to the schedule/cost and process the same through the Change Management Process. The State will not be responsible for shortening the below time boxed durations to the extent delays or quality issues are caused solely by the contractor.

Activities listed as time-boxed activities will be performed only to the extent possible within the allocated time duration. Both the Contractor and State personnel will apply diligent efforts towards completing these activities in its entirety within the allotted time-boxed durations. Below time-boxed schedule

The following table illustrates the time boxed activities for the different stages of the project. The following table illustrates the time boxed activities for the different stages of the project.

Activity	Time boxed duration	Description
User Acceptance Testing and Operations Testing	44 business days (60 Calendar Days)	User Acceptance testing and Operations Test are performed in parallel within the time boxed duration
Performance/Load Testing	10 business days (14 calendar days)	Performance/Load testing is performed within the time boxed duration
Training and Deployment	10 business days (14 calendar days)	Training and Deployment are performed together within the time boxed duration
Pilot Implementation	22 business days (30 calendar days)	Pilot Implementation is performed within this time-boxed duration

Full Rollout Implementation	10 business days (14 calendar days)	Full rollout Implementation is performed within this time-boxed duration
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1.400 Project Management

1.401 Issue Management – See Section 1.104 for process

1.402 Risk Management – See Section 1.104 for process

1.403 Change Management – See Section 1.104 for process

1.500 Acceptance

1.501 Criteria

The following criteria will be used by the State to determine Acceptance of the Services and Deliverables provided under this SOW.

1. All tasks listed under 1.104 Work and Deliverable are completed.
2. Each requirement defined in the Approved use cases and/or technical design documents has been reviewed and accepted by the Agency Project Manager.
3. Training for users and administrators is complete (as described in section 1.104 work and deliverables)
4. Knowledge transfer to agency staff is completed as per the project plan
5. No significant defects exist that would prohibit the successful use of any function.

Before delivering any deliverable to the state, the Contractor will first:

1. Perform all required quality assurance activities
2. Verify that the deliverable is complete and in conformance with its specifications
3. Certify that
 - a. It has performed such quality assurance activities
 - b. It has performed all applicable testing
 - c. It has corrected all defects discovered during such quality assurance activities and testing, and
 - d. The deliverable is in a suitable state of readiness for the state's review and approval.

The following criteria will be used by the State to determine acceptance of the deliverables provided under this contract. The criteria cover both the delivery and transition phases. The delivery phase includes the release of approved code into MDE software production stream. The transition phase includes Contractor providing knowledge transfer through the course of the project schedule

- A. **Document Deliverables** - Documents include, but are not limited to plans, design documents, project schedules, user guides, and procedure manuals.
 1. Documents are dated and in electronic format, compatible with State of Michigan software in accordance with Article 1.103.
 2. Documents are reviewed and updated throughout the development process to assure requirements are delivered in the final product.
 3. Draft documents are not accepted as final deliverables.
 4. MDE and MDIT will review business documents within five business days from the date of submission of the deliverables for review.
 - a. Approvals will be written and signed by State MDIT Project Manager
Unacceptable issues will be documented and submitted to the Contractor.

- b. After issues are resolved or waived, the Contractor will resubmit documents for approval within schedule agreed to by both parties that meets the goals of the project and the overall project schedule as stipulated in this contract.

B. Software Deliverables - Software includes, but is not limited to, software product developed under this statement of work.

1. Beta software is not accepted as final deliverable.
2. The software will be reviewed and accepted in accordance with the requirements of the contract
3. Software is installed and configured, with assistance from MDIT, in an appropriate environment (e.g. development, conversion, QA testing, UAT testing, production, and training).
4. Contingency plans, de- installation procedures, and software are provided by the Contractor and approved by State MDIT Project Manager.
5. Final acceptance of the software will depend on the successful completion of UAT and associated warranty period described in Section 1.104.
6. MDE and MDIT will review test software, data, and results per schedule agreed to by both parties that meets the goals of the project and the overall project schedule as stipulated by this statement of work.
 - a. Approvals will be written and signed by the State MDIT Project Manager.
 - b. Unacceptable issues will be documented and submitted to the Contractor.
 - c. After issues are resolved or waived, the Contractor will resubmit test software, data and results for approval within 30 days of receipt.
7. Software source code, where applicable, is reviewed by MDIT during knowledge transfer for readability, structure, and configuration management.
 - a. Approvals will be written and signed by MDIT Project Manager.
 - b. Unacceptable issues will be documented and submitted to the Contractor.
 - c. After issues are resolved or waived, the Contractor will resubmit source code for approval.

C. Service Deliverables - Services include, but are not limited to training and data migration.

1. The services will be accepted in accordance with the requirements of the contract.
2. Both the MDE and MDIT will review a Request for Approval of Services within a mutually agreed upon timeframe from completion or implementation.
 - a. Approvals will be written and signed by State MDIT Project Manager
Unacceptable issues will be documented and submitted to the Contractor.
 - b. After issues are resolved or waived, the Contractor will resubmit a Request for Approval of Services for approval within schedule agreed to by both parties that meets the goals of the project and the overall project schedule as stipulated in the statement of work.
3. MDIT and MDE will review migrated and configured data within a mutually agreed upon timeframe from completion.
 - a. Approvals will be written and signed by State MDIT Project Manager.
 - b. Unacceptable issues will be documented and submitted to the Contractor.
 - c. After issues are resolved or waived, the Contractor will resubmit a request for approval within 30 days of receipt.
4. MDIT and MDE staff are properly trained and supplied with the proper tools and documentation to support, upgrade, monitor, operate, and configure the application in accordance with the requirements of this contract.
5. The Contractor and State will need to conduct an end-to-end testing of the system, and the Contractor will need to adequately resolve all defects identified during the scheduled testing event. A defect is defined as instance of application behavior that

represents a lack of compliance with the state approved requirement specifications and associated technical design developed by contractor.

6. All defects found as a result of the testing must be corrected. Contractor will only be responsible to resolve defects to the extent such defects are associated with the deliverable produced by the contractor under this contract. State will be responsible for all other defects. Final Acceptance will not be withheld due to defects associated with State's responsibility.

Each of the above will be formally approved by signature of the State MDIT Project Manager

State will provide Final acceptance upon completion of all deliverables, completion of all tasks in the project plan as approved, completion of all applicable inspection and/or testing procedures, completion of all applicable staff training and knowledge transfer activities, receipt of applicable documentation

1.600 Compensation and Payment

1.601 Compensation and Payment

State shall pay Contractor an amount not to exceed USD \$2,248,000 (Two Million Two Hundred Forty Eight Thousand Dollars) for the performance of all activities necessary for or incidental to the performance of work as set forth in this contract. This amount includes USD \$250,000 (Two Hundred Fifty Thousand Dollars) for enhancements and/or scope changes that must follow the Change Control Process described in section 1.403 (referred to as the Section 1.403 Amount).

With the exception of the Section 1.403 Amount, the Contract is a firm, fixed-priced, deliverable-based contract. Any such price reduction, or commitment of any of the Section 1.403 Amount, must be in accordance with the mutual consent between the State and the Contractor.

Payment will be made based on an acceptance of a deliverable. Deliverables will be either physical deliverables (documents) or service deliverables and will be invoiced upon acceptance of the deliverable. The pricing for the deliverables is all-inclusive. Any expenses the Contractor expects to incur were built into the price for the deliverable. The State will not pay for travel costs. Travel costs expected were estimated as a component of the Contractor pricing and included with the Contractor's pricing submitted to the State.

The Contractor will not be paid for any additional costs attributable to corrections of any errors or omissions that have been determined by the state's Project Managers to be occasioned by the Contractor. Payments will not be made until work is accepted subject to the information contained in section 1.104 and other terms of this contract.

All prices/rates quoted in this contract will be firm for the duration of the Contract. No price changes will be permitted.

The Contractor has based pricing on the following information:

1. The Contractor's estimations and team size have been based on the information, requirements and details provided herein. If the requirements specified in the documents and subsequent communication change, then the estimates, plans, resource levels, and/or costs may be adjusted accordingly. Any such changes will be pursuant to mutual agreement between State and the Contractor.
2. Contractor's price, estimates and schedule have been determined based on State of MI, MDIT technology standards as of December 4th, 2008 and other technical parameters specifically included in this Statement of Work.
3. Should delays caused by the State have an impact on the Contractor's ability to complete deliverables and milestones in accordance with the price and/or timelines stated in this contract,

then the State and the Contractor will make every effort to re-structure work plans to mitigate additional costs to the Contractor by rescheduling activities, operating activities in parallel and accelerating other activities. However, if the delays result in an extension of the project past the scheduled end dates per this contract or if the delays result in additional resource costs to contractor, then the Contractor will use the Change Control Request (CCR) process as stated in section 1.403 to identify additional costs and impact to the project schedule caused by the State's delay and to request payment for those costs. The State will be responsible for such additional costs incurred by the contractor to complete such deliverables and milestones.

4. The State will provide appropriate facilities (desk, workstation, phone, printer, software, hardware, etc.) are available, configured and operational at contract commencement. This includes development software tools, office productivity tools and other workstation software packages required for Item Bank System development, testing or project management.
5. The target hosting state environment for Item Bank System complies with the State Office of Enterprise Security and Enterprise Architecture standards. Contractor's price does not include time, effort or resources required to implement hardware or architecture changes to the Item Bank application hosting environment mandated by OES or EA.
6. The State is responsible for disaster recovery plans and infrastructure necessary to restore Item Bank System operation or work-in progress, in the event of disaster or other large scale production infrastructure failure.
7. Contractor agrees that the state has the right to hold back an amount equal to ten percent on each milestone invoiced that will be released upon completion of the Full Rollout Completed milestone. Holdback is not applicable to any work completed beyond the Full Rollout Completed milestone or for any work associated with Change Control Requests.
8. State has indicated that information pertaining to number of data tables and data elements containing statistical data could not be provided at the time of request for proposal. Hence Contractor has used a basis of up to 5 tables from which statistical data will be migrated to new system. It is also assumed that the existing data will be ported to the new system model with no need for data cleansing.
9. Contractor will deliver up to 25 reports based on the assumption that these will be tabular reports with data sourced from up to 4 tables containing up to 25 data elements, 12 search criteria elements, up to 2 grouping and 2 sorting criteria.
10. There will be no need for system driven language translation of test items or data elements or labels or other text elements. Contractor will not be responsible for any language translation related activities.
11. Contractor will design and develop the Item Bank System (IBS) application under the assumption that the State server and network infrastructure will be sufficiently deployed or upgraded to handle the higher volumes of user traffic accessing the new application in order to support the system performance requirements.
12. The performance requirement of two seconds for all transactions refers to the total time for the request from Web server to database server and data being sent back to Web Server. System Performance is a function of various factors including Hardware capacity, network throughput, database performance, data volume and user concurrency and application design. Contractor will be responsible for performance issues to the extent they pertain to code developed by Contractor based on technical design approved by State. State will be responsible for all other factors.

13. If the State elects to defer deploying a deliverable in State production environment for its own reasons including but not limited to delays in purchase of physical hardware, software, the same will not affect the acceptance and approval of Contractor deliverables; the State will grant Final Acceptance of the deliverable

14. A defect is defined as instance of application behavior that represents a lack of compliance with the State approved requirement specifications and associated technical design developed by Contractor (significant or material defects).

The following table provides the payment schedule.

Milestone/Deliverable Schedule/Pay Points	Deliverables	Estimated Completion Date (Business days from Start date of Project)	Payment Amount (USD)
Milestone 1 -Engagement Startup	<ul style="list-style-type: none"> • Project Plan • Work Breakdown Structure • Project Schedule • Risk Management Plan • Quality Plan • Communication Plan • Change Management Plan • Issue Management Plan • Security Plan (initial) • Software Configuration Plan (initial) • Maintenance Plan (initial) • Project Planning Transition checklist • CEASAR criteria • Dependencies List 	5	\$75,000
Milestone 2a – Requirements Gathering and Functional Design Completed	<ul style="list-style-type: none"> • Business Requirements Document • Use Case documents • UI Prototype screens • EA Solution Assessment • Infrastructure Service Request • Logical Data Model • Requirement Traceability Matrix (initial) • Requirements Management Checklist • Functional Design Document • Training Plan (initial) 	35	\$275,000
Milestone 2b - System Design Completed	<ul style="list-style-type: none"> • System Design Document • Physical Data Model • Data Migration Plan (Initial) • Test Plan • Test Reports (initial) • System Design Checklist • Software Testing Checklist • Software Configuration Management Plan (final) 	55	\$300,000

Milestone 3 - Development and Unit Test Completed	<ul style="list-style-type: none"> • Application Code components • System Integration Test Cases • Test Reports (updated) • Transition Plan (initial) • Installation Plan (initial) • Data Migration Output Data 	95	\$275,000
Milestone 4 - System and Integration Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • Test Scripts/Test Data • Testing Package • System Test Report (final) • Performance Test Results • Training Checklist 	115	\$250,000
Milestone 5 - User Acceptance Testing Completed	<ul style="list-style-type: none"> • Tested Application Code components • User Acceptance Test Report (final) 	159	\$300,000
Milestone 6 - Performance/Load Testing Completed	<ul style="list-style-type: none"> • Performance Test Report (final) • Installation Plan (final) • Training Plan (final) • Requirements Traceability Matrix (final) 	169	\$75,000
Milestone 7a - Deployment Completed	<ul style="list-style-type: none"> • Training • Training Manual • User Manual • Installation Manual • Operations Manual • Deployed Application Code • Post Implementation Evaluation Report (Deployment) 	179	\$50,000
Milestone 7b - Pilot Completed	<ul style="list-style-type: none"> • Post Implementation Evaluation Report (Pilot) 	201	\$30,000
Milestone 7c - Full Rollout Completed	<ul style="list-style-type: none"> • Conversion Plan (final) • Maintenance Plan (final) • Transition Plan (final) • Security Plan (final) • Post Implementation Evaluation Report (Full Rollout) • Knowledge Transfer to Operations 	211	\$20,000
Milestone 8 - Warranty Completed	<ul style="list-style-type: none"> • Warranty Defects log with list and status of defects 	277	\$8,000
Transition , Maintenance and Support Services Completed	<p>After conclusion of warranty period as specified in the schedule above, State will pay contractor a sum of \$14,166.66 for each month for a period of 24 months (until the end of the 3 year contract period). This is towards one full time equivalent resource to be assigned by Contractor onsite at State's facilities towards the above Transition and Maintenance and Support services. This amount will not be subject to any hold back.</p>		\$340,000

Enhancements & Scope Change Allocation	<ul style="list-style-type: none"> Towards Optional 2000 hours to be provided towards enhancements and scope changes to be processed through the Change Control Request Process defined in section 1.403 		\$250,000
Total Contract Value			USD \$2,248,000

Cost table for Other Services, Future Enhancements and Implementing Change Requests.

The following table provides hourly billing rate for various resource types that may be applied towards other services, future enhancements and implementing change requests.

No.	Resource Type	Hourly Rate
I	Project management	\$125.00
	Business analysts	\$95.00
	System analysts	\$95.00
	Programmer/developers	\$85.00
	System administrators	\$95.00
	Database administrators	\$115.00
	Q/A Manager	\$95.00
	Security specialist	\$90.00
	Testers	\$75.00
	Technical writers	\$70.00
	CM specialists	\$85.00
	System Architects	\$115.00
	Network engineer/administrator	\$65.00
	Software Architects	\$115.00
	CM specialists	\$85.00
	Project assistants	\$65.00
	Web developers/Senior Programmer Analysts	\$85.00
	Application trainers	\$85.00
	Others: (List) below):	\$
	Senior Technical Architects	\$115.00 per hour

The Contractor will submit an invoice based on approved deliverables per the above payment schedule. The invoice will include copies of Delivery Signoff Slips pertaining to the milestone / deliverable being invoiced.

If the State terminates the contract, the State will pay the Contractor all professional fees towards time expended by Contractor till the effective date of such Termination per the following:

For the milestone in progress at the time of communication of termination, the amount payable will be determined on the basis of number of expired days in relation to the total duration for the next milestone in the invoicing schedule. Amount payable for current milestone = Fees for the milestone multiplied by (number of expired days divided by total duration for the current milestone)

All fees including hold backs if any for all completed milestones as of the date of communication of the termination will be payable to the Contractor per amounts stated in the payment schedule outlined in the table above.

The parties agree that the Services/Deliverables to be rendered by Contractor pursuant to this Contract (and any future amendments of it) will be defined and described in detail in Statements of Work or Purchase Orders (PO) executed under this Contract. Contractor shall not be obliged or authorized to commence any work to

implement a Statement of Work until authorized via a PO issued against this Contract. Contractor shall perform in accordance with this Contract, including the Statements of Work/Purchase Orders executed under it.

Invoicing

Contractor will submit properly itemized invoices to the "Bill To" Address on Purchase Order. Invoices must provide and itemize, as applicable:

- Contract number;
- Purchase Order number
- Contractor name, address, phone number, and Federal Tax Identification Number;
- Description of any deliverables;
- Date(s) of delivery;
- Maintenance charges;
- Net invoice price for each item;
- Other applicable charges;
- Total invoice price; and

The State will pay maintenance and support charges on a monthly basis, in arrears. Payment of maintenance service/support of less than one (1) month's duration shall be prorated at 1/30th of the basic monthly maintenance charges for each calendar day per 2.044 (Invoicing and Payment).

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Article 2, Terms and Conditions

2.000 Contract Structure and Term

2.001 Contract Term

This Contract is for a period of **three** years beginning **May 5th, 2009** through **May 4th, 2012**. All outstanding Purchase Orders must also expire upon the termination (cancellation for any of the reasons listed in **Section 2.130**) of the Contract, unless otherwise extended under the Contract. Absent an early termination for any reason, Purchase Orders issued but not expired, by the end of the Contract's stated term, will remain in effect for the balance of the fiscal year for which they were issued.

2.002 Renewal(s)

This Contract may be renewed in writing by mutual agreement of the parties not less than 30 days before its expiration. The Contract may be renewed for up to **two** additional **one**-year periods.

2.003 Legal Effect

Contractor shall show acceptance of this Contract by signing two copies of the Contract and returning them to the Contract Administrator. The Contractor shall not proceed with the performance of the work to be done under the Contract, including the purchase of necessary materials, until both parties have signed the Contract to show acceptance of its terms, and the Contractor receives a contract release/purchase order that authorizes and defines specific performance requirements.

Except as otherwise agreed in writing by the parties, the State assumes no liability for costs incurred by Contractor or payment under this Contract, until Contractor is notified in writing that this Contract (or Change Order) has been approved by the State Administrative Board (if required), approved and signed by all the parties, and a Purchase Order against the Contract has been issued.

2.004 Attachments & Exhibits

All Attachments and Exhibits affixed to any and all Statement(s) of Work, or appended to or referencing this Contract, are incorporated in their entirety and form part of this Contract.

2.005 Ordering

The State will issue a written Purchase Order, Blanket Purchase Order, Direct Voucher or Procurement Card Order, which must be approved by the Contract Administrator or the Contract Administrator's designee, to order any Services/Deliverables under this Contract. All orders are subject to the terms and conditions of this Contract. No additional terms and conditions contained on either a Purchase Order or Blanket Purchase Order apply unless they are also specifically contained in that Purchase Order or Blanket Purchase Order's accompanying Statement of Work.

2.006 Order of Precedence

The Contract, including any Statements of Work and Exhibits, to the extent not contrary to the Contract, each of which is incorporated for all purposes, constitutes the entire agreement between the parties with respect to the subject matter and supersedes all prior agreements, whether written or oral, with respect to the subject matter and as additional terms and conditions on the purchase order must apply as limited by **Section 2.005**.

In the event of any inconsistency between the terms of the Contract and a Statement of Work, the terms of the Statement of Work will take precedence (as to that Statement of Work only); provided, however, that a Statement of Work may not modify or amend the terms of the Contract, which may be modified or amended only by a formal Contract amendment.

2.007 Headings

Captions and headings used in the Contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of the Contract.

2.008 Form, Function & Utility

If the Contract is for use of more than one State agency and if the Deliverable/Service does not meet the form, function, and utility required by that State agency, that agency may, subject to State purchasing policies, procure the Deliverable/Service from another source.

2.009 Reformation and Severability

Each provision of the Contract is severable from all other provisions of the Contract and, if one or more of the provisions of the Contract is declared invalid, the remaining provisions of the Contract remain in full force and effect.

2.010 Consents and Approvals

Except as expressly provided otherwise in the Contract, if either party requires the consent or approval of the other party for the taking of any action under the Contract, the consent or approval must be in writing and must not be unreasonably withheld or delayed.

2.011 No Waiver of Default

If a party fails to insist upon strict adherence to any term of the Contract then the party has not waived the right to later insist upon strict adherence to that term, or any other term, of the Contract.

2.012 Survival

Any provisions of the Contract that impose continuing obligations on the parties, including without limitation the parties' respective warranty, indemnity and confidentiality obligations, survive the expiration or termination of the Contract for any reason. Specific references to survival in the Contract are solely for identification purposes and not meant to limit or prevent the survival of any other section

2.020 Contract Administration

2.021 Issuing Office

This Contract is issued by the Department of Management and Budget, Purchasing Operations and MDIT/Michigan Department of Education (collectively, including all other relevant State of Michigan departments and agencies, the "State"). Purchasing Operations is the sole point of contact in the State with regard to all procurement and contractual matters relating to the Contract. The Purchasing Operations Contract Administrator for this Contract is:

Buyer Douglas Collier
Purchasing Operations
Department of Management and Budget
Mason Bldg, 2nd Floor
PO Box 30026
Lansing, MI 48909
Email collierd1@michigan.gov
Phone 517/ 335-4804

2.022 Contract Compliance Inspector

The Director of Purchasing Operations directs the person named below, or his or her designee, to monitor and coordinate the activities for the Contract on a day-to-day basis during its term. **Monitoring Contract activities does not imply the authority to change, modify, clarify, amend, or otherwise alter the prices, terms, conditions and specifications of the Contract. Purchasing Operations is the only State office authorized to change, modify, amend, alter or clarify the prices,**

specifications, terms and conditions of this Contract. The Contract Compliance Inspector for this Contract is:

Ann Lindberg
MDIT Agency Services
Cadillac Place, Suite #9-350
3032 West Grand Boulevard
Detroit, MI 48202
(313)456-3218
lindberga@michigan.gov

2.023 Project Manager

The following individual(s) will oversee the project:

Glenn Gorton
Client Services Director – DIT Agency Services MDE, CEPI
Hannah Building, 1st Floor
608 West Allegan
Lansing, MI 48933
(517) 241-2368
gortong@michigan.gov

2.024 Change Requests

The State reserves the right to request from time to time any changes to the requirements and specifications of the Contract and the work to be performed by the Contractor under the Contract. During the course of ordinary business, it may become necessary for the State to discontinue certain business practices or create Additional Services/Deliverables. At a minimum, to the extent applicable, the State would like the Contractor to provide a detailed outline of all work to be done, including tasks necessary to accomplish the Services/Deliverables, timeframes, listing of key personnel assigned, estimated hours for each individual per task, and a complete and detailed cost justification.

If the State requests or directs the Contractor to perform any Services/Deliverables that are outside the scope of the Contractor's responsibilities under the Contract ("New Work"), the Contractor must notify the State promptly, and before commencing performance of the requested activities, that it believes the requested activities are New Work. If the Contractor fails to notify the State before commencing performance of the requested activities, any such activities performed before the Contractor gives notice shall be conclusively considered to be in-scope Services/Deliverables, not New Work.

If the State requests or directs the Contractor to perform any services or provide deliverables that are consistent with and similar to the Services/Deliverables being provided by the Contractor under the Contract, but which the Contractor reasonably and in good faith believes are not included within the Statements of Work, then before performing such services or providing such deliverables, the Contractor shall notify the State in writing that it considers the services or deliverables to be an Additional Service/Deliverable for which the Contractor should receive additional compensation. If the Contractor does not so notify the State, the Contractor shall have no right to claim thereafter that it is entitled to additional compensation for performing that service or providing that deliverable. If the Contractor does so notify the State, then such a service or deliverable shall be governed by the Change Request procedure in this Section.

In the event prices or service levels are not acceptable to the State, the Additional Services or New Work shall be subject to competitive bidding based upon the specifications.

1. Change Request at State Request

If the State should require Contractor to perform New Work, Additional Services or make changes to the Services that would affect the Contract completion schedule or the amount of compensation

due Contractor (a "Change"), the State shall submit a written request for Contractor to furnish a proposal for carrying out the requested Change (a "Change Request").

2. Contractor Recommendation for Change Requests:
Contractor shall be entitled to propose a Change to the State, on its own initiative, should it be of the opinion that this would benefit the Contract.
3. Upon receipt of a Change Request or on its own initiative, Contractor shall examine the implications of the requested Change on the technical specifications, Contract schedule and price of the Deliverables and Services and shall submit to the State without undue delay a written proposal for carrying out the Change. Contractor's proposal will include any associated changes in the technical specifications, Contract schedule and price and method of pricing of the Services. If the Change is to be performed on a time and materials basis, the Amendment Labor Rates shall apply to the provision of such Services. If Contractor provides a written proposal and should Contractor be of the opinion that a requested Change is not to be recommended, it shall communicate its opinion to the State but shall nevertheless carry out the Change as specified in the written proposal if the State directs it to do so.
4. By giving Contractor written notice within a reasonable time, the State must be entitled to accept a Contractor proposal for Change, to reject it, or to reach another agreement with Contractor. Should the parties agree on carrying out a Change, a written Contract Change Notice must be prepared and issued under this Contract, describing the Change and its effects on the Services and any affected components of this Contract (a "Contract Change Notice").
5. No proposed Change must be performed until the proposed Change has been specified in a duly executed Contract Change Notice issued by the Department of Management and Budget, Purchasing Operations.
6. If the State requests or directs the Contractor to perform any activities that Contractor believes constitute a Change, the Contractor must notify the State that it believes the requested activities are a Change before beginning to work on the requested activities. If the Contractor fails to notify the State before beginning to work on the requested activities, then the Contractor waives any right to assert any claim for additional compensation or time for performing the requested activities. If the Contractor commences performing work outside the scope of this Contract and then ceases performing that work, the Contractor must, at the request of the State, retract any out-of-scope work that would adversely affect the Contract.

2.025 Notices

Any notice given to a party under the Contract must be deemed effective, if addressed to the party as addressed below, upon: (i) delivery, if hand delivered; (ii) receipt of a confirmed transmission by facsimile if a copy of the notice is sent by another means specified in this Section; (iii) the third Business Day after being sent by U.S. mail, postage pre-paid, return receipt requested; or (iv) the next Business Day after being sent by a nationally recognized overnight express courier with a reliable tracking system.

State:

State of Michigan
Purchasing Operations
Attention: Douglas Collier
PO Box 30026
530 West Allegan
Lansing, Michigan 48909

Contractor:

Contractor: Systems Technology Group, Inc. (STG)
Name: Mona Aggarwal, Vice President Finance Administration
Address: 3155 W. Big Beaver Road, Suite 220, Troy, Michigan 48084-3007

Either party may change its address where notices are to be sent by giving notice according to this Section.

2.026 Binding Commitments

Representatives of Contractor must have the authority to make binding commitments on Contractor's behalf within the bounds set forth in the Contract. Contractor may change the representatives from time to time upon written notice.

2.027 Relationship of the Parties

The relationship between the State and Contractor is that of client and independent contractor. No agent, employee, or servant of Contractor or any of its Subcontractors must be or must be deemed to be an employee, agent or servant of the State for any reason. Contractor will be solely and entirely responsible for its acts and the acts of its agents, employees, servants and Subcontractors during the performance of the Contract.

2.028 Covenant of Good Faith

Each party must act reasonably and in good faith. Unless stated otherwise in the Contract, the parties will not unreasonably delay, condition or withhold the giving of any consent, decision or approval that is either requested or reasonably required of them in order for the other party to perform its responsibilities under the Contract.

2.029 Assignments

Neither party may assign the Contract, or assign or delegate any of its duties or obligations under the Contract, to any other party (whether by operation of law or otherwise), without the prior written consent of the other party; provided, however, that the State may assign the Contract to any other State agency, department, division or department without the prior consent of Contractor and Contractor may assign the Contract to an affiliate so long as the affiliate is adequately capitalized and can provide adequate assurances that the affiliate can perform the Contract. The State may withhold consent from proposed assignments, subcontracts, or novations when the transfer of responsibility would operate to decrease the State's likelihood of receiving performance on the Contract or the State's ability to recover damages.

Contractor may not, without the prior written approval of the State, assign its right to receive payments due under the Contract. If the State permits an assignment, the Contractor is not relieved of its responsibility to perform any of its contractual duties, and the requirement under the Contract that all payments must be made to one entity continues.

If the Contractor intends to assign the contract or any of the Contractor's rights or duties under the Contract, the Contractor must notify the State in writing at least 90 days before the assignment. The Contractor also must provide the State with adequate information about the assignee within a reasonable amount of time before the assignment for the State to determine whether to approve the assignment.

2.030 General Provisions

2.031 Media Releases

News releases (including promotional literature and commercial advertisements) pertaining to the RFP and Contract or project to which it relates shall not be made without prior written State approval, and then only in accordance with the explicit written instructions from the State. No results of the activities associated with the RFP and Contract are to be released without prior written approval of the State and then only to persons designated.

2.032 Contract Distribution

Purchasing Operations retains the sole right of Contract distribution to all State agencies and local units of government unless other arrangements are authorized by Purchasing Operations.

2.033 Permits

Contractor must obtain and pay any associated costs for all required governmental permits, licenses and approvals for the delivery, installation and performance of the Services. The State must pay for all costs and expenses incurred in obtaining and maintaining any necessary easements or right of way.

2.034 Website Incorporation

The State is not bound by any content on the Contractor's website, even if the Contractor's documentation specifically referenced that content and attempts to incorporate it into any other communication, unless the State has actual knowledge of the content and has expressly agreed to be bound by it in a writing that has been manually signed by an authorized representative of the State.

2.035 Future Bidding Preclusion

Contractor acknowledges that, to the extent this Contract involves the creation, research, investigation or generation of a future RFP; it may be precluded from bidding on the subsequent RFP. The State reserves the right to disqualify any bidder if the State determines that the bidder has used its position (whether as an incumbent Contractor, or as a Contractor hired to assist with the RFP development, or as a Vendor offering free assistance) to gain a competitive advantage on the RFP

2.036 Freedom of Information

All information in any proposal submitted to the State by Contractor and this Contract is subject to the provisions of the Michigan Freedom of Information Act, 1976 Public Act No. 442, as amended, MCL 15.231, et seq (the "FOIA").

2.037 Disaster Recovery

Contractor and the State recognize that the State provides essential services in times of natural or man-made disasters. Therefore, except as so mandated by Federal disaster response requirements, Contractor personnel dedicated to providing Services/Deliverables under this Contract will provide the State with priority service for repair and work around in the event of a natural or man-made disaster.

2.040 Financial Provisions

2.041 Fixed Prices for Services/Deliverables

Each Statement of Work or Purchase Order issued under this Contract shall specify (or indicate by reference to the appropriate Contract Exhibit) the firm, fixed prices for all Services/Deliverables, and the associated payment milestones and payment amounts. The State may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

2.042 Adjustments for Reductions in Scope of Services/Deliverables

If the scope of the Services/Deliverables under any Statement of Work issued under this Contract is subsequently reduced by the State, the parties shall negotiate an equitable reduction in Contractor's charges under such Statement of Work commensurate with the reduction in scope.

2.043 Services/Deliverables Covered

For all Services/Deliverables to be provided by Contractor (and its Subcontractors, if any) under this Contract, the State shall not be obligated to pay any amounts in addition to the charges specified in this Contract.

2.044 Invoicing and Payment – In General

- a. Each Statement of Work issued under this Contract shall list (or indicate by reference to the appropriate Contract Exhibit) the prices for all Services/Deliverables, equipment and commodities to be provided, and the associated payment milestones and payment amounts.
- b. Each Contractor invoice will show details as to charges by Service/Deliverable component and location at a level of detail reasonably necessary to satisfy the State's accounting and charge-back

requirements. Invoices for Services performed on a time and materials basis will show, for each individual, the number of hours of Services performed during the billing period, the billable skill/labor category for such person and the applicable hourly billing rate. Prompt payment by the State is contingent on the Contractor's invoices showing the amount owed by the State minus any holdback amount to be retained by the State in accordance with **Section 1.064**.

- c. Correct invoices will be due and payable by the State, in accordance with the State's standard payment procedure as specified in 1984 Public Act No. 279, MCL 17.51 et seq., within 45 days after receipt, provided the State determines that the invoice was properly rendered.
- d. Contract Payment Schedule
 1. MDIT request for deliverable-based payment.

The Contractor may submit requests for payment of deliverable-based payments not more frequently than monthly, in a form and manner acceptable to the **MDIT Project Manager**. Unless otherwise authorized by the **MDIT Project Manager**, all performance-based payments in any period for which payment is being requested shall be included in a single request, appropriately itemized and totaled.
 2. Approval and payment of requests.

The Contractor shall not be entitled to payment of a request for performance-based payment prior to successful accomplishment of the event or performance criterion for which payment is requested. The Contract Administrator shall determine whether the event or performance criterion for which payment is requested has been successfully accomplished in accordance with the terms of the contract. The Contract Administrator may, at any time, require the Contractor to substantiate the successful performance of any event or performance criterion, which has been or is represented as being payable.

The approval by the Contract Administrator of a request for performance-based payment does not constitute an acceptance by the Government and does not excuse the Contractor from performance of obligations under this Contract.

2.045 Pro-ration

To the extent there are any Services that are to be paid for on a monthly basis, the cost of such Services shall be pro-rated for any partial month.

2.046 Antitrust Assignment

The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

2.047 Final Payment

The making of final payment by the State to Contractor does not constitute a waiver by either party of any rights or other claims as to the other party's continuing obligations under the Contract, nor will it constitute a waiver of any claims by one party against the other arising from unsettled claims or failure by a party to comply with this Contract, including claims for Services and Deliverables not reasonably known until after acceptance to be defective or substandard. Contractor's acceptance of final payment by the State under this Contract shall constitute 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 unsettled.

2.048 Electronic Payment Requirement

Electronic transfer of funds is required for payments on State Contracts. Contractors are required to register with the State electronically at <http://www.cpexpress.state.mi.us>. As stated in Public Act 431 of 1984, all contracts that the State enters into for the purchase of goods and services shall provide that payment will be made by electronic fund transfer (EFT).

2.050 Taxes

2.051 Employment Taxes

Contractors are expected to collect and pay all applicable federal, state, and local employment taxes, including the taxes.

2.052 Sales and Use Taxes

Contractors are required to be registered and to remit sales and use taxes on taxable sales of tangible personal property or services delivered into the State. Contractors that lack sufficient presence in Michigan to be required to register and pay tax must do so as a volunteer. This requirement extends to: (1) all members of any controlled group as defined in § 1563(a) of the Internal Revenue Code and applicable regulations of which the company is a member, and (2) all organizations under common control as defined in § 414(c) of the Internal Revenue Code and applicable regulations of which the company is a member that make sales at retail for delivery into the State are registered with the State for the collection and remittance of sales and use taxes. In applying treasury regulations defining "two or more trades or businesses under common control" the term "organization" means sole proprietorship, a partnership (as defined in § 701(a) (2) of the Internal Revenue Code), a trust, an estate, a corporation, or a limited liability company.

2.060 Contract Management

2.061 Contractor Personnel Qualifications

All persons assigned by Contractor to the performance of Services under this Contract must be employees of Contractor or its majority-owned (directly or indirectly, at any tier) subsidiaries (or a State-approved Subcontractor) and must be fully qualified to perform the work assigned to them. Contractor must include a similar provision in any subcontract entered into with a Subcontractor. For the purposes of this Contract, independent contractors engaged by Contractor solely in a staff augmentation role must be treated by the State as if they were employees of Contractor for this Contract only; however, the State understands that the relationship between Contractor and Subcontractor is an independent contractor relationship.

2.062 Contractor Key Personnel

- a. The Contractor must provide the Contract Compliance Inspector with the names of the Key Personnel.
- b. Key Personnel must be dedicated as defined in the Statement of Work to the Project for its duration in the applicable Statement of Work with respect to other individuals designated as Key Personnel for that Statement of Work.
- c. The State will have 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, will introduce the individual to the appropriate State representatives, and will 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.
- d. Contractor must not remove any Key Personnel from their assigned roles or the 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"). Unauthorized Removals 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. Unauthorized Removals does not include replacing Key Personnel because of promotions or other job movements allowed by Contractor personnel policies or Collective Bargaining Agreement(s) as long as the State receives prior written notice before shadowing occurs and Contractor provides 30 days of shadowing unless parties agree to a different time period. The Contractor with the State must

review any Key Personnel replacements, and appropriate transition planning will be established. Any Unauthorized Removal may be considered by the State to be a material breach of the Contract, in respect of which the State may elect to exercise its termination and cancellation rights.

- e. The Contractor must notify the Contract Compliance Inspector and the Contract Administrator at least 10 business days before redeploying non-Key Personnel, who are dedicated to primarily to the Project, to other projects. If the State does not object to the redeployment by its scheduled date, the Contractor may then redeploy the non-Key Personnel.

Section 2.062 Contractor Key Personnel is not applicable to this contract.

2.063 Re-assignment of Personnel at the State's Request

The State reserves the right to require the removal from the Project of Contractor personnel found, in the judgment of the State, to be unacceptable. The State's request must be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request must be based on legitimate, good faith reasons. Replacement personnel for the removed person must be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed personnel, the State agrees to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any incident with removed personnel results in delay not reasonably anticipatable under the circumstances and which is attributable to the State, the applicable SLAs for the affected Service will not be counted for a time as agreed to by the parties.

2.064 Contractor Personnel Location

All staff assigned by Contractor to work on the Contract will perform their duties either primarily at Contractor's offices and facilities or at State facilities. Without limiting the generality of the foregoing, Key Personnel will, at a minimum, spend at least the amount of time on-site at State facilities as indicated in the applicable Statement of Work. Subject to availability, selected Contractor personnel may be assigned office space to be shared with State personnel.

2.065 Contractor Identification

Contractor employees must be clearly identifiable while on State property by wearing a State-issued badge, as required. Contractor employees are required to clearly identify themselves and the company they work for whenever making contact with State personnel by telephone or other means.

2.066 Cooperation with Third Parties

Contractor agrees to cause its personnel and the personnel of any Subcontractors to cooperate with the State and its agents and other contractors including the State's Quality Assurance personnel. As reasonably requested by the State in writing, the Contractor will provide to the State's agents and other contractors reasonable access to Contractor's Project personnel, systems and facilities to the extent the access relates to activities specifically associated with this Contract and will not interfere or jeopardize the safety or operation of the systems or facilities. The State acknowledges that Contractor's time schedule for the Contract is very specific and agrees not to unnecessarily or unreasonably interfere with, delay or otherwise impeded Contractor's performance under this Contract with the requests for access.

2.067 Contract Management Responsibilities

Contractor shall be responsible for all acts and omissions of its employees, as well as the acts and omissions of any other personnel furnished by Contractor to perform the Services. Contractor shall have overall responsibility for managing and successfully performing and completing the Services/Deliverables, subject to the overall direction and supervision of the State and with the participation and support of the State as specified in this Contract. Contractor's duties will include monitoring and reporting the State's performance of its participation and support responsibilities (as well as Contractor's own responsibilities) and providing timely notice to the State in Contractor's reasonable opinion if the State's failure to perform its responsibilities in accordance with the Project Plan is likely to delay the timely achievement of any Contract tasks.

The Contractor will provide the Services/Deliverables directly or through its affiliates, subsidiaries, subcontractors or resellers. Regardless of the entity providing the Service/Deliverable, the Contractor will act as a single point of contact coordinating these entities to meet the State's need for Services/Deliverables. Nothing in this Contract, however, shall be construed to authorize or require any party to violate any applicable law or regulation in its performance of this Contract.

2.068 Contractor Return of State Equipment/Resources

The Contractor must return to the State any State-furnished equipment, facilities and other resources when no longer required for the Contract in the same condition as when provided by the State, reasonable wear and tear excepted.

2.070 Subcontracting by Contractor

2.071 Contractor full Responsibility

Contractor shall have full responsibility for the successful performance and completion of all of the Services and Deliverables. The State will consider Contractor to be the sole point of contact with regard to all contractual matters under this Contract, including payment of any and all charges for Services and Deliverables.

2.072 State Consent to delegation

Contractor shall not delegate any duties under this Contract to a Subcontractor unless the Department of Management and Budget, Purchasing Operations has given written consent to such delegation. The State shall have the right of prior written approval of all Subcontractors and to require Contractor to replace any Subcontractors found, in the reasonable judgment of the State, to be unacceptable. The State's request shall be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request shall be based on legitimate, good faith reasons. Replacement Subcontractor(s) for the removed Subcontractor shall be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed Subcontractor, the State will agree to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any such incident with a removed Subcontractor results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLA for the affected Work will not be counted for a time agreed upon by the parties.

2.073 Subcontractor bound to Contract

In any subcontracts entered into by Contractor for the performance of the Services, Contractor shall require the Subcontractor, to the extent of the Services to be performed by the Subcontractor, to be bound to Contractor by the terms of this Contract and to assume toward Contractor all of the obligations and responsibilities that Contractor, by this Contract, assumes toward the State. The State reserves the right to receive copies of and review all subcontracts, although Contractor may delete or mask any proprietary information, including pricing, contained in such contracts before providing them to the State. The management of any Subcontractor will be the responsibility of Contractor, and Contractor shall remain responsible for the performance of its Subcontractors to the same extent as if Contractor had not subcontracted such performance. Contractor shall make all payments to Subcontractors or suppliers of Contractor. Except as otherwise agreed in writing by the State and Contractor, the State will not be obligated to direct payments for the Services other than to Contractor. The State's written approval of any Subcontractor engaged by Contractor to perform any obligation under this Contract shall not relieve Contractor of any obligations or performance required under this Contract. A list of the Subcontractors, if any, approved by the State as of the execution of this Contract, together with a copy of the applicable subcontract is attached.

2.074 Flow Down

Except where specifically approved in writing by the State on a case-by-case basis, Contractor shall flow down the obligations in **Sections 2.031, 2.060, 2.100, 2.110, 2.120, 2.130, and 2.200** in all of its agreements with any Subcontractors.

2.075 Competitive Selection

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the Contract.

2.080 State Responsibilities

2.081 Equipment

The State will provide only the equipment and resources identified in the Statements of Work and other Contract Exhibits.

2.082 Facilities

The State must designate space as long as it is available and as provided in the Statement of Work, to house the Contractor's personnel whom the parties agree will perform the Services/Deliverables at State facilities (collectively, the "State Facilities"). The Contractor must have reasonable access to, and unless agreed otherwise by the parties in writing must observe and comply with all rules and regulations relating to each of the State Facilities (including hours of operation) used by the Contractor in the course of providing the Services. Contractor agrees that it will not, without the prior written consent of the State, use any State Facilities or access any State information systems provided for the Contractor's use, or to which the Contractor otherwise gains access in the course of performing the Services, for any purpose other than providing the Services to the State.

2.090 Security

2.091 Background Checks

On a case-by-case basis, the State may investigate the Contractor's personnel before they may have access to State facilities and systems. The scope of the background check is at the discretion of the State and the results will be used to determine Contractor personnel eligibility for working within State facilities and systems. The investigations will include Michigan State Police Background checks (ICHAT) and may include the National Crime Information Center (NCIC) Finger Prints. Proposed Contractor personnel may be required to complete and submit an RI-8 Fingerprint Card for the NCIC Finger Print Check. Any request for background checks will be initiated by the State and will be reasonably related to the type of work requested.

All Contractor personnel will also be expected to comply with the State's security and acceptable use policies for State IT equipment and resources. See <http://www.michigan.gov/dit>. Furthermore, Contractor personnel will be expected to 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. It is expected the Contractor will present these documents to the prospective employee before the Contractor presents the individual to the State as a proposed resource. Contractor staff will be expected to comply with all Physical Security procedures in place within the facilities where they are working.

2.092 Security Breach Notification

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. Contractor 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.

2.093 PCI DATA Security Requirements

Contractors with access to credit/debit card cardholder data must adhere to the Payment Card Industry (PCI) Data Security requirements. Contractor agrees that they are responsible for security of cardholder data in their possession. Contractor agrees that data can ONLY be used for assisting the State in completing a transaction, supporting a loyalty program, supporting the State, providing fraud control services, or for other uses specifically required by law.

Contractor agrees to provide business continuity in the event of a major disruption, disaster or failure.

The Contractor will contact the Department of Management and Budget, Financial Services immediately to advise them of any breaches in security where card data has been compromised. In the event of a security intrusion, the Contractor agrees the Payment Card Industry representative, or a Payment Card Industry approved third party, will be provided with full cooperation and access to conduct a thorough security review. The review will validate compliance with the Payment Card Industry Data Security Standard for protecting cardholder data.

Contractor agrees to properly dispose sensitive cardholder data when no longer needed. The Contractor will continue to treat cardholder data as confidential upon contract termination.

The Contractor will provide the Department of Management and Budget, Financial Services documentation showing PCI Data Security certification has been achieved. The Contractor will advise the Department of Management and Budget, Financial Services of all failures to comply with the PCI Data Security Requirements. Failures include, but are not limited to system scans and self-assessment questionnaires. The Contractor will provide a time line for corrective action.

2.100 Confidentiality

2.101 Confidentiality

Contractor and the State each acknowledge that the other possesses and will continue to possess confidential information that has been developed or received by it. As used in this Section, "Confidential Information" of Contractor must mean all non-public proprietary information of Contractor (other than Confidential Information of the State as defined below), which is marked confidential, restricted, proprietary, or with a similar designation. "Confidential Information" of the State must mean any information which is retained in confidence by the State (or otherwise required to be held in confidence by the State under applicable federal, state and local laws and regulations) or which, in the case of tangible materials provided to Contractor by the State under its performance under this Contract, is marked as confidential, proprietary or with a similar designation by the State. "Confidential Information" excludes any information (including this Contract) that is publicly available under the Michigan FOIA.

2.102 Protection and Destruction of Confidential Information

The State and Contractor will each use at least the same degree of care to prevent disclosing to third parties the Confidential Information of the other as it employs to avoid unauthorized disclosure, publication or dissemination of its own confidential information of like character, but in no event less than reasonable care. Neither Contractor nor the State will (i) make any use of the Confidential Information of the other except as contemplated by this Contract, (ii) acquire any right in or assert any lien against the Confidential Information of the other, or (iii) if requested to do so, refuse for any reason to promptly return the other party's Confidential Information to the other party. Each party will limit disclosure of the other party's Confidential Information to employees and Subcontractors who must have access to fulfill the purposes of this Contract. Disclosure to, and use by, 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 scope of responsibility, 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 and of any Subcontractor having access or continued access to the State's Confidential Information may be required to execute an acknowledgment that the employee has been advised of Contractor's and the

Subcontractor's obligations under this Section and of the employee's obligation to Contractor or Subcontractor, as the case may be, to protect the Confidential Information from unauthorized use or disclosure.

Promptly upon termination or cancellation of the Contract for any reason, Contractor must certify to the State that Contractor has destroyed all State Confidential Information.

2.103 Exclusions

Notwithstanding the foregoing, the provisions in this Section will not apply to any particular information which the State or Contractor can demonstrate (i) was, at the time of disclosure to it, in the public domain; (ii) after disclosure to it, is published or otherwise becomes part of the public domain through no fault of the receiving party; (iii) was in the possession of the receiving party at the time of disclosure to it without an obligation of confidentiality; (iv) was received after disclosure to it from a third party who had a lawful right to disclose the information to it without any obligation to restrict its further disclosure; or (v) was independently developed by the receiving party without reference to Confidential Information of the furnishing party. Further, the provisions of this Section will not apply to any particular Confidential Information to the extent the receiving party is required by law to disclose the Confidential Information, provided that the receiving party (i) promptly provides the furnishing party with notice of the legal request, and (ii) assists the furnishing party in resisting or limiting the scope of the disclosure as reasonably requested by the furnishing party.

2.104 No Implied Rights

Nothing contained in this Section must be construed as obligating a party to disclose any particular Confidential Information to the other party, or as granting to or conferring on a party, expressly or impliedly, any right or license to the Confidential Information of the other party.

2.105 Respective Obligations

The parties' respective obligations under this Section must survive the termination or expiration of this Contract for any reason.

2.110 Records and Inspections

2.111 Inspection of Work Performed

The State's authorized representatives must at all reasonable times and with 10 days prior written request, have the right to enter Contractor's premises, or any other places, where the Services are being performed, and must have access, upon reasonable request, to interim drafts of Deliverables or work-in-progress. Upon 10 Days prior written notice and at all reasonable times, the State's representatives must be allowed to inspect, monitor, or otherwise evaluate the work being performed and to the extent that the access will not reasonably interfere or jeopardize the safety or operation of the systems or facilities. Contractor must provide all reasonable facilities and assistance for the State's representatives.

2.112 Examination of Records

For seven years after the Contractor provides any work under this Contract (the "Audit Period"), the State may examine and copy any of Contractor's books, records, documents and papers pertinent to establishing Contractor's compliance with the Contract and with applicable laws and rules. The State must notify the Contractor 20 days before examining the Contractor's books and records. The State does not have the right to review any information deemed confidential by the Contractor to the extent access would require the confidential information to become publicly available. This provision also applies to the books, records, accounts, documents and papers, in print or electronic form, of any parent, affiliated or subsidiary organization of Contractor, or any Subcontractor of Contractor performing services in connection with the Contract.

2.113 Retention of Records

Contractor must maintain at least until the end of the Audit Period all pertinent financial and accounting records (including time sheets and payroll records, and information pertaining to the Contract and to the Services, equipment, and commodities provided under the Contract) pertaining to the Contract according to generally accepted accounting principles and other procedures specified in this Section. Financial and accounting records must be made available, upon request, to the State at any time during the Audit Period. If an audit, litigation, or other action involving Contractor's records is initiated before the end of the Audit Period, the records must be retained until all issues arising out of the audit, litigation, or other action are resolved or until the end of the Audit Period, whichever is later.

2.114 Audit Resolution

If necessary, the Contractor and the State will meet to review each audit report promptly after issuance. The Contractor will respond to each audit report in writing within 30 days from receipt of the report, unless a shorter response time is specified in the report. The Contractor and the State must develop, agree upon and monitor an action plan to promptly address and resolve any deficiencies, concerns, and/or recommendations in the audit report.

2.115 Errors

If the audit demonstrates any errors in the documents provided to the State, then the amount in error must be reflected as a credit or debit on the next invoice and in subsequent invoices until the amount is paid or refunded in full. However, a credit or debit may not be carried for more than four invoices. If a balance remains after four invoices, then the remaining amount will be due as a payment or refund within 45 days of the last quarterly invoice that the balance appeared on or termination of the contract, whichever is earlier.

In addition to other available remedies, the difference between the payment received and the correct payment amount is greater than 10%, then the Contractor must pay all of the reasonable costs of the audit.

2.120 Warranties

2.121 Warranties and Representations

The Contractor represents and warrants:

- a. It is capable in all respects of fulfilling and must fulfill all of its obligations under this Contract. The performance of all obligations under this Contract must be provided in a timely, professional, and workman-like manner and must meet the performance and operational standards required under this Contract.
- b. The Contract Appendices, Attachments and Exhibits identify the equipment and software and services necessary for the Deliverable(s) to perform and Services to operate in compliance with the Contract's requirements and other standards of performance.
- c. It is the lawful owner or licensee of any Deliverable licensed or sold to the State by Contractor or developed by Contractor under this Contract, and Contractor has all of the rights necessary to convey to the State the ownership rights or licensed use, as applicable, of any and all Deliverables. None of the Deliverables provided by Contractor to the State under neither this Contract, nor their use by the State will infringe the patent, copyright, trade secret, or other proprietary rights of any third party.
- d. If, under this Contract, Contractor procures any equipment, software or other Deliverable for the State (including equipment, software and other Deliverables manufactured, re-marketed or otherwise sold by Contractor under Contractor's name), then in addition to Contractor's other responsibilities with respect to the items in this Contract, Contractor must assign or otherwise transfer to the State or its designees, or afford the State the benefits of, any manufacturer's warranty for the Deliverable.
- e. The contract signatory has the power and authority, including any necessary corporate authorizations, necessary to enter into this Contract, on behalf of Contractor.
- f. It is qualified and registered to transact business in all locations where required.

- g. Neither the Contractor nor any Affiliates, nor any employee of either, has, must have, or must acquire, any contractual, financial, business, or other interest, direct or indirect, that would conflict in any manner or degree with Contractor's performance of its duties and responsibilities to the State under this Contract or otherwise create an appearance of impropriety with respect to the award or performance of this Agreement. Contractor must notify the State about the nature of the conflict or appearance of impropriety within two days of learning about it.
- h. Neither Contractor nor any Affiliates, nor any employee of either has accepted or must accept anything of value based on an understanding that the actions of the Contractor or Affiliates or employee on behalf of the State would be influenced. Contractor must not attempt to influence any State employee by the direct or indirect offer of anything of value.
- i. Neither Contractor nor any Affiliates, nor any employee of either has paid or agreed to pay any person, other than bona fide employees and consultants working solely for Contractor or the Affiliate, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract.
- j. The prices proposed by Contractor were arrived at independently, without consultation, communication, or agreement with any other bidder for the purpose of restricting competition; the prices quoted were not knowingly disclosed by Contractor to any other bidder; and no attempt was made by Contractor to induce any other person to submit or not submit a proposal for the purpose of restricting competition.
- k. All financial statements, reports, and other information furnished by Contractor to the State as part of its response to the RFP or otherwise in connection with the award of this Contract fairly and accurately represent the business, properties, financial condition, and results of operations of Contractor as of the respective dates, or for the respective periods, covered by the financial statements, reports, other information. Since the respective dates or periods covered by the financial statements, reports, or other information, there have been no material adverse changes in the business, properties, financial condition, or results of operations of Contractor.
- l. All written information furnished to the State by or for the Contractor in connection with this Contract, including its bid, is true, accurate, and complete, and contains no untrue statement of material fact or omits any material fact necessary to make the information not misleading.
- m. It is not in material default or breach of any other contract or agreement that it may have with the State or any of its departments, commissions, boards, or agencies. Contractor further represents and warrants that it has not been a party to any contract with the State or any of its departments that was terminated by the State or the department within the previous five years for the reason that Contractor failed to perform or otherwise breached an obligation of the contract.
- n. If any of the certifications, representations, or disclosures made in the Contractor's original bid response change after contract award, the Contractor is required to report those changes immediately to the Department of Management and Budget, Purchasing Operations.

This section is limited to the extent of items listed in section 1.101 (In Scope) and section 1.104 Work and Deliverables and associated terms stated in this statement of work.

2.122 Warranty of Merchantability

Goods provided by Contractor under this agreement shall be merchantable. All goods provided under this Contract shall be of good quality within the description given by the State, shall be fit for their ordinary purpose, shall be adequately contained and packaged within the description given by the State, shall conform to the agreed upon specifications, and shall conform to the affirmations of fact made by the Contractor or on the container or label.

2.123 Warranty of Fitness for a Particular Purpose

When the Contractor has reason to know or knows any particular purpose for which the goods are required, and the State is relying on the Contractor's skill or judgment to select or furnish suitable goods, there is a warranty that the goods are fit for such purpose.

2.124 Warranty of Title

Contractor shall, in providing goods to the State, convey good title in those goods, whose transfer is right and lawful. All goods provided by Contractor shall be delivered free from any security interest, lien, or encumbrance of which the State, at the time of contracting, has no knowledge. Goods provided by Contractor, under this Contract, shall be delivered free of any rightful claim of any third person by of infringement or the like.

2.125 Equipment Warranty– Currently “Out of Scope” for this Contract

To the extent Contractor is responsible under this Contract for maintaining equipment/system(s), Contractor represents and warrants that it will maintain the equipment/system(s) in good operating condition and will undertake all repairs and preventive maintenance according to the applicable manufacturer's recommendations for the period specified in this Contract.

The Contractor represents and warrants that the equipment/system(s) are in good operating condition and operates and performs to the requirements and other standards of performance contained in this Contract, when installed, at the time of Final Acceptance by the State, and for a period of (1) one year commencing upon the first day following Final Acceptance.

Within 5 business days of notification from the State, the Contractor must adjust, repair or replace all equipment that is defective or not performing in compliance with the Contract. The Contractor must assume all costs for replacing parts or units and their installation including transportation and delivery fees, if any.

The Contractor must provide a toll-free telephone number to allow the State to report equipment failures and problems to be remedied by the Contractor.

The Contractor agrees that all warranty service it provides under this Contract must be performed by Original Equipment Manufacturer (OEM) trained, certified and authorized technicians.

The Contractor is the sole point of contact for warranty service. The Contractor warrants that it will pass through to the State any warranties obtained or available from the original equipment manufacturer, including any replacement, upgraded, or additional equipment warranties.

Section 2.125 is not applicable to this contract.

2.126 Equipment to be New – Currently “Out of Scope” for this Contract

If applicable, all equipment provided under this Contract by Contractor shall be new where Contractor has knowledge regarding whether the equipment is new or assembled from new or serviceable used parts that are like new in performance or has the option of selecting one or the other. Equipment that is assembled from new or serviceable used parts that are like new in performance is acceptable where Contractor does not have knowledge or the ability to select one or other, unless specifically agreed otherwise in writing by the State.

Section 2.126 is not applicable to this contract.

2.127 Prohibited Products – Currently “Out of Scope” for this Contract

The State will not accept salvage, distressed, outdated or discontinued merchandise. Shipping of such merchandise to any State agency, as a result of an order placed against the Contract, shall be considered default by the Contractor of the terms and conditions of the Contract and may result in cancellation of the Contract by the State. The brand and product number offered for all items shall remain consistent for the term of the Contract, unless Purchasing Operations has approved a change order pursuant to **Section 2.024**.

2.128 Consequences for Breach

In addition to any remedies available in law, if the Contractor breaches any of the warranties contained in this section, the breach may be considered as a default in the performance of a material obligation of this Contract.

2.130 Insurance

2.131 Liability Insurance

The Contractor must provide proof of the minimum levels of insurance coverage as indicated below. The insurance must protect the State from claims that may arise out of or result from the Contractor's performance of services under the terms of this Contract, whether the services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain under this Contract.

All insurance coverage provided relative to this Contract/Purchase Order is PRIMARY and NON-CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The insurance must be written for not less than any minimum coverage specified in this Contract or required by law, whichever is greater.

The insurers selected by Contractor must have an A.M. Best rating of A or better, or as otherwise approved in writing by the State, or if the ratings are no longer available, with a comparable rating from a recognized insurance rating agency. All policies of insurance required in this Contract must be issued by companies that have been approved to do business in the State.

See www.michigan.gov/dleg.

Where specific limits are shown, they are the minimum acceptable limits. If Contractor's policy contains higher limits, the State must be entitled to coverage to the extent of the higher limits.

The Contractor is required to pay for and provide the type and amount of insurance checked below:

- 1. Commercial General Liability with the following minimum coverage:
\$2,000,000 General Aggregate Limit other than Products/Completed Operations
\$2,000,000 Products/Completed Operations Aggregate Limit
\$1,000,000 Personal & Advertising Injury Limit
\$1,000,000 Each Occurrence Limit

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the Commercial General Liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

- 2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance on any auto including owned, hired and non-owned vehicles used in Contractor's business for bodily injury and property damage as required by law.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the vehicle liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

- 3. Workers' compensation coverage must be provided according to applicable laws governing the employees and employers work activities in the state of the Contractor's domicile. If a self-insurer provides the applicable coverage, proof must be provided of approved self-insured authority by the jurisdiction of domicile. For employees working outside of the state of

qualification, Contractor must provide appropriate certificates of insurance proving mandated coverage levels for the jurisdictions where the employees' activities occur.

Any certificates of insurance received must also provide a list of states where the coverage is applicable.

The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company. This provision must not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

- 4. Employers liability insurance with the following minimum limits:
\$100,000 each accident
\$100,000 each employee by disease
\$500,000 aggregate disease
- 5. Employee Fidelity, including Computer Crimes, insurance naming the State as a loss payee, providing coverage for direct loss to the State and any legal liability of the State arising out of or related to fraudulent or dishonest acts committed by the employees of Contractor or its Subcontractors, acting alone or in collusion with others, in a minimum amount of one million dollars (\$1,000,000.00) with a maximum deductible of fifty thousand dollars (\$50,000.00).
- 6. Umbrella or Excess Liability Insurance in a minimum amount of ten million dollars (\$10,000,000.00), which must apply, at a minimum, to the insurance required in Subsection 1 (Commercial General Liability) above.
- 7. Professional Liability (Errors and Omissions) Insurance with the following minimum coverage: three million dollars (\$3,000,000.00) each occurrence and three million dollars (\$3,000,000.00) annual aggregate.
- 8. Fire and Personal Property Insurance covering against any loss or damage to the office space used by Contractor for any reason under this Contract, and the equipment, software and other contents of the office space, including without limitation, those contents used by Contractor to provide the Services to the State, up to its replacement value, where the office space and its contents are under the care, custody and control of Contractor. The policy must cover all risks of direct physical loss or damage, including without limitation, flood and earthquake coverage and coverage for computer hardware and software. The State must be endorsed on the policy as a loss payee as its interests appear.

2.132 Subcontractor Insurance Coverage

Except where the State has approved in writing a Contractor subcontract with other insurance provisions, Contractor must require all of its Subcontractors under this Contract to purchase and maintain the insurance coverage as described in this Section for the Contractor in connection with the performance of work by those Subcontractors. Alternatively, Contractor may include any Subcontractors under Contractor's insurance on the coverage required in this Section.

Subcontractor(s) must fully comply with the insurance coverage required in this Section. Failure of Subcontractor(s) to comply with insurance requirements does not limit Contractor's liability or responsibility.

2.133 Certificates of Insurance and Other Requirements

Contractor must furnish to DMB Purchasing Operations, certificate(s) of insurance verifying insurance coverage or providing satisfactory evidence of self-insurance as required in this Section (the "Certificates"). The Certificate must be on the standard "accord" form or equivalent. **The Contract Number or the Purchase Order Number must be shown on the Certificate Of Insurance To Assure Correct Filing.** All Certificate(s) are to be prepared and submitted by the Insurance Provider. All Certificate(s) must contain a provision indicating that coverage afforded under the policies WILL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without 30 days prior written

notice, except for 10 days for non-payment of premium, having been given to the Director of Purchasing Operations, Department of Management and Budget. The notice must include the Contract or Purchase Order number affected. Before the Contract is signed, and not less than 20 days before the insurance expiration date every year thereafter, the Contractor must provide evidence that the State and its agents, officers and employees are listed as additional insured under each commercial general liability and commercial automobile liability policy. In the event the State approves the representation of the State by the insurer's attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

The Contractor must maintain all required insurance coverage throughout the term of the Contract and any extensions and, in the case of claims-made Commercial General Liability policies, must secure tail coverage for at least three years following the expiration or termination for any reason of this Contract. The minimum limits of coverage specified above are not intended, and must not be construed; to limit any liability or indemnity of Contractor under this Contract to any indemnified party or other persons. Contractor is responsible for all deductibles with regard to the insurance. If the Contractor fails to pay any premium for required insurance as specified in this Contract, or if any insurer cancels or significantly reduces any required insurance as specified in this Contract without the State's written consent, then the State may, after the State has given the Contractor at least 30 days written notice, pay the premium or procure similar insurance coverage from another company or companies. The State may deduct any part of the cost from any payment due the Contractor, or the Contractor must pay that cost upon demand by the State.

2.140 Indemnification

2.141 General Indemnification

To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties), accruing or resulting to any person, firm or corporation that may be injured or damaged by the Contractor in the performance of this Contract and that are attributable to the negligence or tortious acts of the Contractor or any of its subcontractors, or by anyone else for whose acts any of them may be liable.

2.142 Code Indemnification

To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from any claim, loss, or expense arising from Contractor's breach of the No Surreptitious Code Warranty.

2.143 Employee Indemnification

In any claims against the State of Michigan, its departments, divisions, agencies, sections, commissions, officers, employees and agents, by any employee of the Contractor or any of its subcontractors, the indemnification obligation under the Contract must not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Contractor or any of its subcontractors under worker's disability compensation acts, disability benefit acts or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.

2.144 Patent/Copyright Infringement Indemnification

To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that the action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or the operation of the equipment, software, commodity or service, or the use or reproduction of any

documentation provided with the equipment, software, commodity or service infringes any United States patent, copyright, trademark or trade secret of any person or entity, which is enforceable under the laws of the United States.

In addition, should the equipment, software, commodity, or service, or its operation, become or in the State's or Contractor's opinion be likely to become the subject of a claim of infringement, the Contractor must at the Contractor's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if the option is not reasonably available to the Contractor, (ii) replace or modify to the State's satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if the option is not reasonably available to Contractor, (iii) accept its return by the State with appropriate credits to the State against the 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.

Notwithstanding the foregoing, the Contractor has no obligation to indemnify or defend the State for, or to pay any costs, damages or attorneys' fees related to, any claim based upon (i) equipment developed based on written specifications of the State; (ii) use of the equipment in a configuration other than implemented or approved in writing by the Contractor, including, but not limited to, any modification of the equipment by the State; or (iii) the combination, operation, or use of the equipment with equipment or software not supplied by the Contractor under this Contract.

2.145 Continuation of Indemnification Obligations

The Contractor's duty to indemnify under this Section continues in full force and effect, notwithstanding the expiration or early cancellation of the Contract, with respect to any claims based on facts or conditions that occurred before expiration or cancellation.

2.146 Indemnification Procedures

The procedures set forth below must apply to all indemnity obligations under this Contract.

- a. After the State receives notice of the action or proceeding involving a claim for which it will seek indemnification, the State must promptly notify Contractor of the claim in writing and take or assist Contractor in taking, as the case may be, any reasonable action to avoid the imposition of a default judgment against Contractor. No failure to notify the Contractor relieves the Contractor of its indemnification obligations except to the extent that the Contractor can prove damages attributable to the failure. Within 10 days following receipt of written notice from the State relating to any claim, the Contractor must notify the State in writing whether Contractor agrees to assume control of the defense and settlement of that claim (a "Notice of Election"). After notifying Contractor of a claim and before the State receiving Contractor's Notice of Election, the State is entitled to defend against the claim, at the Contractor's expense, and the Contractor will be responsible for any reasonable costs incurred by the State in defending against the claim during that period.
- b. If Contractor delivers a Notice of Election relating to any claim: (i) the State is entitled to participate in the defense of the claim and to employ counsel at its own expense to assist in the handling of the claim and to monitor and advise the State about the status and progress of the defense; (ii) the Contractor must, at the request of the State, demonstrate to the reasonable satisfaction of the State, the Contractor's financial ability to carry out its defense and indemnity obligations under this Contract; (iii) the Contractor must periodically advise the State about the status and progress of the defense and must obtain the prior written approval of the State before entering into any settlement of the claim or ceasing to defend against the claim and (iv) to the extent that any principles of Michigan governmental or public law may be involved or challenged, the State has the right, at its own expense, to control the defense of that portion of the claim involving the principles of Michigan governmental or public law. But the State may retain control of the defense and settlement of a claim by notifying the Contractor in writing within 10 days after the State's receipt of Contractor's information requested by the State under clause (ii) of this paragraph if the State determines that the Contractor has failed to demonstrate to the reasonable satisfaction of the State the Contractor's financial ability to carry out its defense and indemnity obligations under this Section. 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. In the event the insurer's attorney represents the State under this Section, the insurer's attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

- c. If Contractor does not deliver a Notice of Election relating to any claim of which it is notified by the State as provided above, the State may defend the claim in the manner as it may deem appropriate, at the cost and expense of Contractor. If it is determined that the claim was one against which Contractor was required to indemnify the State, upon request of the State, Contractor must promptly reimburse the State for all the reasonable costs and expenses.

2.150 Termination/Cancellation

2.151 Notice and Right to Cure

If the Contractor breaches the contract, and the State in its sole discretion determines that the breach is curable, then the State will provide the Contractor with written notice of the breach and a time period (not less than 30 days) to cure the Breach. The notice of breach and opportunity to cure is inapplicable for successive or repeated breaches or if the State determines in its sole discretion that the breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage, or destruction of any real or tangible personal property.

2.152 Termination for Cause

- a. The State may terminate this contract, for cause, by notifying the Contractor in writing, if the Contractor (i) breaches any of its material duties or obligations under this Contract (including a Chronic Failure to meet any particular SLA), or (ii) fails to cure a breach within the time period specified in the written notice of breach provided by the State
- b. If this Contract is terminated for cause, the Contractor must pay all costs incurred by the State in terminating this Contract, including but not limited to, State administrative costs, reasonable attorneys' fees and court costs, and any reasonable additional costs the State may incur to procure the Services/Deliverables required by this Contract from other sources. Re-procurement costs are not consequential, indirect or incidental damages, and cannot be excluded by any other terms otherwise included in this Contract, provided the costs are not in excess of 50% more than the prices for the Service/Deliverables provided under this Contract.
- c. If the State chooses to partially terminate this Contract for cause, charges payable under this Contract will be equitably adjusted to reflect those Services/Deliverables that are terminated and the State must pay for all Services/Deliverables for which Final Acceptance has been granted provided up to the termination date. Services and related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.
- d. If the State terminates this 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 this Contract for a termination for convenience.

2.153 Termination for Convenience

The State may terminate this Contract for its convenience, in whole or part, if the State determines that a termination is in the State's best interest. Reasons for the termination must be left to the sole discretion of the State and may include, but not necessarily be limited to (a) the State no longer needs the Services or products specified in the Contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make implementation of the Services no longer practical or feasible, (c) unacceptable prices for Additional Services or New Work requested by the State, or (d) falsification or misrepresentation, by inclusion or non-inclusion, of information material to a response to any RFP issued by the State. The State may terminate this Contract for its convenience, in whole or in part, by giving Contractor written notice at least 30 days before the date of termination. If the State chooses to terminate this Contract in part, the charges payable under this Contract must be equitably adjusted to reflect those Services/Deliverables that are terminated. Services and related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.

2.154 Termination for Non-Appropriation

- a. Contractor acknowledges that, if this Contract extends for several fiscal years, continuation of this Contract is subject to appropriation or availability of funds for this Contract. If funds to enable the State to effect continued payment under this Contract are not appropriated or otherwise made available, the State must terminate this Contract and all affected Statements of Work, in whole or in part, at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of termination to Contractor. The State must give Contractor at least 30 days advance written notice of termination for non-appropriation or unavailability (or the time as is available if the State receives notice of the final decision less than 30 days before the funding cutoff).
- b. If funding for the Contract is reduced by law, or funds to pay Contractor for the agreed-to level of the Services or production of Deliverables to be provided by Contractor are not appropriated or otherwise unavailable, the State may, upon 30 days written notice to Contractor, reduce the level of the Services or the change the production of Deliverables in the manner and for the periods of time as the State may elect. The charges payable under this Contract will be equitably adjusted to reflect any equipment, services or commodities not provided by reason of the reduction.
- c. If the State terminates this Contract, eliminates certain Deliverables, or reduces the level of Services to be provided by Contractor under this Section, the State must pay Contractor for all Work-in-Process performed through the effective date of the termination or reduction in level, as the case may be and as determined by the State, to the extent funds are available. This Section will not preclude Contractor from reducing or stopping Services/Deliverables or raising against the State in a court of competent jurisdiction, any claim for a shortfall in payment for Services performed or Deliverables finally accepted before the effective date of termination.

2.155 Termination for Criminal Conviction

The State may terminate this Contract immediately and without further liability or penalty in the event Contractor, an officer of Contractor, or an owner of a 25% or greater share of Contractor is convicted of a criminal offense related to a State, public or private Contract or subcontract.

2.156 Termination for Approvals Rescinded

The State may terminate this Contract if any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services under Constitution 1963, Article 11, § 5, and Civil Service Rule 7-1. In that case, the State will pay the Contractor for only the work completed to that point under the Contract. Termination may be in whole or in part and may be immediate as of the date of the written notice to Contractor or may be effective as of the date stated in the written notice.

2.157 Rights and Obligations upon Termination

- a. If the State terminates this Contract for any reason, the Contractor must (a) stop all work as specified in the notice of termination, (b) take any action that may be necessary, or that the State may direct, for preservation and protection of Deliverables or other property derived or resulting from this Contract that may be in Contractor's possession, (c) return all materials and property provided directly or indirectly to Contractor by any entity, agent or employee of the State, (d) transfer title in, and deliver to, the State, unless otherwise directed, all Deliverables intended to be transferred to the State at the termination of the Contract and which are resulting from the Contract (which must be provided to the State on an "As-Is" basis except to the extent the amounts paid by the State in respect of the items included compensation to Contractor for the provision of warranty services in respect of the materials), and (e) take any action to mitigate and limit any potential damages, or requests for Contractor adjustment or termination settlement costs, to the maximum practical extent, including terminating or limiting as otherwise applicable those subcontracts and outstanding orders for material and supplies resulting from the terminated Contract.
- b. If the State terminates this Contract before its expiration for its own convenience, the State must pay Contractor for all charges due for Services provided before the date of termination and, if applicable, as a separate item of payment under this Contract, for Work In Process, on a percentage of completion basis at the level of completion determined by the State. All completed or

partially completed Deliverables prepared by Contractor under this Contract, at the option of the State, becomes the State's property, and Contractor is entitled to receive equitable fair compensation for the Deliverables. Regardless of the basis for the termination, the State is not obligated to pay, or otherwise compensate, Contractor for any lost expected future profits, costs or expenses incurred with respect to Services not actually performed for the State.

- c. Upon a good faith termination, the State may assume, at its option, any subcontracts and agreements for services and deliverables provided under this Contract, and may further pursue completion of the Services/Deliverables under this Contract by replacement contract or otherwise as the State may in its sole judgment deem expedient.

2.158 Reservation of Rights

Any termination of this Contract or any Statement of Work issued under it by a party must be with full reservation of, and without prejudice to, any rights or remedies otherwise available to the party with respect to any claims arising before or as a result of the termination.

2.160 Termination by Contractor

2.161 Termination by Contractor

If the State breaches the Contract, and the Contractor in its sole discretion determines that the breach is curable, then 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. The Notice of Breach and opportunity to cure is inapplicable for successive and repeated breaches.

The Contractor may terminate this Contract if the State (i) materially breaches its obligation to pay the Contractor undisputed amounts due and owing under this Contract, (ii) breaches its other obligations under this Contract to an extent that makes it impossible or commercially impractical for the Contractor to perform the Services, or (iii) does not cure the breach within the time period specified in a written notice of breach. But the Contractor must discharge its obligations under **Section 2.160** before it terminates the Contract.

2.170 Transition Responsibilities

2.171 Contractor Transition Responsibilities

If the State terminates this 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, software, leases, etc. to the State or a third party designated by the State. If this Contract expires or terminates, the Contractor agrees to make all reasonable efforts to effect an orderly transition of services 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 **Sections 2.141, 2.142, 2.143, 2.144, and 2.145.**

2.172 Contractor Personnel Transition

The Contractor must work with the State, or a specified third party, to develop a transition plan setting forth the specific tasks and schedule to be accomplished by the parties, to effect an orderly transition. The Contractor must allow as many personnel as practicable to remain on the job to help the State, or a specified third party, maintain the continuity and consistency of the services required by this Contract. In addition, during or following the transition period, in the event the State requires the Services of the Contractor's subcontractors or vendors, as necessary to meet its needs, Contractor agrees to reasonably, and with good-faith, work with the State to use the Services of Contractor's subcontractors or vendors. Contractor will notify all of Contractor's subcontractors of procedures to be followed during transition.

2.173 Contractor Information Transition

The Contractor agrees to provide reasonable detailed specifications for all Services/Deliverables needed by the State, or specified third party, to properly provide the Services/Deliverables required under this Contract. The Contractor will provide the State with asset management data generated from the inception of this Contract through the date on which this Contractor is terminated in a comma-delineated format unless otherwise requested by the State. The Contractor will deliver to the State any remaining owed reports and documentation still in Contractor's possession subject to appropriate payment by the State.

2.174 Contractor Software Transition

The Contractor must reasonably assist the State in the acquisition of any Contractor software required to perform the Services/use the Deliverables under this Contract. This must include any documentation being used by the Contractor to perform the Services under this Contract. If the State transfers any software licenses to the Contractor, those licenses must, upon expiration of the Contract, transfer back to the State at their current revision level. Upon notification by the State, Contractor may be required to freeze all non-critical changes to Deliverables/Services.

2.175 Transition Payments

If the transition results from a termination for any reason, the termination provisions of this Contract must govern reimbursement. If the transition results from expiration, the Contractor will be reimbursed for all reasonable transition costs (i.e. costs incurred within the agreed period after contract expiration that result from transition operations) at the rates agreed upon by the State. The Contractor will prepare an accurate accounting from which the State and Contractor may reconcile all outstanding accounts.

2.176 State Transition Responsibilities

In the event that this Contract is terminated, dissolved, voided, rescinded, nullified, or otherwise rendered unenforceable, the State agrees to reconcile all accounts between the State and the Contractor, complete any pending post-project reviews and perform any others obligations upon which the State and the Contractor agree.

- a. Reconciling all accounts between the State and the Contractor;
- b. Completing any pending post-project reviews.

2.180 Stop Work

2.181 Stop Work Orders

The State may, at any time, by written stop work order to Contractor, require that Contractor stop all, or any part, of the work called for by the Contract for a period of up to 90 calendar days after the stop work order is delivered to Contractor, and for any further period to which the parties may agree. The stop work order must be identified as a stop work order and must indicate that it is issued under this **Section 2.150**. Upon receipt of the stop work order, Contractor must immediately comply with its terms and take all reasonable steps to minimize incurring costs allocable to the work covered by the stop work order during the period of work stoppage. Within the period of the stop work order, the State must either: (a) cancel the stop work order; or (b) terminate the work covered by the stop work order as provided in **Section 2.130**.

2.182 Cancellation or Expiration of Stop Work Order

The Contractor must resume work if the State cancels a Stop Work Order or if it expires. The parties will agree upon an equitable adjustment in the delivery schedule, the Contract price, or both, and the Contract must be modified, in writing, accordingly, if: (a) the stop work order results in an increase in the time required for, or in Contractor's costs properly allocable to, the performance of any part of the Contract; and (b) Contractor asserts its right to an equitable adjustment within 30 calendar days after the end of the period of work stoppage; provided that, if the State decides the facts justify the action, the State may receive and act upon a Contractor proposal submitted at any time before final payment under the Contract. Any adjustment will conform to the requirements of **Section 2.024**.

2.183 Allowance of Contractor Costs

If the stop work order is not canceled and the work covered by the stop work order is terminated for reasons other than material breach, the termination must be deemed to be a termination for convenience under **Section 2.153**, and the State will pay reasonable costs resulting from the stop work order in arriving at the termination settlement. For the avoidance of doubt, the State is not liable to Contractor for loss of profits because of a stop work order issued under this Section.

2.190 Dispute Resolution

2.191 In General

Any claim, counterclaim, or dispute between the State and Contractor arising out of or relating to the Contract or any Statement of Work must be resolved as follows. For all Contractor claims seeking an increase in the amounts payable to Contractor under the Contract, or the time for Contractor's performance, Contractor must submit a letter, together with all data supporting the claims, executed by Contractor's Contract Administrator or the Contract Administrator's designee certifying that (a) the claim is made in good faith, (b) the amount claimed accurately reflects the adjustments in the amounts payable to Contractor or the time for Contractor's performance for which Contractor believes the State is liable and covers all costs of every type to which Contractor is entitled from the occurrence of the claimed event, and (c) the claim and the supporting data are current and complete to Contractor's best knowledge and belief.

2.192 Informal Dispute Resolution

- a. All disputes between the parties must be resolved under the Contract Management procedures in this Contract. If the parties are unable to resolve any disputes after compliance with the processes, the parties must meet with the Director of Purchasing Operations, DMB, or designee, for the purpose of attempting to resolve the dispute without the need for formal legal proceedings, as follows:
 1. The representatives of Contractor and the State must meet as often as the parties reasonably deem necessary to gather and furnish to each other all information with respect to the matter in issue which the parties believe to be appropriate and germane in connection with its resolution. The representatives must discuss the problem and negotiate in good faith in an effort to resolve the dispute without the necessity of any formal proceeding.
 2. During the course of negotiations, all reasonable requests made by one party to another for non-privileged information reasonably related to the Contract will be honored in order that each of the parties may be fully advised of the other's position.
 3. The specific format for the discussions will be left to the discretion of the designated State and Contractor representatives, but may include the preparation of agreed upon statements of fact or written statements of position.
 4. Following the completion of this process within 60 calendar days, the Director of Purchasing Operations, DMB, or designee, must issue a written opinion regarding the issue(s) in dispute within 30 calendar days. The opinion regarding the dispute must be considered the State's final action and the exhaustion of administrative remedies.
- b. This Section will not be construed to prevent either party from instituting, and a party is authorized to institute, formal proceedings earlier to avoid the expiration of any applicable limitations period, to preserve a superior position with respect to other creditors, or under Section 2.193.
- c. The State will not mediate disputes between the Contractor and any other entity, except state agencies, concerning responsibility for performance of work under the Contract.

2.193 Injunctive Relief

The only circumstance in which disputes between the State and Contractor will not be subject to the provisions of **Section 2.192** is where a party makes a good faith determination that a breach of the terms of the Contract by the other party is the that the damages to the party resulting from the breach will be so immediate, so large or severe and so incapable of adequate redress after the fact that a temporary restraining order or other immediate injunctive relief is the only adequate remedy.

2.194 Continued Performance

Each party agrees to continue performing its obligations under the Contract while a dispute is being resolved except to the extent the issue in dispute precludes performance (dispute over payment must not be deemed to preclude performance) and without limiting either party's right to terminate the Contract as provided in **Section 2.150**, as the case may be.

2.200 Federal and State Contract Requirements

2.201 Nondiscrimination

In the performance of the Contract, Contractor agrees not to discriminate against any employee or applicant for employment, with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, and marital status, physical or mental disability. Contractor further agrees that every subcontract entered into for the performance of this Contract or any purchase order resulting from this Contract will contain a provision requiring non-discrimination in employment, as specified here, binding upon each Subcontractor. This covenant is required under the Elliot 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., and any breach of this provision may be regarded as a material breach of the Contract.

2.202 Unfair Labor Practices

Under 1980 PA 278, MCL 423.321, et seq., the State must not award a Contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled under section 2 of the Act. This information is compiled by the United States National Labor Relations Board. A Contractor of the State, in relation to the Contract, must not enter into a contract with a Subcontractor, manufacturer, or supplier whose name appears in this register. Under section 4 of 1980 PA 278, MCL 423.324, the State may void any Contract if, after award of the Contract, the name of Contractor as an employer or the name of the Subcontractor, manufacturer or supplier of Contractor appears in the register.

2.203 Workplace Safety and Discriminatory Harassment

In performing Services for the State, the Contractor must comply with the Department of Civil Services Rule 2-20 regarding Workplace Safety and Rule 1-8.3 regarding Discriminatory Harassment. In addition, the Contractor must comply with Civil Service regulations and any applicable agency rules provided to the Contractor. For Civil Service Rules, see <http://www.mi.gov/mdcs/0,1607,7-147-6877---,00.html>.

2.210 Governing Law

2.211 Governing Law

The Contract must in all respects be governed by, and construed according to, the substantive laws of the State of Michigan without regard to any Michigan choice of law rules that would apply the substantive law of any other jurisdiction to the extent not inconsistent with, or pre-empted by federal law.

2.212 Compliance with Laws

Contractor shall comply with all applicable state, federal and local laws and ordinances in providing the Services/Deliverables.

2.213 Jurisdiction

Any dispute arising from the Contract must be resolved in the State of Michigan. With respect to any claim between the parties, Contractor consents to venue in Ingham County, Michigan, and irrevocably waives any objections it may have to the jurisdiction on the grounds of lack of personal jurisdiction of

the court or the laying of venue of the court or on the basis of forum non convenient or otherwise. Contractor agrees to appoint agents in the State of Michigan to receive service of process.

2.220 Limitation of Liability

2.221 Limitation of Liability

Neither the Contractor nor the State is liable to each other, regardless of the form of action, for consequential, incidental, indirect, or special damages. This limitation of liability does not apply to claims for infringement of United States patent, copyright, trademark or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

The Contractor's liability for damages to the State is limited to two times the value of the Contract or \$500,000 which ever is higher. The foregoing limitation of liability does not apply to claims for infringement of United States patent, copyright, trademarks or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

The State's liability for damages to the Contractor is limited to the value of the Contract.

2.230 Disclosure Responsibilities

2.231 Disclosure of Litigation

Contractor must disclose any material criminal litigation, investigations or proceedings involving the Contractor (and each Subcontractor) or any of its officers or directors or any litigation, investigations or proceedings under the Sarbanes-Oxley Act. In addition, each Contractor (and each Subcontractor) must notify the State of any material civil litigation, arbitration or proceeding which arises during the term of the Contract and extensions, to which Contractor (or, to the extent Contractor is aware, any Subcontractor) is a party, and which involves: (i) disputes that might reasonably be expected to adversely affect the viability or financial stability of Contractor or any Subcontractor; or (ii) a claim or written allegation of fraud against Contractor or, to the extent Contractor is aware, any Subcontractor by a governmental or public entity arising out of their business dealings with governmental or public entities. The Contractor must disclose in writing to the Contract Administrator any litigation, investigation, arbitration or other proceeding (collectively, "Proceeding") within 30 days of its occurrence. Details of settlements that are prevented from disclosure by the terms of the settlement may be annotated. Information provided to the State from Contractor's publicly filed documents referencing its material litigation will be deemed to satisfy the requirements of this Section.

If any Proceeding disclosed to the State under this Section, or of which the State otherwise becomes aware, during the term of this Contract would cause a reasonable party to be concerned about:

- a. the ability of Contractor (or a Subcontractor) to continue to perform this Contract according to its terms and conditions, or
- b. whether Contractor (or a Subcontractor) in performing Services for the State is engaged in conduct which is similar in nature to conduct alleged in the Proceeding, which conduct would constitute a breach of this Contract or a violation of Michigan law, regulations or public policy, then the Contractor must provide the State all reasonable assurances requested by the State to demonstrate that:
 1. Contractor and its Subcontractors will be able to continue to perform this Contract and any Statements of Work according to its terms and conditions, and
 2. Contractor and its Subcontractors have not and will not engage in conduct in performing the Services which is similar in nature to the conduct alleged in the Proceeding.

- c. Contractor must make the following notifications in writing:
 1. Within 30 days of Contractor becoming aware that a change in its ownership or officers has occurred, or is certain to occur, or a change that could result in changes in the valuation of its capitalized assets in the accounting records, Contractor must notify DMB Purchasing Operations.
 2. Contractor must also notify DMB Purchasing Operations within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership or officers.
 3. Contractor must also notify DMB Purchase Operations within 30 days whenever changes to company affiliations occur.

2.232 Call Center Disclosure

Contractor and/or all subcontractors involved in the performance of this Contract providing call or contact center services to the State must disclose the location of its call or contact center services to inbound callers. Failure to disclose this information is a material breach of this Contract.

2.233 Bankruptcy

The State may, without prejudice to any other right or remedy, terminate this Contract, in whole or in part, and, at its option, may take possession of the "Work in Process" and finish the Works in Process by whatever appropriate method the State may deem expedient if:

- a. the Contractor files for protection under the bankruptcy laws;
- b. an involuntary petition is filed against the Contractor and not removed within 30 days;
- c. the Contractor becomes insolvent or if a receiver is appointed due to the Contractor's insolvency;
- d. the Contractor makes a general assignment for the benefit of creditors; or
- e. The Contractor or its affiliates are unable to provide reasonable assurances that the Contractor or its affiliates can deliver the services under this Contract.

Contractor will fix appropriate notices or labels on the Work in Process to indicate ownership by the State. To the extent reasonably possible, materials and Work in Process must be stored separately from other stock and marked conspicuously with labels indicating ownership by the State.

2.240 Performance

2.241 Time of Performance

- a. Contractor must use commercially reasonable efforts to provide the resources necessary to complete all Services and Deliverables according to the time schedules contained in the Statements of Work and other Exhibits governing the work, and with professional quality.
- b. Without limiting the generality of **Section 2.241**, Contractor must notify the State in a timely manner upon becoming aware of any circumstances that may reasonably be expected to jeopardize the timely and successful completion of any Deliverables/Services on the scheduled due dates in the latest State-approved delivery schedule and must inform the State of the projected actual delivery date.
- c. If the Contractor believes that a delay in performance by the State has caused or will cause the Contractor to be unable to perform its obligations according to specified Contract time periods, the Contractor must notify the State in a timely manner and must use commercially reasonable efforts to perform its obligations according to the Contract time periods notwithstanding the State's failure. Contractor will not be in default for a delay in performance to the extent the delay is caused by the State.

2.242 Service Level Agreement (SLA)

- a. SLAs will be completed with the following operational considerations:
 1. SLAs will not be calculated for individual Incidents where any event of Excusable Failure has been determined; Incident means any interruption in Services.

2. SLAs will not be calculated for individual Incidents where loss of service is planned and where the State has received prior notification or coordination.
3. SLAs will not apply if the applicable Incident could have been prevented through planning proposed by Contractor and not implemented at the request of the State. To invoke this consideration, complete documentation relevant to the denied planning proposal must be presented to substantiate the proposal.
4. Time period measurements will be based on the time Incidents are received by the Contractor and the time that the State receives notification of resolution based on 24x7x365 time period, except that the time period measurement will be suspended based on the following:
 - i. Time period(s) will not apply where Contractor does not have access to a physical State Location and where access to the State Location is necessary for problem identification and resolution.
 - ii. Time period(s) will not apply where Contractor needs to obtain timely and accurate information or appropriate feedback and is unable to obtain timely and accurate information or appropriate feedback from the State.
- b. Chronic Failure for any Service(s) will be defined as three unscheduled outage(s) or interruption(s) on any individual Service for the same reason or cause or if the same reason or cause was reasonably discoverable in the first instance over a rolling 30 day period. Chronic Failure will result in the State's option to terminate the effected individual Service(s) and procure them from a different vendor for the chronic location(s) with Contractor to pay the difference in charges for up to three additional months. The termination of the Service will not affect any tiered pricing levels.
- c. Root Cause Analysis will be performed on any Business Critical outage(s) or outage(s) on Services when requested by the Contract Administrator. Contractor will provide its analysis within two weeks of outage(s) and provide a recommendation for resolution.
- d. All decimals must be rounded to two decimal places with five and greater rounding up and four and less rounding down unless otherwise specified.

Section 2.242 Service Level Agreement is not applicable to this contract.

2.243 Liquidated Damages

a. The parties acknowledge that late or improper completion of the Work will cause loss and damage to the State, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the State as a result. Therefore, Contractor and the State agree that if there is late or improper completion of the Work and the State does not elect to exercise its rights under **Section 2.141**, the State is entitled to collect liquidated damages in the amount of \$5,000.00 and an additional \$100.00 per day for each day Contractor fails to remedy the late or improper completion of the Work. This clause will not apply if such late or improper submission of contractor deliverables is attributed to the delays or errors caused by the State.

b. Unauthorized Removal of any Key Personnel

It is acknowledged that an Unauthorized Removal will interfere with the timely and proper completion of the 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 **Section 2.141**, the State may assess liquidated damages against Contractor as specified below.

Section 2.243 (b) is not applicable to this contract.

c. For the Unauthorized Removal of any Key Personnel designated in the applicable Statement of Work, the liquidated damages amount is \$25,000.00 per individual if the Contractor identifies a replacement approved by the State under **Section 2.060** and assigns the replacement to the Project to shadow the Key Personnel who is leaving for a period of at least 30 days before the Key Personnel's removal.

Section 2.243 (c) is not applicable to this contract.

d. If Contractor fails to assign a replacement to shadow the removed Key Personnel for at least 30 days, in addition to the \$25,000.00 liquidated damages for an Unauthorized Removal, Contractor must pay the amount of \$833.33 per day for each day of the 30 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 liquidated damages that may be assessed per Unauthorized Removal and failure to provide 30 days of shadowing must not exceed \$50,000.00 per individual.

Section 2.243 (d) is not applicable to this contract.

2.244 Excusable Failure

Neither party will be liable for any default, damage or delay in the performance of its obligations under the Contract to the extent the default, damage or delay is caused by government regulations or requirements (executive, legislative, judicial, military or otherwise), power failure, electrical surges or current fluctuations, lightning, earthquake, war, water or other forces of nature or acts of God, delays or failures of transportation, equipment shortages, suppliers' failures, or acts or omissions of common carriers, fire; riots, civil disorders; strikes or other labor disputes, embargoes; injunctions (provided the injunction was not issued as a result of any fault or negligence of the party seeking to have its default or delay excused); or any other cause beyond the reasonable control of a party; provided the non-performing party and its Subcontractors are without fault in causing the default or delay, and the default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented by the non-performing party through the use of alternate sources, workaround plans or other means, including disaster recovery plans.

If a party does not perform its contractual obligations for any of the reasons listed above, the non-performing party will be excused from any further performance of its affected obligation(s) for as long as the circumstances prevail. But the party must use commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay. A party must promptly notify the other party in writing immediately after the excusable failure occurs, and also when it abates or ends.

If any of the above-enumerated circumstances substantially prevent, hinder, or delay the Contractor's performance of the Services/provision of Deliverables for more than 10 Business Days, and the State determines that performance is not likely to be resumed within a period of time that is satisfactory to the State in its reasonable discretion, then at the State's option: (a) the State may procure the affected Services/Deliverables from an alternate source, and the State is not be liable for payment for the unperformed Services/ Deliverables not provided under the Contract for so long as the delay in performance continues; (b) the State may terminate any portion of the Contract so affected and the charges payable will be equitably adjusted to reflect those Services/Deliverables terminated; or (c) the State may terminate the affected Statement of Work without liability to Contractor as of a date specified by the State in a written notice of termination to the Contractor, except to the extent that the State must pay for Services/Deliverables provided through the date of termination.

The Contractor will not have the right to any additional payments from the State as a result of any Excusable Failure occurrence or to payments for Services not rendered/Deliverables not provided as a result of the Excusable Failure condition. Defaults or delays in performance by Contractor which are caused by acts or omissions of its Subcontractors will not relieve Contractor of its obligations under the Contract except to the extent that a Subcontractor is itself subject to an Excusable Failure condition described above and Contractor cannot reasonably circumvent the effect of the Subcontractor's default or delay in performance through the use of alternate sources, workaround plans or other means.

2.250 Approval of Deliverables

2.251 Delivery of Deliverables

A list of the Deliverables to be prepared and delivered by Contractor including, for each Deliverable, the scheduled delivery date and a designation of whether the Deliverable is a document (“Written Deliverable”) or a Custom Software Deliverable is attached, if applicable. All Deliverables shall be completed and delivered for State review and written approval and, where applicable, installed in accordance with the State-approved delivery schedule and any other applicable terms and conditions of this Contract.

Prior to delivering any Deliverable to the State, Contractor will first perform all required quality assurance activities, and, in the case of Custom Software Deliverables, System Testing to verify that the Deliverable is complete and in conformance with its specifications. Before delivering a Deliverable to the State, Contractor shall certify to the State that (1) it has performed such quality assurance activities, (2) it has performed any applicable testing, (3) it has corrected all material deficiencies discovered during such quality assurance activities and testing, (4) the Deliverable is in a suitable state of readiness for the State’s review and approval, and (5) the Deliverable/Service has all Critical Security patches/updates applied.

In discharging its obligations under this Section, Contractor shall be at all times (except where the parties agree otherwise in writing) in compliance with Level 3 of the Software Engineering Institute’s Capability Maturity Model for Software (“CMM Level 3”) or its equivalent.

This section is limited to the extent of items listed in section 1.101 (In Scope) and section 1.104 Work and Deliverables and associated terms stated in this statement of work.

2.252 Contractor System Testing

Contractor will be responsible for System testing each Custom Software Deliverable in Contractor’s development environment prior to turning over the Custom Software Deliverable to the State for User Acceptance Testing and approval. Contractor’s System Testing shall include the following, at a minimum, plus any other testing required by CMM Level 3 or Contractor’s system development methodology:

Contractor will be responsible for performing Unit Testing and incremental Integration Testing of the components of each Custom Software Deliverable.

Contractor’s System Testing will also include Integration Testing of each Custom Software Deliverable to ensure proper inter-operation with all prior software Deliverables, interfaces and other components that are intended to inter-operate with such Custom Software Deliverable, and will include Regression Testing, volume and stress testing to ensure that the Custom Software Deliverables are able to meet the State’s projected growth in the number and size of transactions to be processed by the Application and number of users, as such projections are set forth in the applicable Statement of Work.

Contractor’s System Testing will also include Business Function Testing and Technical Testing of each Application in a simulated production environment. Business Function Testing will include testing of full work streams that flow through the Application as the Application will be incorporated within the State’s computing environment. The State shall participate in and provide support for the Business Function Testing to the extent reasonably requested by Contractor. Within ten (10) days before the commencement of Business Function Testing pursuant to this Section, Contractor shall provide the State for State review and written approval Contractor’s test plan for Business Function Testing.

Within five (5) Business Days following the completion of System Testing pursuant to this **Section**, Contractor shall provide to the State a testing matrix establishing that testing for each condition identified in the System Testing plans has been conducted and successfully concluded. To the extent that testing occurs on State premises, the State shall be entitled to observe or otherwise participate in testing under this Section as the State may elect.

This section is limited to the extent of items listed in section 1.101 (In Scope) and section 1.104 Work and Deliverables and associated terms stated in this statement of work.

2.253 Approval of Deliverables, In General

All Deliverables (Written Deliverables and Custom Software Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which, in the case of Custom Software Deliverables, will include the successful completion of State User Acceptance Testing, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

The State's obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed. If Contractor fails to provide a Deliverable to the State in a timely manner, the State will nevertheless use commercially reasonable efforts to complete its review or testing within the applicable State Review Period.

Before commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable (e.g., software, associated documentation, and other materials) have been delivered. If the State determines that the Deliverable is incomplete, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State receives the Deliverable and the applicable certification by Contractor in accordance with this Section.

The State will approve in writing a Deliverable upon confirming that it conforms to and, in the case of a Custom Software Deliverable, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor's expense all deficiencies in the Deliverable that remain outstanding at the time of State approval.

If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing State approval of a Deliverable, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep this Contract in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the contract price for such Deliverable and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State's general expenses without the need to furnish proof in substantiation of such general expenses; or (iii) terminate this Contract for default, either in whole or in part by notice to Contractor (and without the need to afford Contractor any further opportunity to cure). Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

The State, at any time and in its own discretion, may halt the UAT or approval process if such process reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the review or UAT process and, in that event, Contractor will correct the deficiencies in such Deliverable in accordance with the Contract, as the case may be.

Approval in writing of a Deliverable by the State shall be provisional; that is, such approval shall not preclude the State from later identifying deficiencies in, and declining to accept, a subsequent Deliverable based on or which incorporates or inter-operates with an approved Deliverable, to the

extent that the results of subsequent review or testing indicate the existence of deficiencies in the subsequent Deliverable, or if the Application of which the subsequent Deliverable is a component otherwise fails to be accepted pursuant to **Section 2.080**.

This section is limited to the extent of items listed in section 1.101 (In Scope), section 1.104 Work and Deliverables, section 1.500 Acceptance and associated terms stated in this statement of work.

2.254 Process for Approval of Written Deliverables

The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work following delivery of the final version of the Written Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Written Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Written Deliverable (or at the State's election, subsequent to approval of the Written Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Written Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Written Deliverable to confirm that the identified deficiencies have been corrected.

This section is limited to the extent of items listed in section 1.101 (In Scope), section 1.104 Work and Deliverables, section 1.500 Acceptance and associated terms stated in this statement of work.

2.255 Process for Approval of Custom Software Deliverables

The State will conduct UAT of each Custom Software Deliverable in accordance with the following procedures to determine whether it meets the criteria for State approval – i.e., whether it conforms to and performs in accordance with its specifications without material deficiencies.

Within thirty (30) days (or such other number of days as the parties may agree to in writing) prior to Contractor's delivery of any Custom Software Deliverable to the State for approval, Contractor shall provide to the State a set of proposed test plans, including test cases, scripts, data and expected outcomes, for the State's use (which the State may supplement in its own discretion) in conducting UAT of the Custom Software Deliverable. Contractor, upon request by the State, shall provide the State with reasonable assistance and support during the UAT process.

For the Custom Software Deliverables listed in an attachment, the State Review Period for conducting UAT will be as indicated in the attachment. For any other Custom Software Deliverables not listed in an attachment, the State Review Period shall be the number of days agreed in writing by the parties (failing which it shall be forty-five (45) days by default). The State Review Period for each Custom Software Deliverable will begin when Contractor has delivered the Custom Software Deliverable to the State accompanied by the certification required by this **Section** and the State's inspection of the Deliverable has confirmed that all components of it have been delivered.

The State's UAT will consist of executing test scripts from the proposed testing submitted by Contractor, but may also include any additional testing deemed appropriate by the State. If the State determines during the UAT that the Custom Software Deliverable contains any deficiencies, the State will notify Contractor of the deficiency by making an entry in an incident reporting system available to both Contractor and the State. Contractor will modify promptly the Custom Software Deliverable to correct the reported deficiencies, conduct appropriate System Testing (including, where applicable, Regression Testing) to confirm the proper correction of the deficiencies and re-deliver the corrected

version to the State for re-testing in UAT. Contractor will coordinate the re-delivery of corrected versions of Custom Software Deliverables with the State so as not to disrupt the State's UAT process. The State will promptly re-test the corrected version of the Software Deliverable after receiving it from Contractor.

Within three (3) business days after the end of the State Review Period, the State will give Contractor a written notice indicating the State's approval or rejection of the Custom Software Deliverable according to the criteria and process set out in this **Section**.

This section is limited to the extent of items listed in section 1.101 (In Scope), section 1.104 Work and Deliverables, section 1.500 Acceptance and associated terms stated in this statement of work.

2.256 Final Acceptance

“Final Acceptance” shall be considered to occur when all Custom Software Deliverables are delivered and approved by the State and have been operating in production without any material deficiency for sixty (60) consecutive days. If a material defect is discovered within the sixty-day period, a mutually agreeable resolution will be determined at that time. If the State elects to defer putting a Custom Software Deliverable into live production for its own reasons, not based on concerns about outstanding material deficiencies in the Deliverable, the State shall nevertheless grant Final Acceptance of the Project.

This section is limited to the extent of items listed in section 1.101 (In Scope), section 1.104 Work and Deliverables, section 1.500 Acceptance and associated terms stated in this statement of work.

2.260 Ownership

2.261 Ownership of Work Product by State

The State owns all Deliverables, as they are work made for hire by the Contractor for the State. The State owns all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.

2.262 Vesting of Rights

With the sole exception of any preexisting licensed works identified in the SOW, the Contractor assigns, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any the Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon the State's request, the Contractor must confirm the assignment by execution and delivery of the assignments, confirmations of assignment, or other written instruments as the State may request. The State may obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.

2.263 Rights in Data

The State is the owner of all data made available by the State to the Contractor or its agents, Subcontractors or representatives under the Contract. The Contractor will not use the State's data for any purpose other than providing the Services, nor will any part of the State's data be disclosed, sold, assigned, leased or otherwise disposed of to the general public or to specific third parties or commercially exploited by or on behalf of the Contractor. No employees of the Contractor, other than those on a strictly need-to-know basis, have access to the State's data. Contractor will not possess or assert any lien or other right against the State's data. Without limiting the generality of this Section, the Contractor must only use personally identifiable information as strictly necessary to provide the Services and must disclose the information only to its employees who have a strict need-to-know the information. The Contractor must comply at all times with all laws and regulations applicable to the personally identifiable information.

The State is the owner of all State-specific data under the Contract. The State may use the data provided by the Contractor for any purpose. The State will not possess or assert any lien or other right against the Contractor's data. Without limiting the generality of this Section, the State may use personally identifiable information only as strictly necessary to utilize the Services and must disclose the information only to its employees who have a strict need to know the information, except as provided by law. The State must comply at all times with all laws and regulations applicable to the personally identifiable information. Other material developed and provided to the State remains the State's sole and exclusive property.

2.264 Ownership of Materials

The State and the Contractor will continue to own their respective proprietary technologies developed before entering into the Contract. Any hardware bought through the Contractor by the State, and paid for by the State, will be owned by the State. Any software licensed through the Contractor and sold to the State, will be licensed directly to the State.

2.270 State Standards

2.271 Existing Technology Standards

The Contractor will adhere to all existing standards as described within the comprehensive listing of the State's existing technology standards at <http://www.michigan.gov/dit>.

This section is limited to the extent of items listed in section 1.100 (Scope), 1.103, 1.104 and associated terms stated in this statement of work. Also see section 1.500.

2.272 Acceptable Use Policy

To the extent that Contractor has access to the State computer system, Contractor must comply with the State's Acceptable Use Policy, see <http://www.michigan.gov/ditservice>. All Contractor employees must be required, in writing, to agree to the State's Acceptable Use Policy before accessing the State system. The State reserves the right to terminate Contractor's access to the State system if a violation occurs.

2.273 Systems Changes

Contractor is not responsible for and not authorized to make changes to any State systems without written authorization from the Project Manager. Any changes Contractor makes to State systems with the State's approval must be done according to applicable State procedures, including security, access and configuration management procedures.

2.280 Extended Purchasing

2.281 MiDEAL (Michigan Delivery Extended Agreements Locally)

Public Act 431 of 1984 permits DMB to provide purchasing services to any city, village, county, township, school district, intermediate school district, non-profit hospital, institution of higher education, community, or junior college. A current listing of approved program members is available at: www.michigan.gov/buymichiganfirst. Unless otherwise stated, the Contractor must ensure that the non-state agency is an authorized purchaser before extending the Contract pricing.

The Contractor will supply Contract Services and equipment to these local governmental agencies at the established State of Michigan contract prices and terms to the extent applicable and where available. The Contractor must send its invoices will be submitted to and pay the local unit of government on a direct and individual basis.

To the extent that authorized local units of government purchase quantities of Services and/or equipment under this Contract, the quantities of Services and/or equipment purchased will be included in determining the appropriate rate wherever tiered pricing based on quantity is provided.

2.282 State Employee Purchases / RESERVED

2.290 Environmental Provision /RESERVED

2.300 Deliverables

2.301 Software

A list of the items of software the State is required to purchase for execution the Contract is attached. The list includes all software required to complete the Contract and make the Deliverables operable; if any additional software is required in order for the Deliverables to meet the requirements of this Contract, such software shall be provided to the State by Contractor at no additional charge (except where agreed upon and specified in a Statement of Work or Contract Change Notice). The attachment also identifies certain items of software to be provided by the State.

2.302 Hardware – Currently “Out of Scope” for this Contract

A list of the items of hardware the State is required to purchase for execution the Contract is attached. The list includes all hardware required to complete the Contract and make the Deliverables operable; if any additional hardware is required in order for the Deliverables to meet the requirements of this Contract, such hardware shall be provided to the State by Contractor at no additional charge (except where agreed upon and specified in a Contract Change Notice). The attachment also identifies certain items of hardware to be provided by the State.

2.303 Equipment to be New – Currently “Out of Scope” for this Contract

If applicable, all equipment provided under this Contract by Contractor shall be new where Contractor has knowledge regarding whether the equipment is new or assembled from new or serviceable used parts that are like new in performance or has the option of selecting one or the other. Equipment that is assembled from new or serviceable used parts that are like new in performance is acceptable where Contractor does not have knowledge or the ability to select one or other, unless specifically agreed otherwise in writing by the State.

2.304 Equipment to be New and Prohibited Products – Currently “Out of Scope” for this Contract

The State will not accept salvage, distressed, outdated or discontinued merchandise. Shipping of such merchandise to any State agency, as a result of an order placed against the Contract, shall be considered default by the Contractor of the terms and conditions of the Contract and may result in cancellation of the Contract by the State. The brand and product number offered for all items shall remain consistent for the term of the Contract, unless Purchasing Operations has approved a change order pursuant to **Section 2.024**.

2.310 Software Warranties

2.311 Performance Warranty

The Contractor represents and warrants that Deliverables, after Final Acceptance, will perform and operate in compliance with the requirements and other standards of performance contained in this Contract (including all descriptions, specifications and drawings made a part of the Contract) for a period of (90) ninety days. In the event of a breach of this warranty, Contractor will promptly correct the affected Deliverable(s) at no charge to the State.

This section is limited to the extent of items listed in section 1.101 (In Scope) and section 1.104 Work and Deliverables and associated terms stated in this statement of work.

2.312 No Surreptitious Code Warranty

The Contractor represents and warrants that no copy of licensed Software provided to the State contains or will contain any Self-Help Code or any Unauthorized Code as defined below. This warranty is referred to in this Contract as the “No Surreptitious Code Warranty.”

As used in this Contract, "Self-Help Code" means any back door, time bomb, drop dead device, or other software routine designed to disable a computer program automatically with the passage of time or under the positive control of a person other than the licensee of the software. Self-Help Code does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee's computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

As used in this Contract, "Unauthorized Code" means any virus, Trojan horse, spyware, worm or other Software routines or components designed to permit unauthorized access to disable, erase, or otherwise harm software, equipment, or data; or to perform any other such actions. The term Unauthorized Code does not include Self-Help Code. Unauthorized Code does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee's computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

In addition, Contractor will use up-to-date commercial virus detection software to detect and remove any viruses from any software prior to delivering it to the State.

2.313 Calendar Warranty

The Contractor represents and warrants that all software for which the Contractor either sells or licenses to the State of Michigan and used by the State prior to, during or after the calendar year 2000, includes or shall include, at no added cost to the State, design and performance so the State shall not experience software abnormality and/or the generation of incorrect results from the software, due to date oriented processing, in the operation of the business of the State of Michigan.

The software design, to insure calendar year rollover compatibility, shall include, but is not limited to: data structures (databases, data files, etc.) that provide 4-digit date century; stored data that contain date century recognition, including, but not limited to, data stored in databases and hardware device internal system dates; calculations and program logic (e.g., sort algorithms, calendar generation, event recognition, and all processing actions that use or produce date values) that accommodates same century and multi-century formulas and date values; interfaces that supply data to and receive data from other systems or organizations that prevent non-compliant dates and data from entering any State system; user interfaces (i.e., screens, reports, etc.) that accurately show 4 digit years; and assurance that the year 2000 shall be correctly treated as a leap year within all calculation and calendar logic.

2.314 Third-party Software Warranty

The Contractor represents and warrants that it will disclose the use or incorporation of any third-party software into the Deliverables. At the time of Delivery, the Contractor shall provide in writing the name and use of any Third-party Software, including information regarding the Contractor's authorization to include and utilize such software. The notice shall include a copy of any ownership agreement or license that authorizes the Contractor to use the Third-party Software.

2.315 Physical Media Warranty

Contractor represents and warrants that each licensed copy of the Software provided by the Contractor is free from physical defects in the media that tangibly embodies the copy. This warranty does not apply to defects discovered more than (30) thirty days after that date of Final Acceptance of the Software by the State. This warranty does not apply to defects arising from acts of Excusable Failure. If the Contractor breaches this warranty, then the State shall be entitled to replacement of the non-compliant copy by Contractor, at Contractor's expense (including shipping and handling).

2.320 Software Licensing

2.321 Cross-License, Deliverables Only, License to Contractor

The State grants to the Contractor, the royalty-free, world-wide, non-exclusive right and license under any Deliverable now or in the future owned by the State, or with respect to which the State has a right to grant such rights or licenses, to the extent required by the Contractor to market the Deliverables and exercise its full rights in the Deliverables, including, without limitation, the right to make, use and sell products and services based on or incorporating such Deliverables.

2.322 Cross-License, Deliverables and Derivative Work, License to Contractor

The State grants to the Contractor, the royalty-free, world-wide, non-exclusive right and license under any Deliverable and/or Derivative Work now or in the future owned by the State, or with respect to which the State has a right to grant such rights or licenses, to the extent required by the Contractor to market the Deliverables and/or Derivative Work and exercise its full rights in the Deliverables and/or Derivative Work, including, without limitation, the right to make, use and sell products and services based on or incorporating such Deliverables and/or Derivative Work.

2.323 License Back to the State

Unless otherwise specifically agreed to by the State, before initiating the preparation of any Deliverable that is a Derivative of a preexisting work, the Contractor shall cause the State to have and obtain the irrevocable, nonexclusive, worldwide, royalty-free right and license to (1) use, execute, reproduce, display, perform, distribute internally or externally, sell copies of, and prepare Derivative Works based upon all preexisting works and Derivative Works thereof, and (2) authorize or sublicense others from time to time to do any or all of the foregoing.

2.324 License Retained by Contractor

Contractor grants to the State a non-exclusive, royalty-free, site-wide, irrevocable, transferable license to use the Software and related documentation according to the terms and conditions of this Contract. For the purposes of this license, "site-wide" includes any State of Michigan office regardless of its physical location.

The State may modify the Software and may combine such with other programs or materials to form a derivative work. The State will own and hold all copyright, trademarks, patent and other intellectual property rights in any derivative work, excluding any rights or interest in Software other than those granted in this Contract.

The State may copy each item of Software to multiple hard drives or networks unless otherwise agreed by the parties.

The State will make and maintain no more than one archival copy of each item of Software, and each copy will contain all legends and notices and will be subject to the same conditions and restrictions as the original. The State may also make copies of the Software in the course of routine backups of hard drive(s) for the purpose of recovery of hard drive contents.

In the event that the Contractor shall, for any reason, cease to conduct business, or cease to support the Software, the State shall have the right to convert these licenses into perpetual licenses, with rights of quiet enjoyment, but subject to payment obligations not to exceed the then current rates.

2.325 Pre-existing Materials for Custom Software Deliverables

Neither Contractor nor any of its Subcontractors shall incorporate any preexisting materials (including Standard Software) into Custom Software Deliverables or use any pre-existing materials to produce Custom Software Deliverables if such pre-existing materials will be needed by the State in order to use the Custom Software Deliverables unless (i) such pre-existing materials and their owners are identified to the State in writing and (ii) such pre-existing materials are either readily commercially available products for which Contractor or its Subcontractor, as the case may be, has obtained a license (in form and substance approved by the State) in the name of the State, or are materials that Contractor or its Subcontractor, as the case may be, has the right to license to the State and has licensed to the State

on terms and conditions approved by the State prior to using such pre-existing materials to perform the Services.

2.330 Source Code Escrow

2.331 Definition

“Source Code Escrow Package” shall mean:

- a. A complete copy in machine-readable form of the source code and executable code of the Licensed Software, including any updates or new releases of the product;
- b. A complete copy of any existing design documentation and user documentation, including any updates or revisions; and/or
- c. Complete instructions for compiling and linking every part of the source code into executable code for purposes of enabling verification of the completeness of the source code as provided below. Such instructions shall include precise identification of all compilers, library packages, and linkers used to generate executable code.

2.332 Delivery of Source Code into Escrow

Contractor shall deliver a Source Code Escrow Package to the Escrow Agent, pursuant to the Escrow Contract, which shall be entered into on commercially reasonable terms subject to the provisions of this Contract within (30) thirty days of the execution of this Contract.

2.333 Delivery of New Source Code into Escrow

If at anytime during the term of this Contract, the Contractor provides a maintenance release or upgrade version of the Licensed Software, Contractor shall within ten (10) days deposit with the Escrow Agent, in accordance with the Escrow Contract, a Source Code Escrow Package for the maintenance release or upgrade version, and provide the State with notice of the delivery.

2.334 Verification

The State reserves the right at any time, but not more than once a year, either itself or through a third party contractor, upon thirty (30) days written notice, to seek verification of the Source Code Escrow Package.

2.335 Escrow Fees

The Contractor will pay all fees and expenses charged by the Escrow Agent.

2.336 Release Events

The Source Code Escrow Package may be released from escrow to the State, temporarily or permanently, upon the occurrence of one or more of the following:

- a. The Contractor becomes insolvent, makes a general assignment for the benefit of creditors, files a voluntary petition of bankruptcy, suffers or permits the appointment of a receiver for its business or assets, becomes subject to any proceeding under bankruptcy or insolvency law, whether domestic or foreign;
- b. The Contractor has wound up or liquidated its business voluntarily or otherwise and the State has reason to believe that such events will cause the Contractor to fail to meet its warranties and maintenance obligations in the foreseeable future;
- c. The Contractor voluntarily or otherwise discontinues support of the provided products or fails to support the products in accordance with its maintenance obligations and warranties.

2.337 Release Event Procedures

If the State desires to obtain the Source Code Escrow Package from the Escrow Agent upon the occurrence of an Event in this **Section**, then:

- a. The State shall comply with all procedures in the Escrow Contract;
- b. The State shall maintain all materials and information comprising the Source Code Escrow Package in confidence in accordance with this Contract;

- c. If the release is a temporary one, then the State shall promptly return all released materials to Contractor when the circumstances leading to the release are no longer in effect.

2.338 License

Upon release from the Escrow Agent pursuant to an event described in this **Section**, the Contractor automatically grants the State a non-exclusive, irrevocable license to use, reproduce, modify, maintain, support, update, have made, and create Derivative Works. Further, the State shall have the right to use the Source Code Escrow Package in order to maintain and support the Licensed Software so that it can be used by the State as set forth in this Contract.

2.339 Derivative Works

Any Derivative Works to the source code released from escrow that are made by or on behalf of the State shall be the sole property of the State. The State acknowledges that its ownership rights are limited solely to the Derivative Works and do not include any ownership rights in the underlying source code.

**APPENDIX A
FUNCTIONAL REQUIREMENTS
ITEM BANK**

Functional requirements identify what the product or system must do to enable performance of work tasks and any applicable service levels.

The table below defines the functional boundaries of the application Contractor will develop. The “App. A Ref #” column in the below table is a cross reference to the requirements provided in Appendix A of this Contract. STG will work with OEAA/MDIT subject matter experts to validate the estimated # of JAD sessions

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
1	System must have workflow capability to track, review and approve passages, prompts and items. <ul style="list-style-type: none"> • Passages, prompts, items and/or item options may include graphics • Type of Items - Constructed Response, Selected Response (Multiple Choice), Activity Based Observation 	This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	1
2	System must be role based. User can only perform the action based on their assigned role(s).	This functionality will be implemented in the Security Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	2
3	Passage Writers must be able to submit passages online for review and approval by OEAA. <ul style="list-style-type: none"> • Currently only MME does not have Passages 	This functionality will be implemented in the Item Development Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	1
4	OEAA must be able to forward the Passages to the Committee members for their review and approval. Members must be able to review the passages and make comments or suggestions – but not edit. <ul style="list-style-type: none"> • Currently there are two committees (Bias Sensitivity Committee – BSC and Content Alignment Committee – CAC) with at least 10-15 members in each committee. 	This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	1

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
5	OEAA must be able to give item writing assignments to the writers based on test, subject area, grade level (or grade span), and curriculum standard so that the Item Writers can write and submit the items online for the review and approval by OEAA	This functionality will be implemented in the Item Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
6	If the item requires a graphic than item writers must be able to search the database for graphics and select the appropriate graphics. If there is no suitable graphics present in the database, than Item writer must have a provision to describe the Concept of the graphic for the particular item, which will be used by the Graphic artist to design and store the same in the database.	This functionality will be implemented in the Item Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
7	Once a Passage or Item is submitted by the writer, system should assign a unique identifier for each item and for each passage.	This functionality will be implemented in the Item Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
8	OEAA must be able to forward the Items submitted by the writers to the Committee members and those members must be able to review the Items and make comments or suggestions. Graphics if any should also be forwarded along with the item.	This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
9	<p>Based on the comments or suggestions made by the committee members, OEAA must be able to reject or approve the Item or must be able to ask the Item Writer to revise and resubmit the item for further review.</p> <ul style="list-style-type: none"> The review and approval process may happen at various different stages of the Item development process and Item banking process. 	This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
10	During the Item development stage, if an Item or a Passage is rejected after the review, such Item or Passage should be flagged as "Do Not Use". This Item or Passage should not be available for future use (testing).	This functionality will be implemented in the Item Review and Approval Module as a business rule for items of "Rejected" status Please refer to the	1

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
		"Functional Solution" section of CONTRACTOR Technical proposal for details.	
11	Writers must be able to revise and resubmit the passages and/or items if the review committee suggested doing so. System should retain the original submission and create a new version for the resubmit.	This functionality will be implemented in the Item Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
12	System must have version control capabilities	This functionality will be implemented in the Global Functionality Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
13	System must maintain the history of items that includes but not limited to Created by, Comments and commented by, updated by, rejected by, approved by etc. and also time stamps.	Data requirement included in the DB design Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	No JAD session necessary. Data requirement included in the DB design
14	Specified OEAA users must be able to Apply and Pre format Item Presentation, Item Attributes and Style Guides and must be able to forward the same to the Committee members and members must be able to review and make comments or suggestions.	This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	1
15	Based on the comments or suggestions made by the committee members, OEAA may OK the item or revise and resubmit the items to the committee members again. If the Item is still not OK after revising than OEAA must be able to reject the item. Rejected items should be stored in the Item Bank but should not be available for use. The process of Banking of Items in the Item Bank should start from here.	This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	Will be covered in JAD session for req # 9
16	Users, based on their access permission must be able to search items by giving a specific value or	This functionality will be implemented in the Item	1

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
	a range of values or a phrase or with a wild card value etc.	Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	
17	<p>Based on the type of the assessment, OEAA may Pilot test or Field review all the OK'd items and all the OK'd items must be stored in the Item Bank. OEAA will make a decision on a case-by-case basis to either Pilot test the items (see next step) or go direct to Field Testing (see step #21).</p> <ul style="list-style-type: none"> Only in SCAS, items may be Pilot tested prior to Field Review 	<p>This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	1
18	<p>The system must have a provision to add the Statistics of the Item from the Pilot Test or Field review. This data will be imported into the system and should be linked to the Item and must be stored in the Item Bank as Pilot Test or Field Review Item Statistics. Statistics may include a minimum of those listed in # 37 for Psychometric Information.</p>	<p>This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	1
19	<p>OEAA must be able to forward the Pilot tested or field reviewed items along with the statistics to the Committee members and those members must be able to review the Items and statistics, then make comments or suggestions – but not edit the items.</p>	<p>This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	Will be covered in JAD session for req # 8
20	<p>Based on the comments or suggestions made by the committee members, OEAA must be able to Field test the items (Embedded Field Test), revise the Items and than Pilot Test or Field review them again or must be able to reject the items. Rejected items should be stored in the Item Bank but should not be available for use.</p>	<p>This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	Will be covered in JAD session for req # 9
21	<p>System must have a provision to add the Statistics of the Item from the Embedded Field Test. This data will be imported into the system and should be linked to the Item and must be stored in the Item Bank as Field Test Item statistics.</p>	<p>This functionality will be implemented in the Item Review and Approval Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for</p>	1

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
		details.	
22	OEAA must be able to forward the Field tested Items along with the statistics to the Committee members and members must be able to review the Items and make comments or suggestions – but not edit the items.	This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	Will be covered in JAD session for req # 8
23	Based on the comments or suggestions made by the committee members, OEAA must be able to either approve the items for Operational Assessment use, revise the Items and then Field Test them again, or must be able to reject the items. Rejected items should be stored in the Item Bank but should not be available for use.	This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	Will be covered in JAD session for req # 9
24	System must have a provision to add the Statistics of the Item from the Operational Test. This data should be linked to the item in the Item Bank. All Items that were in the Operational Assessment must be marked “Operational Item”	This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	1
25	OEAA must be able to use the Operational Items for future testing until they are coded as no longer relevant or released to the public. Releasing may include publishing them on the MDE website. All released items should be marked as “Released” and should not be available for future testing. But all items must remain in the system and in a searchable status.	This will be implemented as a business rule in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	Will be covered in JAD session for req # 24
26	As part of the history of the Item, the system must also maintain dates of the Pilot, Field, and Operational Tests along with the Statistics for each of the tests in the Item Bank. Every administration will produce a set of unique statistics and the Item Bank must be able to store these statistics and recall them on demand. As well as, retrieve image(s) of the item (plus date and form last used) from the embedded field test form(s) or former operational test form(s)—even the approved one-up version from the committee if the test developer is embedding a test item into	This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.	1

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
	<p>a form for the first time. This would include directions, graphics, etc.</p> <p>Currently there are five assessment programs: English Language Proficiency Assessment (ELPA), Michigan Educational Assessment Program (MEAP), Michigan Merit Exam (MME), Michigan Alternate Assessment Program (MI-Access) and Secondary Credit Assessment System (SCAS). Some programs may not require a Pilot Test or Field Test.</p>		
27	<p>OEAA must be able to create test forms dynamically for all the assessments based on the test blueprints, and test forms (or collections of items in specified order) must be savable with optional comments and statistics within the test development portion of the system. Test forms may include</p> <ul style="list-style-type: none"> • Answer Document (AD) • Test Booklet (TB) • Directions for Administration (DFA) 	<p>This functionality will be implemented in the Test Form Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	2
28	<p>To create the test forms, OEAA user must be able to review the assessment blueprints for the operational assessments; select assessment items to meet the content and process specifications of the assessment blueprints; assess the statistical characteristics of the selected assessment items.</p>	<p>This functionality will be implemented in the Test Form Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	1
29	<p>OEAA user must be able to create templates based on the specifications.</p>	<p>This functionality will be implemented in the Test Form Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	1
30	<p>OEAA user must be able to select the items from the bank to meet the content and process specifications of the assessment blueprints; assess the statistical characteristics of the selected assessment items, drag and drop them into a template to create item maps and assessment forms which also must be savable within the system. All the associated information of the item (like graphics, directions, statistics etc) needs to be dropped into the template. Some attributes, such as the projected item characteristic curves, will be generated as the items are selected and will be available with the</p>	<p>This functionality will be implemented in the Test Form Development Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>	2

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
	<p>selected test maps.</p> <p>The user must be able to retrieve image(s) of the item (plus date and form last used) from the former embedded field test form(s) or former operational test form(s)—even the approved one-up version from the committee if the test developer is embedding a test item into a form for the first time.</p>		
31	<p>The OEAA user must be able to direct the system to automatically build a preliminary test form based on a blueprint, which can then be modified to create a final test form. The blue print will include information related to both the content of the items selected but also their desired statistical properties (both individually and as a collection of items).</p>	<p>This functionality will be implemented in the Test Form Development Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.</p>	1
32	<p>System must also have workflow capability to review and approve the test booklets.</p>	<p>This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.</p>	<p>Will be covered in JAD session for req # 1</p>
33	<p>System must have version control capabilities so that user can make changes, create multiple test forms and preserve the original.</p>	<p>This functionality will be implemented in the Item Review and Approval Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for details.</p>	<p>Will be covered in the JAD session for version control</p>
34	<p>Changes made to one item in a particular test booklet must reflect the changes in all the booklets that have the same item while still preserving the original (pre-edited) item as an archived version.</p>	M	<p>Will be covered in the JAD session for version control</p>
35	<p>Anticipated test form characteristics based on the statistics of the items selected, such as projected Test Information Functions, projected Conditional Standard Error Curves, Test Characteristic Curves, Raw-To-Scale-Score lookup tables (if applicable), projected reliability (based on conditional standard error as well as the scale</p>	<p>This functionality will be implemented in the Test Form Development Module Please refer to the “Functional Solution” section of CONTRACTOR Technical proposal for</p>	1

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
	level standard error of measurement), and comparisons to previous versions of assessments to enhance equating quality.	details.	
36	OEAA must be able to produce a PDF version of test booklets, which will be exported for printing.	This functionality will be implemented in the Global Functionality Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	Will be covered in the Test Form development JAD sessions
37	<p>OEAA user (Psychometrician's) must be able to perform various statistical analysis on the items based on the statistics received from different tests (Pilot, Field and Operational). Some of the analysis may be conditioned on various student characteristics (e.g. ethnicity, gender, low-income, etc...), whereas some may be based on the entire sample or specific administration cycles. The statistics are to include, but not be limited to:</p> <ul style="list-style-type: none"> • Item standard deviations • item p-values and adjusted p-values • Item-total score correlations for both the correct and incorrect responses • For constructed response items the percent of students in each score level (N counts used to determine those percentages) • Provide Item Response Theory (IRT) parameters (a, b, and c when appropriate along with associated standard errors) <ul style="list-style-type: none"> • Additional calibration information will be needed to be captured along with the statistics. This information will include when they were calibrated, with what items, sample size and source of sample. When items are recalibration, old values should be retained in addition to the new values. • Graphical representations of item statistics, such as Item Characteristic Curves • Differential Item Functioning (DIF) statistics and graphics • Item fit statistics • Capacity to add additional item statistics • For all statistics, the sample size for each 	This functionality will be implemented in the Statistical Analysis Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	6

APP. A REF #	Appendix A - Requirement	CONTRACTOR SOLUTION GROUPING AND DESCRIPTION	ESTIMATED # OF JAD SESSIONS**
	calculation as well as the source of the sample should be tied to the statistic.		
38	Anticipated test form characteristics based on the statistics of the items selected, such as projected Test Information Functions, projected Conditional Standard Error Curves, Test Characteristic Curves, Raw-To-Scale-Score lookup tables (if applicable), projected reliability (based on conditional standard error), and comparisons to previous versions of assessments to enhance equating quality.	This functionality will be implemented in the Statistical Analysis Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	Will be covered in JAD sessions for 37
39	Anticipated test form family characteristics (e.g. for forms 1-10 of the grade 3 Mathematics assessment)	This functionality will be implemented in the Statistical Analysis Module Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.	Will be covered in JAD sessions for 37

** Each JAD session is estimated to run for two hours and it is estimated that there will be six JAD sessions each week. The remaining hours in a business week will be utilized to document the use cases, develop the User Interface prototype and prepare for the forthcoming sessions. Please see "Software Development Approach" section for more details. The estimated number of sessions for each use case will be validated with the State during the engagement startup phase.

APPENDIX B

TECHNICAL/GENERAL SYSTEM REQUIREMENTS ITEM BANK

Technical/General System Requirements (Appendix B) – Technical/general system requirements will identify what the solution or product must run on or integrate with, including any standards that must be met, security requirements, service levels and interfaces, Technical/general system requirements will also identify the general framework in which the system or product must work, such as: capacity requirements (number of users, concurrent users, number of transactions to be handled, peak usage), documentation, audit and backup and recovery.

TECHNICAL REQUIREMENTS	COMMENTS
1. System Architecture	
The proposed system employs secured web-based architecture with an intelligent workstation client accessing a central database through a software on a server	<p>CONTRACTOR will design a web-based .NET application that accesses a centralized application database (SQL Server 2005) for the Item Bank System</p> <p>Please refer to the “Technical Solution” section of CONTRACTOR Technical proposal for details.</p>
a. The proposed system shall operate efficiently with MS Internet Explorer 5.x, 6.x, or higher, FireFox 1.x or higher, Safari 3.X or higher	<p>The proposed system will be adequately tested to function correctly on both PC and Apple Mac systems. The system will also be tested on Internet Explorer 5.x, 6.x; Firefox 1.x; Safari 3.x , Opera 9.x .</p> <p>Please note that State will be responsible to provide suitable testing environments per the approved schedule to perform the above tests.</p>
b. The system places no limit on record size.	CONTRACTOR will not design the application database (SQL Server 2005) to enforce a constraint on the total number of rows. However performance considerations, technical limitations of SQL Server 2005, archiving requirements may limit the record size.
c. The software is expandable and portable, with specific reference to the system capacity requirements presented in this Contract	CONTRACTOR’s solution includes an application architecture that already provides extensibility and scalability
d. The system is fully self-contained and capable of being operated by State staff with no dependency on Vendor services for its routine operation.	<p>The proposed web application will be built, tested and deployed on the State servers.</p> <p>CONTRACTOR will train and provide Knowledge transfer to the State OEAA/MDIT staff.</p> <p>State MDIT staff will maintain the application on the Production environment.</p>
e. The system server is compatible with the State’s technical architecture and is sized suitable for the system specified.	<p>As per the requirements of the Contract, CONTRACTOR will build the IBS application on State approved .NET architecture.</p> <p>CONTRACTOR will design and develop the application under the assumption that the State server and network infrastructure of will be sufficiently deployed or upgraded (as necessary) to handle the higher volumes of user</p>

TECHNICAL REQUIREMENTS	COMMENTS
	<p>traffic accessing the application.</p> <p>Please refer to the "Technical Solution" section of CONTRACTOR Technical proposal for details.</p>
<p>f. The system is an open system, with no dependency on the use of specific models or models of equipment operating systems.</p>	<p>The State can apply any industry standard RDBMS running on any operating system platform for storing system data.</p> <p>However, the application server can only be on a Windows platform since the State requires the solution to be developed in a .NET environment</p>
<p>g. The software is expandable and portable, with specific reference to the system capacity requirements presented in this Contract</p>	<p>The application code developed by CONTRACTOR will be expandable and scalable to meet the capacity requirements. It is expected that the State will provide a robust environment to meet the capacity requirements</p>
<p>h. The system server is compatible with the State's technical architecture and is sized suitable for the system specified.</p>	<p>CONTRACTOR will design the application per the State's architecture standards. It is expected that the State will provide a hardware to meet the capacity requirements</p>
<p>i. The system keeps a log of each transaction which alters the database. Logs are date and time stamped to allow the system to reconstruct activity for any period.</p>	<p>All database transactions will be logged, time stamped (including date).</p>
<p>j. The proposed system shall accept data from the multi-vendor environment, which exists in the state of Michigan.</p>	<p>Please refer to the "Technical Solution" section of CONTRACTOR Technical proposal for details.</p>
<p>k. The proposed system shall provide data privacy safeguards, and be fully compliant with the State of Michigan's standards</p>	<p>CONTRACTOR will design the application per the State's architecture, Look and Feel standards.</p>
<p>l. The proposed system shall provide efficient and intuitive work flow for data collection</p>	<p>CONTRACTOR will provide the workflow functionality in the Item review and Approval module. Please refer to the "Functional Solution" section of CONTRACTOR Technical proposal for details.</p>
<p>m. The use of a modular framework as part of the main solution, meaning a set of components, wizards, classes, and libraries that minimize programming required to modify or customize the system.</p>	<p>Please refer to the "Technical Solution" section of CONTRACTOR Technical proposal for details.</p>
<p>n. Development of the system must be structured. It must be possible to make use of version control and a fully scriptable build and deployment process.</p>	<p>CONTRACTOR will make use of the State standard version control system. State will be responsible to provide necessary software licenses. CONTRACTOR will provide an installation plan with the necessary details on build and deploy scripts, process. Please refer to the "Technical Solution" section of CONTRACTOR Technical proposal for details</p>

TECHNICAL REQUIREMENTS	COMMENTS
o. Less than two second response time	The performance requirement of 2 seconds for all transactions refers to the total time for the request from Web server to database server and data being sent back to Web Server. CONTRACTOR will develop the application to return the response from the database server to the web server in less than 2 seconds
p. Flatter menu system	CONTRACTOR will develop the application per the State of Michigan Look and Feel standards. CONTRACTOR will develop UI prototypes during the requirements gathering phase and validate the menu structure with the OEAA SMEs.
q. Table Driven	CONTRACTOR will develop the application to populate drop-down menus, table header values from database tables.
r. Web based edit/unlock	Pre-defined edit or business rules can be modified using web screens. This is implemented in the Global functionality module of the application
2. Software Licensing	
a. The software license is for perpetual use for a fixed fee without additional royalties or service fees, except for ongoing software maintenance. (COTS only)	CONTRACTOR WILL PROVIDE CUSTOM DESIGN, DEVELOPMENT, AND IMPLEMENTATION ON THIS PROJECT. THIS REQUIREMENTS DOES NOT APPLY TO CONTRACTOR'S SOLUTION
b. Source code ownership by SOM	The State will have access to the source code to maintain, and make modifications and/or enhancements to the underlying source code.
3. Programming Language	
a. The system's client applications are written in .NET programming environment (DDI only) .	CONTRACTOR will develop the IBS application on State standard .NET architecture. Please refer to the "Technical Solution" section of CONTRACTOR Technical proposal for details.
b. The system offers Application Programming Interfaces (APIs) that enable the State to develop custom interfaces to all modules.	The system will be developed with industry practice .NET technology which provides re-usability of components. CONTRACTOR will work with state to identify all such re-usable components across modules and will make them flexible either as web services or Application programming interfaces (APIs) to be used by State to develop custom interfaces.
4. RDBMS / Applications / Database Management	
a. The system is available with State's standard relational database management system	CONTRACTOR will design a web-based .NET application that accesses a State standard database (SQL Server 2005) for the Online Teacher Certification System
b. Full-text indexing and a full-text database search feature are available to provide easy retrieval of records.	The system will use Microsoft SQL Server's full-text indexing and full-text search features to provide easy retrieval of records. CONTRACTOR will work with State to identify such entities and attributes that would need these capabilities and will implement the same.
5. Security	
a. All computer information systems and applications operate in a secure manner	On the IBS project, CONTRACTOR will develop a Security plan document that will document how the IBS application will adhere to the State Enterprise IT

TECHNICAL REQUIREMENTS	COMMENTS
<p>and comply with State Enterprise IT Security Policy and Procedures as found on the website: http://www.michigan.gov/dit/0,1607,7-139-34305-108216--,00.html</p>	<p>Security Policy and Procedures</p>
<p>b. The system must ensure that the integrity and confidentiality of data is protected by safeguards to prevent release of information without proper consent.</p>	<p>On the IBS project, CONTRACTOR will develop a Security plan document that will lay out how the IBS data will be protected by safeguards to prevent unauthorized release.</p>
<p>c. System shall ensure a secure sign-on through user ID and password.</p>	<p>CONTRACTOR will design an authentication layer that will interface with MEIS or Tivoli (based on MDIT recommendation) to ensure a secure login of users through a userID and password.</p>
<p>6. Security / Access Control</p>	
<p>a. The system provides security at database, workstation, and individual operator levels.</p>	<p>On the IBS project, CONTRACTOR will develop a Security plan document that will detail how security will be implemented at the database, workstation, user levels</p>
<p>b. The system provides secure access control based upon unique user login.</p>	<p>CONTRACTOR will implement a secure role based authorization system that can be maintained by OEAA super users. The roles will be mapped to specific functions (delete, edit, add, view only) during the requirements gathering phase</p>
<p>c. The system checks each user's access privileges at login, and automatically disable or enables client functions (in real time) based upon the user's profile</p>	<p>CONTRACTOR will implement a secure role based authorization system that can be maintained only by OEAA super users. Upon login only those functions that are assigned to the logged in individual's role will be available.</p>
<p>d. The system provides varying levels of access within the application, such as administrators, view only, or scheduling only.</p>	<p>CONTRACTOR will implement a secure role based authorization system that can be maintained only by OEAA super users. The roles will be mapped to specific functions (delete, edit, add, view only) during the requirements gathering phase</p>
<p>e. User Validation</p>	<p>CONTRACTOR will perform user validation using a login userID and password</p>
<p>f. Legal disclaimer for copyrighted information item writer</p>	<p>CONTRACTOR will provide a legal disclaimer for copyrighted information</p>
<p>g. Item validity acknowledgement prior to submission</p>	<p>CONTRACTOR will provide a checkbox for the item writers to validate the item prior to submission</p>
<p>h. Encryption for outside state firewall</p>	<p>The application will be based on HTTP(S) protocol over the SSL layer which will ensure that the data is encrypted when sent from the browser to the State server and vice versa.</p>
<p>i. Role-based access</p>	<p>CONTRACTOR will implement a secure role based authorization system that can be maintained only by OEAA super users. The roles will be mapped to specific</p>

TECHNICAL REQUIREMENTS	COMMENTS
	functions (delete, edit, add, view only) during the requirements gathering phase
7. Security/Password Controls	
a. The system provides an enforced minimum length for passwords.	The Authentication layer of the Security Module will detail the Security and Password controls to be used on the project. CONTRACTOR will work with the MDIT staff during System Design to establish a minimum length of the passwords.
b. The system provides an enforced requirement for user passwords to be automatically prompted for change after a defined period has passed, such as 30, 60 or 90 days.	The Authentication layer of the Security Module will detail the Security and Password controls to be used on the project. CONTRACTOR will work with the MDIT staff during System Design to establish a frequency at which the password change needs to be enforced.
c. The system provides users with the capability to change their own passwords.	The application will have "Change Password" functionality to change their own passwords.
d. The system disables user ID's after a specified number (3) of consecutive invalid login attempts.	The application will be designed to disable a userID after a pre-defined number of consecutive invalid login attempts.
e. The system enters passwords in a non-display field.	As a standard practice, users will enter all passwords on non-display (non-clear text) fields
f. The system encrypts passwords when they are routed over the network.	The application will encrypt the passwords when they are routed over the network. On the IBS project, CONTRACTOR will develop a Security plan document that will detail how security and password controls will be implemented
g. The system encrypts passwords in system storage.	On the IBS project, CONTRACTOR will develop a Security plan document that will detail how security and password controls will be implemented
8. Security/Activity Logging	
a. The system logs unauthorized access attempts by date, time, user ID, device and location.	CONTRACTOR will capture unauthorized login access details in a separate database table and/or in application logs.
b. The system maintains an audit trail of all security maintenance performed by date, time, user ID, device and location, with easy access to information.	CONTRACTOR will develop an authorization layer for role based access. An audit trail will be maintained for all security maintenance transactions performed.
c. Provides security reports of users and access levels.	CONTRACTOR will implement an authorization layer for role based security. The user profile and role details will be stored in the IBS database and will be available to generate any reports
d. Provides detailed reports of backups completed and backups failed.	The database and log file backup schedule will be determined during the system design phase. MDIT technical staff will maintain the database and application servers.
10. Reporting/Querying	
a. The software delivers standard reports.	Please refer to the "Functional Solution" and "Technical Solution" section of CONTRACTOR Technical proposal for details for details on the Reports module for details

TECHNICAL REQUIREMENTS	COMMENTS
	on reports that will be provided using the SQL Reporting services. The data will be available from a single centralized IBS database for any additional reports not identified in the proposal
b. The system includes ad-hoc query and reporting tools.	Please refer to the “Functional Solution” and “Technical Solution” section of CONTRACTOR Technical proposal for details for details on the Reports module for details on reports that will be provided using the SQL Reporting services. The data will be available from a single centralized IBS database for any additional reports not identified in the proposal
c. The online query capability enables non-technical end-users to extract information.	System will provide online query capability which will enable non-technical end-users to extract information
d. The standard (e.g., regularly scheduled, recurring) reporting environment allows:	Responses provided below:
i. Standard reports to be scheduled, executed, viewed on-line, printed (centrally or remotely) and dispersed (including the use of report distribution management software)	Please refer to the “Functional Solution” and “Technical Solution” section of CONTRACTOR Technical proposal for details for details on the Reports module for details on reports that will be provided using the SQL Reporting services. The data will be available from a single centralized IBS database for any additional reports not identified in the proposal.
ii. The State to control the information that appears on standard reports so that data security is maintained.	CONTRACTOR will work with the OEAA/MDIT staff to design the format and content of the standard reports and to ensure security.
e. The system provides i. Methods for retaining and modifying previously built queries	System will provide ability to save, retrieve and modify the previously built queries. The data will be available from a single centralized IBS database for any additional reports not identified in the proposal.
ii. Security and control mechanisms that limit the abuse of ad hoc queries (e.g., attempted access to restricted data, attempted execution of a query that would run for several hours, etc.)	Please refer to the “Functional Solution” and “Technical Solution” section of CONTRACTOR Technical proposal for details for details on the Reports module for details on reports that will be provided using the SQL Reporting services.
f. Testing cycle(s) in which the items were used o In what capacity (field test, future core, core, extended core etc.)	CONTRACTOR will propose a solution after better understanding this requirement

TECHNICAL REQUIREMENTS	COMMENTS
<p>(Core refers to the content most commonly taught at a grade level. Extended core refers to content that is typically taught at grade level but is narrower in scope and/or is supportive to the core. Future core refers to content that has been transferred from a higher grade to a lower grade.)</p> <ul style="list-style-type: none"> ○ If and when were they used as linking items. <ul style="list-style-type: none"> ▪ If linking, when were the item parameters calibrated that are now treated as fixed? ○ Which form(s) did they appear in ○ item placement (position) <ul style="list-style-type: none"> ▪ placement of correct response ○ Where was it tested? Some programs sample field test items using a geographical method (pseudo-stratification) 	
<p>g. Inventory Review – Inventory of all available items with attributes as well as customized inventories based on content, statistical, or combined sources of information</p> <ul style="list-style-type: none"> • Examples: <ul style="list-style-type: none"> ○ Sort by grade level and GLCE to determine all items in bank ○ Sort by grade level and GLCE and maturity to determine available items in bank not yet used 	<p>CONTRACTOR will propose a solution after better understanding this requirement</p>

TECHNICAL REQUIREMENTS	COMMENTS
<ul style="list-style-type: none"> o Pull specific grade and GLCE relevant items based on specific statistical information (specify a range of p-values, IRT difficulty estimates, etc) 	
<ul style="list-style-type: none"> h. The ability to pull the full operational and statistical history of a single item or set of items based on a general or more specific set of criteria 	CONTRACTOR will develop a report to display the full operational and statistical history of a single item or set of items based on a general or more specific set of criteria
<ul style="list-style-type: none"> i. Date item was released to the public and retired 	CONTRACTOR will develop a report to display the full operational and statistical history of a single item (including the date an item was released to the public)
11. Audit Trail	
<ul style="list-style-type: none"> a. The system enables the user to modify data entry transactions that have already been posted to the database while maintaining an audit trail of the change. 	CONTRACTOR solution includes maintaining data with audit trail on the transaction records.
12. Edit and Validation Control	
<ul style="list-style-type: none"> a. The system includes comprehensive field edits to prevent incomplete or incorrect data from entering the system 	During the requirements gathering CONTRACTOR will work with the OEAA subject matter experts to define field edits or data validation rules for all the screens to prevent incorrect or incomplete data entry.
<ul style="list-style-type: none"> b. The system ensures data integrity and controls processing without hard-coded logic 	CONTRACTOR will work with State business and technical experts to provide data integrity rules that will be designed in the application
13. Environment	
<ul style="list-style-type: none"> a. For any activities not performed on State sites or facilities, the Vendor will provide effective physical security measures for all proposed equipment sites, all processing and operations areas (including the mailroom), and secured storage areas through a card key or other comparable system. At a minimum, the Vendor will: 	SEE RESPONSE BELOW:
<ul style="list-style-type: none"> i. restrict perimeter access to equipment sites, State-specified processing and 	CONTRACTOR understands the requirement and will comply with this requirement

TECHNICAL REQUIREMENTS	COMMENTS
storage areas, and storage areas through a card key or other comparable system,	
ii. Provide accountability control to record access attempts, including attempts of unauthorized access.	CONTRACTOR understands the requirement and will comply with this requirement
b. Physical security shall include additional features designed to safeguard site(s) through required provision of fire retardant capabilities, as well as other electrical alarms, monitored by security personnel on a twenty-four (24) hours a day, seven (7) days a week basis.	CONTRACTOR understands the requirement and will comply with this requirement
c. Maintain a current annual security rating as audited by an independent third party auditing firm that certifies that they meet federal and State guidelines for the handling of confidential data.	CONTRACTOR understands the requirement and will comply with this requirement
14. Interfaces	
a. The system has the ability to exchange data with other systems using the following mechanisms: online application to application, web services interface, FTP and SFTP, to and from magnetic media and using warehouse utilities to the State's data warehouse.	Per State's responses to vendor question # 43 – "Item Bank system is an independent system and MDIT does not anticipate any direct interfaces to other systems at this point in time". Therefore CONTRACTOR has not defined explicit data exchange mechanisms in its Technical Solution. However, CONTRACTOR will work with the State to identify any data exchange requirements and recommend appropriate solutions as necessary.
b. The system must provide real-time data transfer of identified data.	Per State's responses to vendor question # 43 – "Item Bank system is an independent system and MDIT does not anticipate any direct interfaces to other systems at this point in time". Therefore CONTRACTOR has not defined explicit data exchange mechanisms in its Technical Solution. However, CONTRACTOR will work with the State to identify any data exchange requirements and recommend appropriate solutions as necessary
c. State approved authentication system for Single sign-on	CONTRACTOR will design an authentication layer that will interface with MEIS or Tivoli (based on MDIT recommendation) to ensure a secure login of users through a userID and password.
d. Data exports and imports for statistical software - SPSS &	Statistical data will be available for export or import from SPSS, SAS in a CSV, XLS, Text format

TECHNICAL REQUIREMENTS	COMMENTS
SAS, spreadsheet, csv, text	
e. Interface with reporting solution	Per State's responses to vendor question # 43 – "Item Bank system is an independent system and MDIT does not anticipate any direct interfaces to other systems at this point in time". Therefore CONTRACTOR has not defined explicit data exchange mechanisms in its Technical Solution. However, CONTRACTOR will work with the State to identify any data exchange requirements and recommend appropriate solutions as necessary
f. PDF's to printing vendors	CONTRACTOR will provide a feature to export the test forms developed within the system to PDF for printing purposes.
g. Export to DTP Software	Per State's responses to vendor question # 43 – "Item Bank system is an independent system and MDIT does not anticipate any direct interfaces to other systems at this point in time". Therefore CONTRACTOR has not defined explicit data exchange mechanisms in its Technical Solution. However, CONTRACTOR will work with the State to identify any data exchange requirements and recommend appropriate solutions as necessary
h. Web-based Item interfaced	Per State's responses to vendor question # 43 – "Item Bank system is an independent system and MDIT does not anticipate any direct interfaces to other systems at this point in time". Therefore CONTRACTOR has not defined explicit data exchange mechanisms in its Technical Solution. However, CONTRACTOR will work with the State to identify any data exchange requirements and recommend appropriate solutions as necessary
i. Assessment reporting system	Per State's responses to vendor question # 43 – "Item Bank system is an independent system and MDIT does not anticipate any direct interfaces to other systems at this point in time". Therefore CONTRACTOR has not defined explicit data exchange mechanisms in its Technical Solution. However, CONTRACTOR will work with the State to identify any data exchange requirements and recommend appropriate solutions as necessary
15. Capacity	
a. Handle 100's of thousands of items <ul style="list-style-type: none"> o 20,000 MEAP o 10,000 MI-Access o 5000 – MME o 5000 - ELPA Total about 500,000 items	CONTRACTOR will design and develop the application to handle 500,000 items under the assumption that the State server and network infrastructure of will be sufficiently deployed or upgraded (as necessary) to handle the higher volumes of user traffic accessing the application
b. Must be able to add other	CONTRACTOR will propose a solution after better

TECHNICAL REQUIREMENTS	COMMENTS
New programs/Assessments	understanding this requirement
c. Store Multimedia – Blob, audio, video, graphics	CONTRACTOR will propose a solution after better understanding this requirement
d. Must be able to accommodate Users: Fewer than 1000 active, 500 Simultaneous <ul style="list-style-type: none"> o Item writing, item reviewing, field reviewing, summer heaviest usage 	CONTRACTOR will design and develop the application to handle 1000 active, 500 simultaneous users under the assumption that the State server and network infrastructure of will be sufficiently deployed or upgraded (as necessary) to handle the higher volumes of user traffic accessing the application
e. Characteristic of the items: Cycle up to “n” sets for <ul style="list-style-type: none"> o Operational o Make up o Emergency o Released o Retired (with reasons) 	CONTRACTOR will propose a solution after better understanding this requirement
16. System Auditing	
a. The system has the ability to maintain a historical record of all changes made to any item within the system (e.g., data element, business rule, process control, software program), the ID of the person or process that made the change, the before images of the affected data records, and the date and time the change was made.	The application code history (software program, business rule, process) will be maintained within the source code repository (Software configuration Management tool). All database transactions will be date and time stamped along with the userID of the person or process that made the change. CONTRACTOR will work with the MDIT staff to develop backup and recovery schedules for the database
b. The system must ensure that all system events for software, hardware, interfaces, operating system, network, etc. are written to a system event log in a manner that facilitates debugging of all system problems.	System will write all the system events pertaining to the developed application to the event log in a manner that will facilitate debugging of system problems.
c. The system offers the ability to query, view, filter, and sort the system audit trail. The system is able to store the queries.	System will provide ability to query, view, filter and sort system audit trail and will be provide mechanism to store queries.
d. The system has the ability to identify and track data back to its input source (e.g., imaged document, keyed from form, interface file, etc.).	The application database can include a field for each transaction that will specify the input data source – batch, online user input, interface
e. The system has the ability to audit all override of edits and audits and identify the login ID, date, and time.	All database transactions will be date and time stamped along with the userID of the person or process that made the change. This will be used to audit the override of edits.

TECHNICAL REQUIREMENTS	COMMENTS
f. No deleting items from the system	The application will not delete “Rejected” or “Released” items from the system. They will be available for search within the IBS database.
g. One person responsible for making changes in item development at a time. Others can only view	The application will permit only user to modify an item. Other users may view the item.
h. Notify item owners about comments made by reviewer	Upon a review by a committee member the item owner will be notified.
i. No generic Login ID’s	The login ids created through the application will be specific to each individual user.
j. For every “Lead” role there must be a “Coach” role	CONTRACTOR will propose a solution after better understanding this requirement
k. Track number of times item has gone through the process	CONTRACTOR will provide this information in the item details section of the application
l. Include only Michigan developed items	CONTRACTOR will propose a solution after better understanding this requirement
m. Operational and Archive Items are mutually exclusive	CONTRACTOR will propose a solution after better understanding this requirement
n. Evaluation of health of the Item Bank compared to content status	CONTRACTOR will propose a solution after better understanding this requirement
o. Reconciliation	CONTRACTOR will propose a solution after better understanding this requirement
p. Valid items went through correct processes (CAC, BSC)	CONTRACTOR will propose a solution after better understanding this requirement
q. Versioning	CONTRACTOR will provide a versioning system for the items
r. Creator date, time – Upon Submit	CONTRACTOR will provide a versioning system for the items that will also log the date and time of creation of the item
s. Every Edit date, time, whom – Upon submit	CONTRACTOR will provide a versioning system for the items that will also log the date, time of edit and the person who edited the item
t. Dates items were used on tests	CONTRACTOR will provide a versioning system for the items that will also log the date, time the item was used on a test
u. Snap shot points v. Initial Development w. After coach x. After Edit y. After each review (CAC, BSC) z. After Pilot Test Development aa. After Operational Test Development	CONTRACTOR will propose a solution after better understanding this requirement
17. Error Handling	
a. The system must ensure that all errors are written to an error log.	CONTRACTOR will log all error messages to an application error log file.
b. The system must allow for an administrator to view, filter, sort, and search the error log.	CONTRACTOR will log all error messages to an application error log file. The log files will be accessible to predefined super users (e.g., system administrator) to

TECHNICAL REQUIREMENTS	COMMENTS
	review, filter, sort and search the log
c. The system must allow for an administrator to archive error log entries based upon user-defined criteria.	CONTRACTOR will log all error messages to an application error log file. The log files will be accessible to predefined super users (e.g., system administrator) to review, filter, sort and search the log. The super user will also be able to archive log files on a predefined schedule or as necessary.
d. The system must allow for a user to define an alert message to be executed upon the occurrence of an error.	The application will store all error messages in a table in the System database. OEAA staff can define the error messages and CONTRACTOR can load these messages in database prior to deployment. These messages can be updated by the OEAA staff as necessary.
18. Backup and Recovery	
a. The system has the ability to provide point-in-time recovery of data to the last completed transaction.	This needs to be implemented through a proper hardware failure recovery solution. CONTRACTOR will propose a solution after better understanding this requirement
b. The system has the ability to allow for continued use of the system during backup.	This needs to be implemented through a proper hardware failure recovery solution. CONTRACTOR will propose a solution after better understanding this requirement
c. The system has the ability to provide a complete backup and recovery process for all database tables and system files.	This needs to be implemented through a proper hardware failure recovery solution. CONTRACTOR will propose a solution after better understanding this requirement
d. The system has the ability to create on request backups.	This needs to be implemented through a proper hardware failure recovery solution. CONTRACTOR will propose a solution after better understanding this requirement
e. The back up and archival features of the system proposed can be initiated automatically or by manual request.	This needs to be implemented through a proper hardware failure recovery solution. CONTRACTOR will propose a solution after better understanding this requirement
19. Data Archiving and Purging	
a. No Deletion	CONTRACTOR will propose a solution after better understanding this requirement
20. Data Migration	
a. Data (Items and Statistics) for all the assessments (MEAP, MME, SCAS, ELPA and MI Access) which are currently stored in multiple vendor systems needs to be migrated into the new Item Bank	CONTRACTOR will migrate the Item and Statistics data from the current systems. Please review the "Data Migration Approach" section of CONTRACTOR's Technical proposal for details.
21. Availability	
a. 24X7 on week days	Please refer to "Maintenance Phase activities and deliverables" section of CONTRACTOR Technical proposal for details
b. Maintenance – Weekend's	Please refer to "Maintenance Phase activities and

TECHNICAL REQUIREMENTS	COMMENTS
	deliverables" section of CONTRACTOR Technical proposal for details
22. Technical Administration	
a. System administrator must be able to execute system changes. All changes should go through a change management process and adhere to audit rules.	CONTRACTOR will propose a solution after better understanding this requirement
23. Business Administrator	
a. Business administrator must be able to authorize system changes. All changes should go through a change management process and adhere to audit rules.	CONTRACTOR will propose a solution after better understanding this requirement
b. System must have role based security/authentication features.	CONTRACTOR will implement a secure role based authorization system that can be maintained by OEAA super users. The roles will be mapped to specific functions (delete, edit, add, view only) during the requirements gathering phase
c. System must allow the business administrator(s) to set up/disable users and assign roles	CONTRACTOR will implement a secure role based authorization system that can be maintained by OEAA super users.
d. User permission assignments will not take effect until approved by an authorized administrator	CONTRACTOR will implement a secure role based authorization system that can be maintained by OEAA super users.
e. Users can only access the system based on the assigned roles	CONTRACTOR will implement a secure role based authorization system that can be maintained only by OEAA super users. Upon login only those functions that are assigned to the logged in individual's role will be available.

APPENDIX E

"The following table provides an initial view of the User Security Access Profile for create, read, edit/update and delete operations. The information contained in the table below will be validated and elaborated during Requirements Definition Phase of the project"

User Community

User Roles

User Roles	Create	Read	Edit/ Update	Delete
1. Test Administration Group				
• Administration specialist	0	1	0	0
• Psychometric Lead	0	1	1*	0
• Psychometric Reviewer	0	1	1*	0
	0	1	1*	0

<ul style="list-style-type: none"> • Psychometric Assistant • Independent Psychometric Reviewer 	0	1	0	0
* With limited capability to edit. Must be able to edit/update only the Stats.				
2. Item Development Group (This group is responsible for Item Creation) <ul style="list-style-type: none"> • Content Development Lead • Content Development Coach • Subject Matter Lead *** • Subject Matter Coach *** • Item Proof Reader *** • Item Developer • Item Bias/Sensitivity Reviewer *** • Item Content/Alignment Reviewer *** • Item ELL Reviewer *** • Item SWD Reviewer *** • Item Editors • Item Compositor • Translator **** 	1	1	1	0
<ul style="list-style-type: none"> • Content Development Lead • Content Development Coach • Subject Matter Lead *** • Subject Matter Coach *** • Item Proof Reader *** • Item Developer • Item Bias/Sensitivity Reviewer *** • Item Content/Alignment Reviewer *** • Item ELL Reviewer *** • Item SWD Reviewer *** • Item Editors • Item Compositor • Translator **** 	1	1	1	0
** Must be able to edit/update the items (content) except for the Stats and must be able to comment *** Must only be able to comment **** Cannot change the original item. Must only be able to create a new version.	1	1	1	0

3. Media Development Group <ul style="list-style-type: none"> • Test Development Lead • Test Development Coach • Content Development Lead *** • Content Development Coach *** • Passage Developer • Audio Developer **** • Video Developer **** • Graphics Developer • Passage Editor • Audio Editor • Video Editor • Graphics Editor • Media Bias/Sensitivity Reviewer *** • Media Content/Alignment Reviewer *** • Media ELL Reviewer *** • Media SWD Reviewer *** • Web Formatter • Translator ***** 	0	1	1	0
<ul style="list-style-type: none"> • Test Development Lead • Test Development Coach • Content Development Lead *** • Content Development Coach *** • Passage Developer • Audio Developer **** • Video Developer **** • Graphics Developer • Passage Editor • Audio Editor • Video Editor • Graphics Editor • Media Bias/Sensitivity Reviewer *** • Media Content/Alignment Reviewer *** • Media ELL Reviewer *** • Media SWD Reviewer *** • Web Formatter • Translator ***** 	0	1	1	0
*** Must only be able to comment	0	1	1	0

<p>**** Cannot change the original item. Must only be able to create a new version.</p> <p>***** Must be able to create language specific to the test forms</p>				
<p>4. IT Support Group</p> <ul style="list-style-type: none"> • System Administrator • IT Project Manager • Data Management Staff • Security ***** <p>***** Adding/editing user roles</p>	<p>0</p> <p>0</p> <p>1</p> <p>0</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>0</p> <p>0</p> <p>1</p> <p>0</p>	<p>1</p> <p>0</p> <p>0</p> <p>0</p>
<p>5. Management Group</p> <ul style="list-style-type: none"> • Program Manager *** • Office Executive • IT Project Manager • Auditor • Psychometric Lead <p>*** Must only be able to comment</p>	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>1</p>	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>

User

<p>6. Test Form Development Group (This group is responsible for identifying which items go on the forms)</p> <ul style="list-style-type: none"> • Test Development Lead • Test Development Coach • Test Form Editor *** • Psychometric Lead • Psychometric Reviewer • Psychometric Assistant • Independent Psychometric Reviewer • Translator ***** <p>* With limited capability to edit. Must be able to edit/update only the Stats.</p> <p>*** Must only be able to comment</p> <p>***** Must be able to create language specific to the test forms</p>	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>1</p> <p>1</p> <p>0</p> <p>0</p> <p>1*</p> <p>1*</p> <p>1*</p> <p>1*</p> <p>1</p>	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>
<p>7. Composition/Desktop Publishing Group</p> <ul style="list-style-type: none"> • Test Development Lead • Test Development Coach • Desktop Publisher *** • Test Proof Reader *** • Test Form Composer *** • Test Form Editor *** • Ancillary Document Developer *** • Ancillary Document Reviewer *** 	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>1</p> <p>1</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>	<p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p>

*** Must only be able to comment	0 0	1 1	0 0	0 0
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Locations

User Roles Group	Location	Current Connection
1,3,4,6, and 7	Lansing, Michigan	Local area network and Virtual Private Network
2 and 5	Various sites across the U.S.A.	Various internet connections (dial-up, DSL, and cable), as well as Local Area Network