

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

CHANGE NOTICE NO. 2
 to
CONTRACT NO. 071B2200310
 between
THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF CONTRACTOR	PRIMARY CONTACT	EMAIL
Xerox State & Local Solutions Inc 12410 Milestone Center Drive Germantown MD, 20876	Steve Moseley	steve.moseley@xerox.com
	PHONE	CONTRACTOR'S TAX ID NO. (LAST FOUR DIGITS ONLY)
	973-368-1613	*****6647

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
PROGRAM MANAGER / CCI	DTMB	Jim Normandin	(517) 373-3462	normandinj@michigan.gov
CONTRACT ADMINISTRATOR	DTMB	Jarrod Barron	(517) 284-7045	Barronj1michigan.gov

CONTRACT SUMMARY			
DESCRIPTION: Toll Bridge Software			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
September 30, 2012		1 - 3 Year	September 29, 2019
PAYMENT TERMS		DELIVERY TIMEFRAME	
N/A		N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			
N/A			

DESCRIPTION OF CHANGE NOTICE				
EXERCISE OPTION?	LENGTH OF OPTION	EXERCISE EXTENSION?	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>		<input type="checkbox"/>		
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$5,634,879.35	\$ 0.00	\$5,634,879.35		

DESCRIPTION: Due to the changes made in the project schedule, MDOT has requested shifting the unused FY 2014 and the unused portion of FY 2015 hosting and maintenance dollars to the future enhancement bucket to be used for the following:

- IBA Discount Program
- Blue Water Bridge Commuter Program
- Interoperability Requirements (Per FED)
- Incorporation of EZPass

These funds will not need to be replenished later as the maintenance and hosting was not necessary for that time frame due to the project schedule change.

Appendix F, Attached Contract Cost Tables have been revised to include:

- a. Table 1 and Table 2 revisions to amend one time implementation cost changes to include IBA Discount Plan and an equitable adjustment for design phase delay.
 - b. Table 8 and Table 9 revisions to amend maintenance costs to remove Year 2 and partial Year 3 maintenance costs.
 - c. Table 11 revisions to allocate unused maintenance funding for future enhancements.
 - d. Payment Schedule table revisions to include updated one time project costs.
2. The Appendix G, Project Schedule, has been revised with the latest schedule provided on March 18, 2015.
 3. Section 2.001 – Contract Term is modified to ensure the dates are consistent with the final approved contract. The first sentence in this section is amended as “This Contract is for a period of 7 years beginning September 30, 2012 – September 29, 2019.”
 4. Section 1.201 – Contractor Staff, Roles, and Responsibilities is modified per Xerox’s letter on August 6, 2013. The single point of contact is amended as “The Contractor’s single point of contact (SPOC): Vinit Deshpande”

This is a zero dollar change notice and will update the contract. All other terms, conditions, pricing, and specifications remain the same. Per vendor and agency agreement and DTMB Procurement approval.

Appendix F – Contract Cost Tables

This section provides modifications to Cost Tables 1, 2, 8, 9, 11 and the Payment Schedule table. All other cost tables (Cost Tables 3, 4, 5, 6, 7, and 10) are left unaltered.

Table 1: Summary of the Project Cost

One Time Project Costs			
Item	Project Cost(s)	Total (\$)	Comments
A.	COTS, Initiation and Planning One-time cost of vendor's proposed COTS or configurable software package, if applicable. Licensing pricing to be provided in section M.	\$224,978.99	
B.	Application Design - Functional (New application or customization of COTS) Give breakdown in Table 2	\$94,182.12	
C.	Application Design - System (New application or customization of COTS) Give breakdown in Table 2	\$94,087.12 \$182,622.55	Revisions due to Change Controls during design phase
D.	Application Construction (New application or customization of COTS) Give breakdown in Table 2	\$267,991.41 \$326,915.03	Revisions due to Change Controls during design phase
E.	Testing (New application or customization of COTS) Give breakdown in Table 2	\$176,539.32 \$294,586.56	Revisions due to Change Controls during design phase
F.	Implementation (New application or customization of COTS) Give breakdown in Table 2	\$457,246.96 \$781,876.87	Revisions due to Change Controls during design phase
G.	Training Give breakdown in Table 3	\$144,202.51	
H.	Technical Documentation Give breakdown in Table 4	\$336,406.74	
I.	Knowledge Transfer/Transition Give breakdown in Table 5	\$52,530.10	
J.	Warranty Give breakdown in Table 6	66,177.67	
K.	Bridge Hardware Give breakdown in Table 7	\$807,564.14	Bridge hardware applies to lane/plaza system
	Sub-total of One-Time Project Costs	\$2,721,807.08 \$3,312,043.29	Revisions due to Change Controls during design phase
On-Going/Future Project Costs			
Item	Project Cost(s)	Total (\$)	Comments
L.	Software Licensing (includes COTS and any third party software) Give breakdown	\$107,186.75 \$96,635.94	Reduced by unused Year 2 costs. The unused funds are

	in Table 8		moved to Item Q.
M.	Software Maintenance and Support Give breakdown in Table 8	\$775,165.63 \$659,567.28	Reduced by unused Year 2 and Year 3 costs. The unused funds are moved to Item Q.
N.	Application Hosting Give breakdown in Table 9	\$2,765,707.44 \$2,353,264.70	Application hosting applies to Central Host. Reduced by unused Year 2 and Year 3 costs. The unused funds are moved to Item Q.
O.	Future Enhancements - Staffing Give breakdown in Table 10	\$484,800.00 \$0.00	This funding was made available for design changes and has been moved to Items C-F.
P.	Future Enhancements - DVAS Give breakdown in Table 10	\$105,514.37	
Q.	Future Enhancements – Additional Funds Breakdown in Table 11	\$433,155.37	Updated per Contract Amendment – unused funds moved from Tables 8 and 9 items L through N for a total of \$538,591.56; reduced by additional funding of \$105,436.21 required to cover design changes in Items C-F
Total Project Cost		\$6,960,180.93	

Table 2: New Application or Customization of COTS - Design, Construction, Testing and Implementation Costs			
Number	Category	Total Costs	Comments
B	Application Design Functional	\$ 94,182.12	See Note 1
		\$ 94,087.12	
C	Application Design System	\$ 182,622.55	See Note 1
		\$ 267,891.41	
D	Construction	\$ 326,915.03	See Note 1
		\$ 176,539.32	
E	Testing	\$ 294,586.56	See Note 1
		\$ 457,246.96	
F	Implementation	\$ 781,876.87	See Note 1
	Total Cost Through Implementation	\$ 1,089,946.93	
		\$ 1,680,183.13	

Note 1: Line items revised to provide additional functionality identified during the design phase through Change Controls 3, 4, 5, 6, 7, and 8.

Table 8: Recurring Costs: Software License and Maintenance/Support (if applicable)

No.	Cost Categories	Software Cost (\$)	Comments
L-M.	Software Licensing		
	First Year (begins after 1 year warranty period)	-	
	Second Year	10,550.81	Second Year not used; the unused \$10,550.81 moved to Future Enhancements Table 11. Total Software Licensing reduced from \$107,186.75 to \$96,635.94.
	Third Year	10,867.33	
	Fourth Year	11,193.35	
	Fifth Year	11,529.15	
	Sixth Year	11,875.02	
	Seventh Year	12,231.27	
	Eighth Year	12,598.21	
	Ninth Year	12,976.16	
	Tenth Year	13,365.44	
	Total Software Licensing	96,635.94	
	Software Maintenance/Support		
	First Year (begins after 1 year warranty period)	-	Second Year not used; the unused \$76,302.54, and Third Year not used 39,295.81 moved to Future Enhancements Table 11. Total for Software M & S reduced from \$775,165.63 to \$698,863.09 \$659,567.28. Combined total reduced from \$882,352.37 to \$795,499.02 \$756,203.21.
	Second Year	76,302.54	
	Third Year	79,591.62 39,295.81	
	Fourth Year	80,949.37	
	Fifth Year	83,377.85	
	Sixth Year	85,879.18	
	Seventh Year	88,455.56	
	Eighth Year	91,109.23	
	Ninth Year	93,842.50	
Tenth Year	96,657.78		
Total Software Maintenance/Support	698,863.09 659,567.28		
Combined total	795,499.02 756,203.21		

Table 9: Vendor Application Hosting (if applicable)

No.	Vendor Application Hosting	Software Cost (\$)	Comments
N.	Vendor application hosting costs (list separately):		Second Year not used; the unused \$272,239.22 and Third Year of \$140,203.19 moved to Future Enhancements - Table 11. Total adjusted from \$2,765,707.11 to \$2,493,467.89 \$2,353,264.70.
	First Year	-	
	Second Year	272,239.22	
	Third Year	280,406.39 140,203.19	
	Fourth Year	288,818.59	
	Fifth Year	297,483.14	
	Sixth Year	306,407.64	
	Seventh Year	315,599.87	
	Eighth Year	325,067.86	
	Ninth Year	334,819.90	
	Tenth Year	344,864.50	
	Total Cost of Application Hosting	2,403,467.89 2,353,264.70	

Table 11: Future Enhancements Funds

No.	Future Enhancements Funds	Amount	Comments
Q.	Unused funding from Tables 8 & 9.	359,092.57 \$433,157.37	Updated per Contract Amendment – unused funds moved from Tables 8 and 9 items L through N for a total of \$538,591.56; reduced by additional funding of \$105,436.21 required to cover design changes in Items C-F
	Total Additional Funds	359,092.57 \$433,157.37	

Payment Schedule

Payment Schedule Based on Percentage of One-Time Project Costs			
Payment Milestone (Completion of)	Payment %	Original	Comments
Application Design (Functional and System)	15%	\$ 408,271.06 \$ 496,806.49	See Note 1 and Note 2
Application Construction, customization, or construction	10%	\$ 272,180.71 \$ 331,204.33	See Note 1
User Acceptance Testing	20%	\$ 544,361.42 \$ 662,408.66	See Note 1
Bridge 1- Implementation, training, and knowledge transfer	20%	\$ 544,361.42 \$ 662,408.66	See Note 1
Bridge 2- Implementation, training, and knowledge transfer	15%	\$ 408,271.06 \$ 496,806.49	See Note 1
Bridge 3- Implementation, training, and knowledge transfer	10%	\$ 272,180.71 \$ 331,204.33	See Note 1
Warranty Period	10%	\$ 272,180.71 \$ 331,204.33	See Note 1
Total		\$ 2,721,807.09 \$ 3,312,043.29	

Note 1: Line items revised to provide additional functionality identified during the design phase through Change Controls 3, 4, 5, 6, 7, and 8.

Note 2: Application Design (Functional and System) payment was made in June 2014 in the amount of \$472,275.91. Remaining amount of \$24,530.58 will be included in the next invoice billed upon approval of this contract amendment.

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

June 23, 2014

CHANGE NOTICE NO. 1
 to
CONTRACT NO. 071B2200310
 between
THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
Xerox State & Local Solutions, Inc. 12410 Milestone Center Drive Germantown, MD 20876	Steve Moseley	Steve.Moseley@xerox.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	(615) 498-0017	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR	DTMB	Jim Normandin	517-373-3462	normandinj@michigan.gov
BUYER	DTMB	Barb Suska	517-284-7026	Suskab2@michigan.gov

CONTRACT SUMMARY:			
DESCRIPTION: Toll Bridge Software			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
September 30, 2012	September 29, 2019	3, one year	September 29, 2019
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 checked="" type="checkbox"/> Yes <input 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		\$5,634,879.35		

Effective August 5, 2013, in compliance with Section 2.062, this request is for a change in Key Personnel (Project Manager) and Single Point of Contact (SPOC). Vinit Deshpande is the new Project Manager and SPOC. He replaces Diana Nugent who will continue the assignment until the State Exit for completion and approval of the System Detailed Design. Please also note that the buyer has been changed to Barb Suska. All other terms, conditions, pricing and specifications remain the same. Per vendor and agency agreement and DTMB Procurement approval.



August 5, 2013

Andrew Tate
Program Manager
Americas Commercial and
State Government
Transportation

Jim Normandin
Project Manager
MDOT IT Project Management Office
425 W. Ottawa
P.O Box 30050
Lansing, Michigan 48909

*Xerox State & Location
Solutions*
12410 Milestone Center Dr
Suite 400
Germantown, MD 20876

email: andrew.tate@xerox.com
tel 512.659.9795

**Subject: MI DOT Toll Bridge Software, Contract #071B2200310
Request for Change of Key Personnel**

Dear Mr. Normandin:

In compliance with Section 2.062 of our contract, Xerox is submitting this request for change in Key Personnel and Single Point of Contact (SPOC). Per our discussion on June 26, 2013, Vinit Deshpande will be assigned as the new Project Manager and SPOC for this project. The current Project Manager, Diana Nugent, will continue with the assignment until the Stage Exit for the completion and approval of the System Detailed Design. This allows for 30 day shadowing time and ensures that a smooth transition can be completed.

In compliance with the Contract, Xerox submitted Vinit's credentials for your review on June 19, 2013. A copy of Vinit's resume is also attached to this letter.

Please indicate your approval by signing in the space provided on this letter below by August 14, 2013.

Please do not hesitate to contact me if you have any questions and concerns.

Sincerely,

Andrew Tate, PMP

CC. Diana Nugent, Gail DeGraaf; Helen Barton, Karen Caruso, Xerox
Bill Pemble, Steve Motz, DTMB

Enc. Resume for Vinit Deshpande



Approval is provided by the State of Michigan to proceed with the replacement of the Xerox project manager and single point of contract as described above:

Signature: Bill Pemble Date: 8/5/13

Printed Name: Bill Pemble Title: DTMB IT Manager

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

October 1, 2012

CONTRACT NO. 071B2200310
 between
THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
Xerox State & Local Solutions, Inc. 12410 Milestone Center Drive Germantown, MD 20876	Steve Moseley	Steve.Moseley@xerox.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	(973) 368-1613	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR:	DTMB	Jim Normandin	(517) 373-3462	normandinj@michigan.gov
BUYER:	DTMB	Mark Lawrence	(517) 241-3768	Lawrencem2@michigan.gov

CONTRACT SUMMARY:			
DESCRIPTION: Descriptive Contract Title (Not always the same language as provided in MAIN)			
Toll Bridge Software			
INITIAL TERM	EFFECTIVE DATE	INITIAL EXPIRATION DATE	AVAILABLE OPTIONS
7 Years	September 30, 2012	September 29, 2019	3 Years
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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO
MINIMUM DELIVERY REQUIREMENTS:			
N/A			
MISCELLANEOUS INFORMATION:			
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION:			\$5,634,879.35

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

CONTRACT NO. 071B2200310
 between
THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
Xerox State & Local Solutions, Inc. 12410 Milestone Center Drive Germantown, MD 20876	Steve Moseley	Steve.Moseley@xerox.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	(973) 368-1613	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR:	DTMB	Jim Normandin	(517) 373-3462	normandinj@michigan.gov
BUYER:	DTMB	Mark Lawrence	(517) 241-3768	Lawrencem2@michigan.gov

CONTRACT SUMMARY:			
DESCRIPTION: Descriptive Contract Title (Not always the same language as provided in MAIN)			
Toll Bridge Software			
INITIAL TERM	EFFECTIVE DATE	INITIAL EXPIRATION DATE	AVAILABLE OPTIONS
7 Years	September 30, 2012	September 29, 2019	3 Years
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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO
MINIMUM DELIVERY REQUIREMENTS:			
N/A			
MISCELLANEOUS INFORMATION:			
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION:		\$5,634,879.35	

THIS IS NOT AN ORDER: This Contract Agreement is awarded on the basis of our inquiry bearing the solicitation #07113000167. Orders for delivery will be issued directly by the Department of Technology, Management & Budget through the issuance of a Purchase Order Form.

Notice of Contract #: 071B2200310

FOR THE CONTRACTOR:	FOR THE STATE:
Xerox State & Local Solutions, Inc.	
Firm Name	Signature
Authorized Agent Signature	Greg Faremouth, IT Director
Authorized Agent (Print or Type)	Name/Title
Date	IT Director
	Enter Name of Agency
	Date



STATE OF MICHIGAN
Department of Technology, Management and Budget
Purchasing Operations

Contract # 071B2200310
Toll Bridge Software

Buyer Name: Mark Lawrence
Telephone Number: 517 241-1640
E-Mail Address: lawrencem1@michigan.gov



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Article 1 – Statement of Work (SOW)

1.000 Project Identification

1.001 PROJECT PURPOSE

The state of Michigan (SOM) through the Michigan Department of Technology, Management and Budget (DTMB), with assistance from the Michigan Department of Transportation (MDOT) have issued this contract to Xerox State and Local Solutions to implement new tolling software for use at each of three major toll bridges, all of which are publicly owned.

The Contractor shall procure the server hardware and software needed to host the toll bridge software, and assist in transitioning and transferring the application to the hosting environment.

1.002 BACKGROUND

Michigan Department of Transportation

The Michigan Department of Transportation has jurisdiction over approximately 9,700 miles of state highways and more than 4,500 bridges. The agency's mission is to provide the highest quality integrated transportation services for economic benefit and improved quality of life.

Existing Software

All three of the Michigan toll bridges included in this project are currently using three FoxPro applications, Office Toll System, Toll Lane Point of Sale, and Plaza Monitor. These systems were built in-house, and are supported by additional smaller applications and batch processes. The software must be replaced because the state of is phasing out support and maintenance for FoxPro applications.

Legacy Application Modernization Program (LAMP)

The toll bridge software project is part of the Legacy Application Modernization Program (LAMP), which is a multi-year effort to modernize MDOT's legacy applications. The goal of LAMP is to implement newer technology and sustainable platforms.

About the Bridges

The Bridges involved in this project are all publicly owned. The Bridges are:

- The Mackinac Bridge, which spans the Straits of Mackinac, connecting Mackinaw City in Michigan's Lower Peninsula, with St. Ignace in the Upper Peninsula. The "Mighty Mac" is operated by the Mackinac Bridge Authority, with offices in St. Ignace.
- The International Bridge, which spans the St. Marys River, connecting Sault Ste. Marie, Michigan with Sault Ste. Marie in Ontario, Canada. This bridge is operated by the International Bridge Administration, with offices in Sault Ste. Marie, Michigan.
- The Blue Water Bridge is a twin-span bridge over the St. Clair River, connecting Port Huron, Michigan with Point Edward in Ontario, Canada. The Blue Water Bridge is jointly operated by MDOT on the U.S. side and by Blue Water Bridge Canada on the Canadian side. MDOT's bridge offices are located in Port Huron.

1.100 Scope of Work and Deliverables

1.101 IN SCOPE

The following tasks are within the scope of this project:

- Application design and construction, or customization if a COTS package
- Testing
- Implementation
 - ✓ Data conversion
 - ✓ Data migration
 - ✓ Configuration
- Training
 - ✓ System administration



- ✓ Train-the-trainer
- Technical documentation
- Knowledge transfer/transition, depending on how the application is delivered (i.e., source code or no source code)
- Maintenance and support
- 90-day warranty (after the software is fully implemented at all project locations)
- Vendor hosting for a COTS package
- Bridge hardware
- Software licensing if required for a COTS package
- Future enhancements

A more detailed description of the software, services (work) and deliverables sought for this project is provided in Article 1, Section 1.104, Work and Deliverables. Detailed requirements are provided in Appendix A, Functional Requirements, and Appendix B, Technical and General Requirements.

1.102 OUT OF SCOPE

Requirements identification/documentation is out of scope for this project.

1.103 ENVIRONMENT

The links below provide information on the State's Enterprise information technology (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 Contractor must request any exceptions to State IT policies and standards in accordance with DTMB processes. It will be the responsibility of the State to deny the exception request or seek a policy or standards exception. The Contractor is required to review and comply with all applicable links provided below.

Enterprise IT Policies, Standards and Procedures:

<http://www.michigan.gov/dmb/0,1607,7-150-56355-107739--,00.html>

All software and hardware items provided by the Contractor must run on and be compatible with the DTMB 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 DTMB. 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 DTMB Project Manager 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 and DTMB must approve any changes in writing before work may proceed based on the changed environment.

Enterprise IT Security Policy and Procedures:

http://www.michigan.gov/documents/dmb/1310_183772_7.pdf

http://www.michigan.gov/documents/dmb/1310.02_183775_7.pdf

http://www.michigan.gov/documents/dmb/1325_193160_7.pdf

http://www.michigan.gov/documents/dmb/1335_193161_7.pdf

http://www.michigan.gov/documents/dmb/1340_193162_7.pdf

http://www.michigan.gov/documents/dmb/1350.10_184594_7.pdf

The State's security environment includes:

- Secured Socket Layers.
- SecureID (State Security Standard for external network access and high risk Web systems)



DTMB requires that login security environment be used for all client-server software. 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 DTMB Office of Enterprise Security.

IT Strategic Plan:

<http://www.michigan.gov/itstrategicplan>

IT eMichigan Web Development Standard Tools:

http://www.michigan.gov/documents/som/Look_and_Feel_Standards_302051_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

The DTMB/MDOT Standard Information Technology Environment consists of the Desktop Environment, Project Management Tools, the Business System Development Environment, the Web / Intranet Site and Application Development Environment, the Security Environment, and the Network Environment. These environments include but are not limited to the following identified IT tools:

Window XP Desktop Environment

Microsoft Office/Office Professional XP, 2010
Microsoft Outlook 2010
Microsoft Internet Explorer 7.0 +
Mozilla Firefox 3.x
Oracle NetServices 9.2.06 +
Adobe Acrobat

Project Management Tools

Clarity 8.1
Microsoft Project 2002 +

Development Languages, Tools

JDK 1.4, 5, 6
J2EE 1.4, JEE 5
Spring Framework Suite 2.x, 3.x
DOJO Javascript Framework 1.1 and higher
Struts 1.x
JPA 2.0
Hibernate 2.x, 3.x
Direct Web Remoting
Apache CXF
 Apache Maven
 Nexus (Maven Repository Manager)
 Hudson (Continuous Integration Server)
JBoss JBPM 3.x, 4.x
JBoss Rules 4.x, 5.x
JBoss ESB 4.x

JavaScript, JQuery
PowerBuilder 9.x, 10.x, 11.x
XML
HTML
CSS
AJAX
Microsoft .NET 2.x, 3.x, 4.x



C#
ASP.NET
ColdFusion 7.x, 8.x

IBM Rational Application Developer 7
JBoss Developer Studio
IBM Rational Suite 2003

Microsoft Visual Studio 2008

Eclipse, CFEclipse

Serena Dimensions CM
Serena Business Manager

Erwin, TOAD Data Modeler - Data Modeling
Toad for Oracle 10.0 +

Enterprise application Studio (PowerBuilder 9.x PowerJ 3.x, PowerSite)
- Sybase Powerbuilder Enterprise

Web/Application Servers

Apache 2.x
IBM Http Server 6.x
Websphere Application Server 6.1
JBoss SOA Platform 5.x
Microsoft Internet Information Server 6, 7
Cold Fusion, 8
Enterprise Application Server 3.x (Jaguar CTS 3.x, PowerDynamo)

Database Server

Oracle 11g (with spatial option)

Spatial

ArcGIS Server 10
ArcSDE

Web Content Management

Vignette Content Manager, version 6+ (Will be replaced by the following in Oct 2010)
IBM/Lotus Web Content Management 6.1

Document Management

IBM FileNET
Bentley ProjectWise
Adobe Acrobat version 6.0 +

Electronic Forms

Presentation: Adobe Acrobat version 6.0 +
FileNET eForms for document management

Testing Environment

HP LoadRunner 9.5
HiSoftware Accverify 10
Freedom Scientific JAWS 11

**Security Environment**

Java J2EE Security

IBM Tivoli Single Sign On

SSL

SecureID (State Security Standard for external network access and high risk Web systems)

Operating Systems

Windows Server 2003, 2008

Sun Solaris 10

RedHat Enterprise Linux 5

Network Environment/Hardware

Cisco Routers

Dell, Sun, HP, IBM servers

Citrix ICA Client

Citrix Metaframe

1.104 WORK AND DELIVERABLES***I. Services and Deliverables to Be Provided***

All SOM application development projects use the state's Systems Engineering Methodology (SEM) and Project Management Methodology (PMM). The SEM and PMM are components of the State Unified Information Technology Environment (SUITE). The Contractor shall adhere to the state's SEM and PMM, which provide processes and templates. The Contractor's use of a different format for deliverables (e.g., the functional design document) must be approved by the DTMB project manager before use. DTMB will work with the Contractor to develop a project-specific plan, if requested.

Note: As part of the SEM, all SOM application development projects require a stage exit meeting at the conclusion of each stage of the project (e.g., construction). During the stage exit meeting, the Contractor and SOM project teams meets with the sponsor, business owners, and other stakeholders (as defined in the Communication Plan), to review deliverables developed during that stage. The business owners and/or the sponsor must approve/sign off on the deliverables before the next stage may begin.

A. COTS, Initiation and Planning

The Contractor will provide project management for both the Contractor and SOM Project Teams' activities and for communications and gaining concurrence with the DTMB Project Manager and designated persons responsible for project decision making. The Contractor's Project Manager will be responsible for managing the execution of the specific tasks and for day-to-day communication. The Contractor's Project Manager will be responsible for preparing and presenting progress reports, and responding to specific questions and requirements of DTMB, MDOT, and Bridges personnel. Both DTMB's and Contractor's Project Managers must have ready access through all reasonable, available means of communication.

Contractor will provide its proprietary VECTOR 4G Tolls lane software as delivered lane software with a perpetual license for the State to use the software for the Michigan bridges under this contract.

Contractor will provide a limited license to the State to use Contractor's proprietary VECTOR 4G Tolls software as hosted software during the term of this contract for the purposes of this Contract in accordance with Section 2.324 of this Contract.

Contractor Responsibilities

See section 1.201 A. Contractor Staff.

State Responsibilities

Assist the Contractor Project Manager with the completion of the SUITE Project Management Plan.



Deliverable(s) of Contractor

- Project Management Plan which includes
 - Communications Plan
 - Resource Management Plan
 - Issues Management Plan
 - Risk Management Plan
 - Change Management Plan
 - Project Schedule and work assignments
- Status Reporting
- Defect Log
- Technical Kickoff Agenda and Summary
- Vector software

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

B. Application Design - Functional

During the functional design stage, the Contractor and SOM project teams will develop a functional design in accordance with the requirements previously identified. The functional design must include a system prototype and use cases. This will include time for the Contractor to validate the requirements with the SOM.

This stage also includes usability evaluations and usability testing. These are performed by the SOM Quality Assurance group. Usability evaluations are conducted throughout the functional design phase as screens are designed. This will include the compliance of the ADA 508 standards to the current FHWA (Federal Highway Administration) requirements; no other external certification shall be required. Details about usability evaluations and testing are provided with Acceptance Criteria. A Final Usability Report will be provided by the DTMB Quality Assurance group.

Another key activity during this stage is the initiation of what DTMB refers to as “touchpoints.” A touchpoint is contact with another DTMB service area that will play a role in the development and/or implementation of the application. These areas include Enterprise Architecture (EA), the Office of Enterprise Security (OES), and Infrastructure Services (IS). These areas have forms that must be completed by the application development team. Work on these forms begins during the application design stage.

Contractor Responsibilities

- **Facilitate the functional design session (s)**
- **Review and provide input to the Draft Infrastructure Service Request (SEM template)**
- **Create the deliverables in this section.**

State Responsibilities

- Participate in all the Functional design sessions
- Stage exit agenda (SEM template)
- Functional design stage exit approval (SEM template)
- Approved EA Solution Assessment Worksheet (SEM template)
- Draft Infrastructure Service Request (SEM template)

Deliverables

Xerox

- ✓ Functional design document (SEM template) – this document shall include diagrams and descriptions of the graphical user interface (GUI), or the GUI information may be provided in a separate document.
- ✓ System prototype
- ✓ Logical data model with definitions



- ✓ Use cases (SEM template)
- ✓ Draft EA Solution Assessment Worksheet (SEM template)
- ✓ Draft Project Security Plan and Assessment (SEM template)
- ✓ Updated traceability matrix (traceability matrix provided with the detailed requirements)

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501. Usability evaluation and testing acceptance criteria are described on page 42.

C. Application Design - System

During the system design stage, the Contractor project team develops a system design, in accordance with the functional design created in the previous stage. This stage includes the database design, and the design of all components, modules, and interfaces.

Contractor Responsibilities

- **Create the deliverables in this section.**

State Responsibilities:

- ✓ Stage exit agenda (SEM template)
- ✓ System design stage exit approval (SEM template)
- ✓ Assisting with the mapping of the existing data into the Vector databases

Deliverable(s)

Xerox

- ✓ System design document
- ✓ Physical data model with definitions
- ✓ Data mapping for existing data to Vector databases
- ✓ Test plan
- ✓ Test cases (SEM template)
- ✓ Initial data conversion plan
- ✓ Transition plan
- ✓ Updated traceability matrix (traceability matrix provided with the detailed requirements)

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501. .

D. Application Construction

During the construction stage, the Contractor project team develops the software, in accordance with the functional and system designs. This stage also includes several types of testing: unit, function, integration, verification, and performance (load). A defect log is created during this stage, used in conjunction with testing.

During construction, the Contractor shall install incremental builds in the SOM QA environment. This would occur at logical points in development, e.g., as each module are completed. This process helps ensure compatibility with SOM server software and environments.

The Contractor will perform data conversion of the existing State toll system and incorporate it in the new Vector solution. They will provide a data conversion report that will track any data elements that weren't converted and require follow-up.

Contractor Responsibilities

Create the deliverables in this section.



State Responsibilities

- ✓ Assist with the data conversion from the existing State toll system. This may include re-entry of missing or incorrect data if there is no other means to resolve the issue.
- ✓ Stage exit agenda (SEM template)
- ✓ Construction stage exit approval (SEM template)
- ✓ Final EA Solution Assessment Worksheet and sign-off (SEM template)
- ✓ Final Infrastructure Service Request and sign-off (SEM template)
- ✓ Final Project Security Plan and Assessment and sign-off (SEM template)

Deliverable(s)

Xerox

- ✓ Customized Vector software
- ✓ Updated Defect log
- ✓ Final data conversion plan
- ✓ Data conversion report
- ✓ Application Demo
- ✓ Check Point Client Summary
- ✓ Revised Transition plan
- ✓ Installation plan (that addresses all three bridges)
- ✓ Updated traceability matrix
- ✓ Migrated test data

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

E. Testing

Testing has two primary sets of tasks:

1. The Contractor bears full responsibility for the first group of tasks. These are unit, functional, integration, system and regression testing. The Contractor must provide documentation to DTMB that describes:
 - Test approach (including the testing documentation from which Contractor resources will be work, how defect management is handled)
 - Test results, which must include specific mention of any open defects/issues
2. The second group of testing tasks involves the Contractor and SOM project team using the Michigan QA environment. The Contractor is responsible for conducting verification tests to ensure that the software is installed and configured properly and that it functions and performs as expected. After the Contractor completes verification testing, the DTMB Quality Assurance staff will perform quality assurance testing. MDOT/Bridges staff will execute user acceptance testing (UAT).

Contractor Responsibilities

- Contractor performs this testing:
 - unit,
 - functional,
 - integration,
 - system
 - regression
- provide technical assistance to the SOM contract team during UAT.

State Responsibilities

- Provide Bridge testing scenarios
- Perform QA / System Testing and provide Testing Summary
- Perform User Acceptance Testing within the project schedule
- Stage exit agenda
- Testing stage exit approval



Deliverable(s)

Xerox

- ✓ Test results
- ✓ Integration / Data Conversion Summary
- ✓ Updated defect log
- ✓ User acceptance test cases
- ✓ User Acceptance Testing Summary
- ✓ Updated traceability matrix (traceability matrix provided with the detailed requirements)

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

F. Implementation

During the implementation stage, the **Contractor** project team will execute the release of the software into production. This includes converting existing data and migrating it into the new system. The new system will be put into operation at each of the three bridges. The order of implementation will be determined by the **Contractor** and SOM project team. Each bridge will identify dates/date ranges when implementation would not be desirable. For Bridge Hardware installation, see section M. Bridge Hardware.

Contractor Responsibilities

- converting existing data and migrating it into the new system
- deploy the hardware and software for each bridge

State Responsibilities

- Resolution of issues with the conversion of the existing production data
- Stage exit agenda
- Implementation stage exit approval
- e-Michigan Notification of New Online Service Form

Deliverable(s)

Xerox- Each of the 3 Bridges will have these deliverables:

- ✓ Application implemented and tested in production environment
- ✓ Final version of application files
- ✓ Updated/final installation plan
- ✓ Existing data, converted to the format required by the new system
- ✓ New database populated with migrated data, and tested

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

G. Training

The Contractor shall provide “train the trainer” and system administration training. Please note that knowledge transfer for personnel who will handle ongoing maintenance of the system is covered in section I, Knowledge Transfer

System Operations training will be split into two (Toll Management and Auditor) training sessions. For the Toll Management training, Xerox will use the Operations, System Administration, and Report Manuals, which provide a complete description of the roadside functions. The scope of training includes the following:

- Facilities
- Host
- Plaza
- Toll zone operations
- Site security



- System interfaces
- Monitoring
- Reconciliation
- Audit procedures
- Reports

Course topics will include plaza monitoring, Computerized Maintenance Management System (CMMS), security, reports, and a selected subset of Plaza / Host system administration functions. The training also includes input menus, options, and screen format graphics of the application. The Bridges Operations Staff is the intended audience for Toll Management training.

Auditor Training scope includes facilities host, plaza and toll zone operations, monitoring, reconciliation, audit, and reports. Training provides an overview of the toll collection system operation, with an emphasis on report module functions and the effect of data on transaction reconciliations. It also includes detailed explanations of report generation and output options. Other topics covered include CMMS its use in performing auditing functions. The intended audience for the Audit and Report training is Bridges Back Office Operations, Finance, Accounting, and Auditing Staff.

Maintenance Training is comprehensive training that addresses all hardware and software components of the various modules of the system. Training scope includes automatic vehicle identification, detection, and classification system (AVC), video processing, and ETC / AVI. The Training will describe maintenance of system operations, software maintenance, and system monitoring. The manuals supplied will feature screen shots and other illustrations, as well as step-by-step instructions. The intended audience for the Maintenance Training course is maintenance technicians and system administrators. System Administration training materials will address all hardware and software components of the various modules of the system. Training scope includes automatic vehicle identification, detection, and classification system (AVC), video processing, and ETC / AVI. The System Administration Manual will describe administration of system operations, software maintenance, and system monitoring. The manuals feature screen shots and other illustrations, as well as step-by-step instructions. The intended audience for the System Administration course is maintenance technicians and system administrators.

The Contractor will provide train-the-trainer courses for Toll Management, Auditors, Maintenance Technicians, and System Administrators.

Individual training courses for the above mentioned topics will be provided in separate focused training sessions. The Toll Management and Auditor training are part of systems operations focus. However, the training sessions will be separately executed for Toll Management and Auditor training.

The Contractor will provide the train-the trainer courses for SOM personnel to train end users.

Here is the list of the classes described above:

Course Title	Content	Intended Audience	Course Format	Duration (days)
Toll Management Training	Plaza Monitoring Computerized Maintenance Management System (CMMS) Reports VECTOR System Administration Closed-Circuit Television (CCTV) and Security	Bridge Operation staff	Instructor-Led Self-Study	3
Audit and Reports Training	Plaza Monitoring CMMS Reports	Bridge Back Office Operations, Finance, Accounting, Auditor Staff	Instructor-Led Self-Study	3



Maintenance Training	Lane Equipment Maintenance CMMS	Bridge Operation staff	Instructor-Led Self-Study	3
System Administration Training	Plaza / Host System Administration	Bridge Operation staff	Instructor-Led	5
VECTOR 4G Tolls Operations Training	Account Management Financial Reconciliation	Bridge Operation staff	Instructor-Led	5

The training courses are designed to be the most effective with a maximum audience of ten (10) persons. This table outlines the training approach.

Course Description	Audience	Duration	Prerequisites	Content
Toll Management Training	Bridge Operation staff	3 days	Knowledge of MS-Windows, helpful, but not necessary	major components of the VECTOR application Use VECTOR system to control and monitor plaza operations, perform auditing functions, access reports, and perform system administration Access CMMS system to review status of open service calls and report any problems that may arise Access and generate standard reports required for toll management Access, view, and control CCTV and Security systems Access, view, and control DVAS Perform RTCS system administration management functions
Audit and Reports Training	Bridge Back Office Operations, Finance, Accounting, Auditor Staff	3 days	Windows knowledge is helpful, but not required.	Identify major components of All Electronic Tolling (AET) system Describe how transactions flow through the system Describe how to use DVAS to audit transactions Perform audit activities using CMMS (part of the audit function requires obtaining reports from CMMS)
Maintenance Training	Bridge Operation staff	3 days	None	Generate service request and properly identify the plaza and subsystem affected Appropriately describe problem Track status of service request Review operational procedures to ensure proper use of service requests and priorities Identify correct operational procedures employing maintenance documentation, such as maintenance manuals, drawings, vendor manuals, and parts list Use CMMS to complete scheduling, work assignments, transportation requirements, and communications Perform preventive maintenance on all



				<p>systems and subsystems Troubleshoot, diagnose, repair, test, and follow up on maintenance issues; provision spare parts and equipment Use special maintenance tools</p>
System Administration Training	Bridge Operation staff	5 days	Windows knowledge is helpful, but not required.	<p>Identify major components of the RTCS Describe how transactions flow through the system. Troubleshoot system failures Perform problem resolution and closure Access CMMS system to review status of open service calls and report any problems that may arise Execute RTCS system administration functions Complete employee administration functions Carry out data archiving and recovery process</p>
VECTOR 4G Tolls Operations Training	Bridge Operation staff		Windows knowledge is helpful, but not required.	<p>Account Management</p> <ul style="list-style-type: none"> • Open account • Change payment method • Change Credit Card on file • Close Account <p>PCI Compliance in VECTOR 4G Tolls Financial Reconciliation Searching for accounts Processing account replenishment Accessing vehicle transaction history Accessing financial transaction history Adding notes to the account How to generate reports</p>

Training Delivery

Course Name	Class Size	# of Classes	Training Type	Class Location	Class Duration
Toll Management Training	10	2*	Instructor-Led Self-Study	Onsite location - TBD	3 days
Audit and Reports Training	10	2*	Instructor-Led Self-Study	Onsite location - TBD	3 days
Maintenance Training	10	2*	Instructor-Led Self-Study	Onsite location - TBD	3 days
System Administration Training	10	2*	Instructor-Led	Onsite location - TBD	5 days
VECTOR 4G Tolls Operations Training	10	2*	Instructor-Led (one for each Bridge)	Onsite location - TBD	5 days

Two classes will be held for each course. A total of 10 classes will be held.



Contractor Responsibilities

- Work with the SOM train-the-trainer on training material
- Training presentation materials
- Provide access to VECTOR 4 instances of the software environment for each of the trainings at the three bridges
- Advance copy of the training material will be provided at least 3 days prior to the training.

State Responsibilities

- Provide the training facilities
- Coordinate with the Contractor the scheduling of training
- Identify the train-the-trainer staff
- SOM Trainer will provide training for Bridge 2 and 3.

Deliverable(s)

Xerox

- ✓ Train the trainer training, to be provided at the first bridge implementation site identified in the project schedule.
- ✓ System administration training for SOM personnel who will be responsible for ongoing administration of the system, including security.
- ✓ Training materials (SOM has the right to reproduce the training material for SOM related training)

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

H. Technical Documentation

Contractor and SOM project team members, including Contractor resources, will provide support/input to the DTMB technical writer who will develop the user guide and user training materials. Communication with the technical writer should begin earlier in the project, with work on the user documentation beginning during the testing stage. The Contractor project team is also responsible for providing technical (non-user) documentation.

Contractor Responsibilities

- Contractor will provide the deliverables in this section.

State Responsibilities

- Review the deliverables from this section

Deliverable(s)

Xerox

- ✓ Technical documentation, to include:
 - Data dictionary definitions
 - Release notes
 - System administration manual
 - Use cases and system design, updated to reflect changes made during construction and testing
 - Installation procedures
 - Test scripts

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

I. Knowledge Transfer/Transition

This stage of the project involves executing the project transition plan. The transition plan documents information that is useful during maintenance and operations. The knowledge transfer involves coordinating activities between the Contractor's development team and the DTMB maintenance manager



to assure the smooth transition to on-going maintenance and operations. Project documents should reflect all updates that occurred during development.

Xerox will ensure that the SOM project team will know and be fully aware and knowledgeable of the details of the Xerox technology solution throughout the project's implementation. Xerox will ensure that goal by scheduling formal and informal knowledge transfer sessions. For example, Xerox welcome and encourages SOM participation in design reviews and other project tasks. Xerox will fully answer your concerns, comments, and questions during and after each such session.

For a smooth transition of ownership, Xerox will teach the SOM employees about their new system throughout the project. Xerox will also create a detailed Transition Plan to ensure a smooth transfer of responsibility of system maintenance.

Xerox will maintain the software system maintenance, SOM personnel need to be fully trained on how to best use the system. Knowledge transfer continues during the Contractor's "train the trainer" sessions. Customer service center training involves the use of key deliverables including User Manuals and Training Materials. These will ultimately become the guides and are designed to facilitate learning of knowledge, skills, and competencies by those being trained. Contractor trainers and project team will be available for remote support of SOM trainers throughout their efforts in training the customer service center team at each bridge.

When the project is ready for transition to the DTMB maintenance team, Contractor Project Manager will ensure tight coordination of transitional activities. This specific knowledge transfer is critical to assure a smooth transition to on-going maintenance and operations.

Contractor Responsibilities

- Contractor's maintenance training program will educate and prepare the onsite technicians and electricians to effectively support any hardware components. This program provides in-depth instruction for the proper preventive, predictive, and potential corrective maintenance activities.
- Provide maintenance training during the installation of the new equipment, at each of the 3 bridges.

State Responsibilities

- Review and approve deliverables

Deliverable(s)

Xerox - project documents for each of the 3 bridges, to include:

- ✓ Final version of all project documents which include, but are not limited to:
 - Project charter
 - Scope statement
 - Communication plan
 - Issues list
 - Functional design
 - Use cases
 - Technical design
 - Data models
 - Test plans
 - Test data
 - Test scripts
 - User documentation
 - Usability testing
 - Data conversion information
 - Transition Plan
 - Installation plan
 - Defect tracking log
 - Future potential enhancements log
 - Security plan (OES)

**Acceptance Criteria**

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

J. Warranty

For a period of 90 days after the software is fully implemented at all project locations, the Contractor will be responsible for fixing any reported defects related to the application. The warranty period will not close if defects with a severity level of critical or high are unresolved. (see section 1.401)

Contractor shall warrant the installed solution for a period of ninety (90) days after Final Acceptance Testing and the software being fully implemented at all project locations. This warranty ensures that Contractor will be responsible to quickly respond and repair defects as they are identified and will do so within the applicable service labor agreements at no charge to the SOM.

This software warranty covers those software issues that negatively impact the installed system and its ability to perform to the contractual standards and requirements. Additionally, Xerox warrants that the installed lane, plaza, and host software components are free of surreptitious code such as self-help, or unauthorized code as part of Contractor's contractual deliverables.

Hardware components installed in support of the lane, plaza, and host software integration will be covered by the manufacturer's warranty. Xerox will pass along all applicable warranties and provide a listing of the terms and conditions as well as the warranty period for each installed component.

Contractor also warrants that all delivered software is designed to ensure compliance with calendar year rollover compatibility where the century format is written as a four digit numerical value. The latest release of Contractor's software suite was written post year 2000 and accommodates this format throughout all data structures, routines, and storage locations.

Contractor shall provide all data pertaining to the use of third-party applications. This data will include information related to manufacturer warranty timeframes as well as Contractor authorization to legally provide the third-party software as part of Contractor deliverables.

In the event that a critical or high-priority defect is identified and remains unresolved after the 90 day period the warranty will be extended until all issues are closed to the satisfaction of SOM and XEROX. Defect severity levels will consist of a predetermined scale that will be mutually agreed upon by the SOM and Contractor.

Contractor shall track all identified defects within an issue tracking system. Each defect will be assigned a unique identification number that will be used to reference the issue within a defect log. This defect log is a contract deliverable and will be provided to SOM in a customizable format that can either be in the form of a new log, or provided within an existing log depending on customer preference.

Contractor Responsibilities

- Contractor shall track all identified defects within an issue tracking system..

State Responsibilities

- Report defects to the Contractor's project manager
- Provide the description and additional information for each defect

Deliverable(s)

Xerox

- ✓ Defect log – this may be a continuation of the existing defect log, a new log, or simply a new tab in the existing log.
- ✓ Close-down documentation and presentations for two of MDOT's IT governance groups, the IT Operations Team (ITOT), and the IT Steering Committee (ITSC). This presentation should include



an overview of project statistics and a summary of lessons learned. (Template provided in Appendix G). This will occur at the start of the Warranty period.

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

K. Bridge Hardware

As stated earlier in this document, the three bridges all have existing bridge hardware (e.g., gates, loops, treadles and patron displays). The SOM wishes to use the existing bridge hardware if possible.

Note: Existing bridge hardware includes:

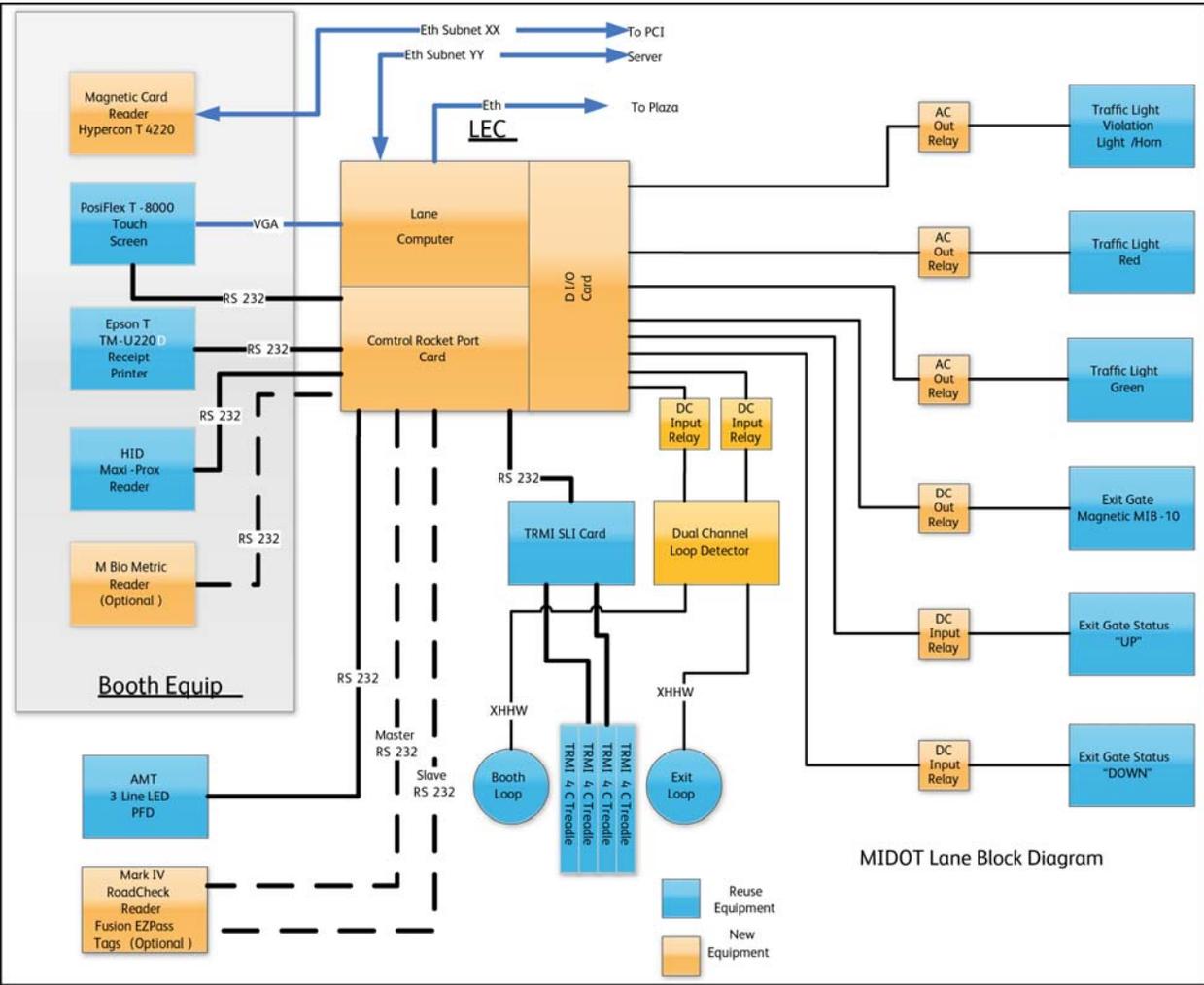
- Touch screens - Posiflex TP-8000s with magnetic card reader
- Receipt printers – USB-capable TM-U220Ds
- Patron fare displays – AMTs (LED accommodating three lines of six characters each)
- Magnetic loop and treadle produced by The Revenue Markets, Incorporated
- The Mackinac Bridge (only) uses a customized patron display by Vultron

In order to minimize project equipment, labor, and training costs, Contractor shall reuse existing bridge hardware. The installation of new lane controllers and cabinets will be compatible with the software system, and utilize the latest industrial components. In addition, Contractor shall install a new detection loop at the existing HID proximity card reader to produce increased accuracy of vehicle detection for unstaffed lanes. Should SOM wish to change any existing hardware in the future, Contractor software is designed for handling new equipment with minimal impact through driver changes.

K.1 Hardware to be Reused

Contractor shall reuse the following existing hardware:

- Touch screens. Posiflex TP-8000s with magnetic card reader
- Receipt printers. USB-capable TM-U220Ds
- Patron fare displays. AMTs (LED accommodating three lines of six characters each)
- Magnetic loop and treadle produced by The Revenue Markets, Incorporated
- Exit Loop and Treadle
- SLI card to be incorporated into new Lane Controller
- Red and green traffic lights
- Traffic control gates
- HID proximity card readers



045.MIDOT

Exhibit I-32. Lane Block Diagram.

K.2 Lane Controller

Contractor shall replace the lane controller with the latest industrial PC from Advantech IPC-6608. The computer will be a single board computer, PCA-6011 mounted in a chassis with a passive backplane with 3 PCI, 3 ISA, 1 PICMG and 1 PICICMG slots. The unit will be equipped with a Intel Core2 Quad dual threading 2.6GHz processor with 4GB of RAM and 500GB of mass storage in a RAID 1 configuration. The computer will be equipped with a 400W power supply and dual cooling fans. Additionally the computer will be equipped with a Control Rocketport serial expansion board to communicate with the lane equipment via RS232 and RS485. The lane computer will be installed with Red Hat Linux operating system running the new lane processes.

K.3 Lane Electronic Cabinet (LEC)

The Lane Electronic Cabinet (LEC) will be a Saginaw Engineering and Controls NEMA 4 enclosure that will house the lane computer and LEC interface panel. The enclosure will be mounted to the tunnel wall; AC power will be connected to the NEMA cabinet by licensed electrician contractor in accordance with national and local electrical codes. The electrical contractor will handle terminating all AC power connections, physically mounting the NEMA enclosure, installing any new conduit as needed, pulling new cable, installing the LEC panel into the NEMA enclosure, and assisting lane check out and testing functions. Contractor technicians will make all final connections of lane equipment to the LEC terminal



blocks, installation of the lane computer, and commission the lane with the new Lane Controller connected to the existing MDOT lane equipment.

K.4 LEC Interface Panel

The LEC interface panel is the connection from the lane computer, to the lane equipment, and to the MDOT local area network. The panel will be equipped with a Weidmuller terminal blocks, ABB circuit breaker, Sola power supplies, and EDI Oracle dual channel loop detector. These components are UL listed. The panels will be preassembled at the Contractor's production facility using drawings and specifications approved by SOM, tested and signed off by Contractor's QA engineer that they have been fabricated in accordance with the SOM specifications and meet applicable standards. The LEC panel and the lane controller will be housed in a NEMA 4 electronic housing in the tunnel of each facility.

K.5 Toll Collector Credit Card Terminal

The toll collector credit card terminal is a Hypercon Optimum T4220. It provides IP communications and the T4220 comes standard with integrated PCI PED approved PIN entry capability. The PIN pad will allow for patron security data to be entered as part of the credit card transaction request. The terminal has very fast IP transaction and download speeds. The collector will be able to process credit toll transaction via a secure PCI certified device and the lane controller will receive the authorization code as part of the vehicle transaction record.

K.6 Presence Detection Loop

The Contractor will install a vehicle presence detection loop to improve system accuracy in unstaffed lanes. This loop will be installed at the HID proximity card reader, and will provide accurate vehicle presence information to be associated with each proximity card read.

Specification for Hardware Installation and Testing

a. Description. This describes the basic methods and materials for Toll Bridge System (TBS) required for this contract.

1. The Contractor shall comply with the following Regulatory Agencies' codes or standards as applicable:
 - A. *American National Standards Institute Standard C2 (ANSI);*
 - B. *American Society of Civil Engineers (ASCE);*
 - C. *American Society of Testing and Materials (ASTM);*
 - D. *Institute of Electrical and Electronics Engineers (IEEE) 802.3;*
 - E. *International Municipal Signal Association (IMSA);*
 - F. *National Electrical Manufacturers Association (NEMA);*
 - G. *National Fire Protection Association (NFPA) 70 - National Electrical Code (NEC);*
 - H. *NFPA 780 - Lightning Protection Code;*
 - I. *Underwriters Laboratories (UL) Standards 96, 96A, 467, 508, and 60950;*
 - J. *National Electric Safety Code (NESC).*
2. The Contractor shall Immediately notify the DTMB Project Manager of any conflicts between the requirements of Regulatory Agencies and the plans and specifications for this contract.

b. Materials. The following applies to new materials only.

1. The Contractor shall furnish new materials and equipment.
2. The Contractor shall supply the most recent version of all equipment hardware, unless compatibility with the existing system is compromised. The Contractor shall present any version compatibility issues to the DTMB Project Manager prior to submitting equipment shop drawings for acceptance. The Contractor shall verify the new equipment to be installed is compatible and interoperable with existing devices, as applicable.



3. Unless otherwise specified in the contract, outdoor equipment must meet all the requirements of NEMA 4 for power interruption, temperature, humidity, vibration, and shock. All applicable (new) outdoor mounting hardware shall at a minimum be Hot Dip Galvanized (HDG) to provide corrosion resistance from the elements including standing water, snow, or ice.

4. The Contractor shall maintain a TBS inventory spreadsheet database of all equipment manufacturer warranties. The Contractor shall obtain verification that ownership of the manufacturer warranties is transferable to the appropriate State Agency or Bridge Authority after final acceptance.

5. The Contractor shall transfer ownership of all equipment to DTMB at equipment acceptance.

6. The Contractor shall install like items that are identical and interchangeable.

c. Construction.

1. Documents.

A. General Requirements.

(1) The Contractor shall submit all shop drawings and equipment data to the Bridge Engineer electronically in portable document format (.PDF) or as required on the plans.

(2) The Contractor shall include a letter of transmittal with all documents that includes the following information:

- (a) Date of submittal;
- (b) Name and contact information of company making submittal;
- (c) Name and contact information of the Contractor sending submittal;
- (d) Itemized list of enclosures (e.g., 5 copies of inside wiring documents);
- (e) Recipient name and department (i.e. to the attention of);
- (f) Action requested (e.g., please review documents for acceptance).

B. Detailed Requirements.

(1) Shop drawings and equipment data.

(a) The Contractor shall submit shop drawings and equipment data for all equipment and components required by the contract.

(b) Equipment data sheets must demonstrate compliance with the contract.

(c) If the manufacturer's literature covers multiple products or presents options, The Contractor shall clearly identify the model and options proposed for the project. The Contractor shall provide sufficient information to define the specific item being proposed.

(d) If any aspect of the proposed material differs from the description in the manufacturer's literature, the Contractor shall mark up the literature to indicate the deviation.

(e) Amended documents provided by the Contractor must be complete, including all parts of the original submittal that were not revised. Each submittal can stand alone as a complete description of the proposed items, with no need to reference earlier versions.

(f) The Contractor shall provide an itemized bill of materials (BOM) for all components being provided as part of the shop drawing and equipment submittal. BOM must include component type, quantity, model number, and serial number, as applicable.



(2) The Contractor shall label all devices in the TBS cabinet, include both the Internet Protocol (IP) Address (for IP devices) and the site naming convention described herein, use 1/2 inch wide laminated indoor/outdoor thermal-printed tape, label all devices using the "TBS Common Name" from the Asset Management Data Entry Spreadsheet and labeling scheme sample included on the plans, install the labels during the testing phase, after the asset management spreadsheet has been completed and checked.

(3) The Contractor shall provide the following items as part of the close out documentation after physical construction has been completed and before Final Acceptance:

(a) TBS Inventory Spreadsheet. The TBS inventory spreadsheet will contain detailed instructions for the Contractor's use. The Contractor's responsibilities are defined below.

(i) Confirm the pre-populated information is correct and accurate.

(ii) Provide additional data, including, but not limited to, serial number, model number, coordinates for all TBS infrastructure, firmware version, and warranty information. TBS infrastructure includes all items physically constructed and installed as part of the project (e.g. power meters, poles, cabinets, etc.).

(iii) Return the completed TBS inventory spreadsheet to the DTMB Project Manager.

(b) Provide equipment configuration settings in electronic format. If any settings or configurations change through the course of acceptance testing, provide the Engineer with an addendum or amendment to the previous version of configuration settings.

(c) Provide wiring diagrams and interconnect drawings for. Prepare TBS schematics showing detailed connections to all equipment with wire/cable number, terminal block number, and color-coding.

(d) Provide manufacturer warranty documentation as stipulated in b.4 of this special provision.

2. For wiring, the Contractor shall follow standards from section a.1.

3. The Contractor shall work with the Bridge Facilities Manager to dispose and remove all debris, and leave all rooms, cabinets, and facilities in a clean condition.

4. The Contractor shall conduct burn-in activities, which includes "power on" and connectivity tests.

Contractor responsibilities

- The Contractor will coordinate their hardware installation with that of other bridge construction projects, through the DTMB Project Manager and Bridge Engineer.
- The Contractor shall install the Digital Video Auditing System (DVAS) at each designated bridge and verify the system is functional.

State responsibilities

- The DTMB Project Manager will work with the Bridge Engineer and inform the Contractor of any other bridge construction projects that may impact this project.
- DTMB will provide all IP address assignments for the project upon commencement of the contract.
- The Bridge Engineer shall provide a pre-populated TBS inventory spreadsheet to the Contractor.

Deliverables

Refer to Cost Table 7, for listing of:

- Bridge Hardware.
- DVAS equipment for the Bluewater and Mackinac bridges
- Hardware Installation services
- Hardware installation documentation.

**Acceptance Criteria**

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501. Within 15 working days, the Bridge Engineer shall review the submitted documents and inform the Contractor of acceptance or rejection. Acceptance of Bridge Hardware is also conducted in the Section F Implementation.

L. Software Maintenance and Support

The Contractor solution shall provide the State of Michigan with a highly functional, reliable, and secure platform for sustained electronic toll collection operation. Xerox system is presently installed in multiple ETC systems throughout the country and is perfectly suited for integration into the Bridges Toll Bridge infrastructure.

Contractor's solution consists of a complete software implementation with the inclusion of specific hardware components; such as lane controllers, that are specifically designed to ensure peak operational performance. To support the installed hardware components, a maintenance training program that will provide all of the information necessary to repair and troubleshoot issues that may arise post the installation and warranty time periods.

Contractor shall provide a maintenance program that is designed to ensure maximum system availability in support of the installed software components. This program consists of tier 1, 2, and 3 helpdesk support for all identified issues. All requests for service will be responded to within the two hour requirement and repaired within the three day repair service labor agreement (SLA).

At the beginning of the maintenance period the pre-maintenance bi-weekly project meetings will transition to monthly maintenance status meetings. The previous Xerox Single Point of Contact (SPOC) will transition off the program at this time and will be replaced with a designated Xerox SPOC for the maintenance phase of the program.

All requests will be acknowledged, documented, and escalated to ensure expedient resolution. Xerox presently has an active helpdesk that is tasked to provide this service and is staffed with experienced personnel who are trained in all aspects of support and will provide excellent customer service 24 hours a day, 7 days per week, 365 days per year.

Contractor shall have software engineers, administrators, and subject matter experts that are skilled in correcting potential errors. These individuals shall be available around the clock to provide resolution to problems in SLA timelines.

Contractor's program will also include the installation of any applicable upgrade, or bug fix developed after installation. This will ensure that the state has the latest revisions and will be provided to the state at no additional charge.

Contractor shall work with MDOT and the DTMB to develop the specific guidelines. These guidelines will be documented within a comprehensive maintenance plan that is part of our documentation deliverables. The plan itself will define all roles and responsibilities of XEROX, DTMB, Bridges, and MDOT.

The Maintenance Plan will consist of:

- ✓ Maintenance of hardware (existing/new)
- ✓ Help desk support
- ✓ Technical support
 - Maintenance available on an annually renewable contract.
 - Future software updates and system enhancements applicable to system modules licensed without further charge to all licensed users maintaining an annually renewable software support contract.
 - Calls for service will be returned within 2 hours.



- Error correction – should the state notice a verifiable problem with the software, the Contractor shall make reasonable efforts to correct or provide a working solution for the problem.
- Updates. All new releases and bug fixes for any software deliverable developed or published by Contractor and made generally available to its other customers at no additional charge will be provided to the SOM at no additional charge.
- Monthly maintenance window and Release plan will be mutually agreed to by both parties.

Contractor Responsibilities

- Write the maintenance plan

State Responsibilities

- Provide input and acceptance for the Maintenance Plan

Deliverable(s)

- Maintenance Plan (annual)

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

M. Software Licensing

Contractor will provide its proprietary VECTOR lane software as delivered lane software with a perpetual license for the State to use the software for the Michigan bridges under this contract.

Contractor will provide a perpetual license to the State to use Contractor’s proprietary VECTOR 4G Tolls software as hosted software during the term of this contract for the purposes of this Contract in accordance with Section 2.324 of this Contract.

Specific language for software licensing is contained in Section 2.320 of this Contract.

N. Application Hosting

Contractor shall provide an Application Service Provider model for the VECTOR 4G Tolls software platform at the Tarrytown Data Center in Tarrytown, NY with support from the XEROX Transportation Service Center (TSC).

In addition to the back office support provided by the TSC, the Contractor will work with SOM to set up and maintain the facility connections at each Bridge Authority. The Contractor will work with the Bridges to establish its account management centers. The Contractor will assist the Bridges in developing the equipment requirements as well as the network infrastructure for the bridges to communicate with the VECTOR 4G Tolls host system in Tarrytown, New York. The Contractor will provide a CSC technical manager to train MDOT and Bridges staff and assist in the operation of each facility during the initial warranty period.

The Contractor will provide

- ongoing support for the Bridges with operations support from the TSC,
- maintenance support from the help desk at the Tarrytown Data Center (TTDC),
- technical support from the Germantown, Maryland Development Center,
- support for 24x7 operations in a Hosted environment.

N.1 Real Time Plaza Operations

Contractor shall deploy the real time components of the VECTOR 4G Tolls Suite at each bridge facility including the VECTOR 4G Lane Controller (LC) and the Plaza server, also called the Plaza Host. The VECTOR 4G Lane Controller system receives regular status table updates from the Host server located in the TTDC including:



- Customer Account Status
- Hot List Status
- Fare Tables

The LC performs all toll transaction processing and stores data locally for a configurable period in the event that the Plaza Host server is lost. The Toll Lanes will remain operational in a disconnected mode giving the system a 24x7 capability even when communications are lost within the bridge facility. Once communications are restored, the Lane Controller will resume sending transactions that had not been submitted and acknowledged by the Plaza server. Transaction retention on the LC is also performed in the event a disaster eliminates the Plaza server. Since the Plaza server communicates with the central Host server in the TTDC, transactions are retained at the LC until the replacement Plaza server is provisioned. The Plaza database is restored from the Central Host and once it is online, it will synchronize with each LC from the last completed transaction. Maintenance of the Toll Lanes will be managed by each bridge authority.

The Plaza server at each bridge will monitor and control the operations at each Toll Lane. Real time communications are maintained to each LC and alerts are pushed to the Plaza user interface as they occur. The plaza monitor will allow authorized users to send remote commands to any of the Lane Controllers connected to the plaza. In addition to system monitoring, the Plaza server also provides Collector and Vault management and plaza level reporting. Transactions collected at the server are submitted to the Central Host server at the TTDC at configurable intervals, typically every 30 minutes. Operation of the Plaza server will be performed by each Bridge Authority and supported by the XEROX Transportation Service Center.

N.2 Centralized Back Office

The VECTOR 4G Tolls Central Host systems will be located in the Tarrytown Data Center and will be maintained by the XEROX Transportation Service Center. The servers will be accessed through VPN access from the Michigan Department of Transportation Offices and each Bridge facility. Authorized users at MDOT and at each bridge will have direct access to the VECTOR 4G Tolls application through the web browsers installed on designated workstations. In addition to the same plaza level reports provided at the Plaza, the Central Host will provide aggregated reporting for all supported toll facilities. State administrators will be able to modify configuration settings according to the roles designated on the system. Contractor will provide operational support to MDOT and the Bridges from the TSC.

Connectivity with each Plaza is in batch mode and failure to connect to the Plaza during batch operations will trigger an alert that is monitored at the TSC. In the event of a server issue, Contractor support staff at the TTDC will perform corrective action and restore service within the designated service levels. Contractor utilizes Lean Six Sigma processes to manage resources and all staff members are trained to protect Personal Identifying Information (PII) from unauthorized access. The TTDC also goes through periodic SAS 70 audits and maintains strict PCI controls where required.

Contractor Responsibilities

- The Contractor shall provide a monthly metrics report including, but not limited to, system uptime, and incidents.

State Responsibilities

- Review the monthly metrics report

Deliverables

Xerox

- Monthly metrics report

Acceptance Criteria

High-level acceptance criteria for document deliverables and software deliverables are listed in Section 1.501.

**O. Future Enhancements - Staffing**

The State may purchase additional services related to the environment from this Contractor for up to four thousand, eight hundred (4,800) hours over the seven (7) year Contract.

Services must be dependent upon mutually agreed upon statement(s) of work between the Contractor and SOM. Once agreed to, the Contractor must not be obliged or authorized to commence any work to implement a statement of work until authorized via a purchase order issued against this contract.

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.
- d. Accommodate new or updated interfaces requested by the State.

The Contractor shall respond with costs and timelines to all requests to modify the Toll Bridge software to meet future needed functionality.

Contractor Responsibilities

- Review the State's statement of work
- Provide a proposal

State Responsibilities

- Write the statement of work
- Review the proposal

Deliverable(s)

Specific deliverables will be defined in future Statements of Work.

Acceptance Criteria

Specific acceptance criteria will be defined in future Statements of Work

P. Future Enhancements - DVAS

DVAS equip and labor pricing for International bridge is covered in Table 10 (Section P).

Services must be dependent upon mutually agreed upon statement(s) of work between the Contractor and SOM. Once agreed to, the Contractor must not be obliged or authorized to commence any work to implement a statement of work until authorized via a purchase order issued against this contract.

Contractor Responsibilities

- Review the State's statement of work
- Provide a proposal

State Responsibilities

- Write the statement of work
- Review the proposal

Deliverable(s)

Specific deliverables will be defined in future Statements of Work.

Acceptance Criteria

Specific acceptance criteria will be defined in future Statements of Work

II. Requirements

Requirements for the toll bridge software are provided in Appendix A, "Functional Requirements," and Appendix B, "Technical/General Requirements."



A. Technical/General System Requirements

Technical/General requirements are provided in Appendix A.

B. Functional Requirements

Functional requirements are provided in Appendix B.

1.200 Roles and Responsibilities

1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES

A. Contractor Staff

The Contractor will determine what additional resources are required to staff this project and provide resumes in the attached Additional Personnel templates (Appendix D) for staff, including subcontractors, who will be assigned to the Contract, indicating the duties/responsibilities and qualifications of such personnel, and stating the amount of time each will be assigned to the project. The competence of the personnel the Contractor proposes for this project will be measured by the candidate's education and experience with particular reference to experience on similar projects as described in this Statement of Work. The Contractor will commit that staff identified in its proposal will actually perform the assigned work.

Contractor must provide a list of all subcontractors, including firm name, address, contact person, and a complete description of the work to be contracted. Include descriptive information concerning subcontractor's organization and abilities.

The Contractor's **single point of contact (SPOC): Diana Nugent**. 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.

The Contractor must submit a letter of commitment for key personnel, signed by the identified resource, stating their commitment to work for the Contractor/subcontractor on this project contingent on award of the bid. If the identified personnel are currently assigned to a State project the Contractor must provide a letter signed by the state project manager releasing the individual from the project upon execution of the contract.

The Contractor will provide, and update when changed, an organizational chart indicating lines of authority for personnel involved in performance of this Contract and relationships of this staff to other programs or functions of the firm. This chart must also show lines of authority to the next senior level of management and indicate who within the firm will have prime responsibility and final authority for the work.

All Key Personnel may be subject to the State's interview and approval process. Any key staff substitution must have the prior approval of the State. The State has identified the following as key personnel for this project:

- **Project manager: Diana Nugent**
- Single point of contact (SPOC), if this is someone other than the project manager

The Contractor will provide a project manager to interact with the designated personnel from the State to insure a smooth transition to the new system. The project manager will coordinate all of the activities of the Contractor personnel assigned to the project and create all reports required by state. The Contractor project manager will remain on the project until the end of the warranty period. The Contractor's project manager responsibilities include, at a minimum:



- Conduct bi-weekly status meetings to discuss project schedule and progress, project issues and action items
- Provide written meeting minutes for all project-related meetings within 48 hours throughout the life of the project
- Develop, communicate and manage the project plan and schedule, and update as needed. The project plan shall include:
 - Project Scope Document
 - Communication Plan
 - Project Schedule
 - Resource Plan
 - Issue Management Plan and issue log
 - Risk Management Plan and identified risks
 - Change Management Plan

The project schedule shall include standard application development phases and appropriate stage exit tasks:

- Initiation and Planning
- Requirements Gathering
- Functional Design
- System Design
- Integration Testing
- System Testing
- User Acceptance Testing
- Implementation
- Training
- Transition to State/Knowledge transfer
- Lessons Learned

- Serve as the point person for all project issues
- Escalate project issues, project risks, and other concerns
- Coordinate and oversee the day-to-day project activities of the **Contractor** project team
- Manage all defined Contractor responsibilities in this scope of services
- Manage Contractor’s subcontractors, if any
- Prepare project documents and materials
- Review all project deliverables and provide feedback
- Proactively propose/suggest options and alternatives for consideration
- Utilize change control procedures
- Manage and report on the project’s budget

The Contractor will provide sufficient qualified staffing to satisfy the deliverables of this statement of work.

B. On -Site Work Requirements

1. Location of Work

On site work for the toll bridge software will be performed primarily at this location:

Michigan Department of Transportation
 Van Wagoner Building
 425 W. Ottawa
 Lansing, MI

It is possible that contractor staff will also need to travel to the sites where the toll bridge software will be used. These locations are:

Mackinac Bridge Authority offices
 St. Ignace
 Michigan



International Bridge Administration offices
 Sault Ste. Marie
 Michigan

Michigan Department of Transportation
 Blue Water Bridge
 Port Huron
 Michigan

2. Hours of Operation:

- a. Normal State working hours are 8:00 a.m. to 5:00 p.m. EST, Monday through Friday, with work performed as necessary after those hours to meet project deadlines. No overtime will be authorized or paid.
- b. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project.
- c. 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 the 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 requirements.

1.202 STATE STAFF, ROLES, AND RESPONSIBILITIES

Agency should specify State personnel dedicated to project, and identify their associated roles and responsibilities.

The State will provide the following resources for the Contractor’s use on this project:

- Work space
- Desk
- Telephone
- PC workstation
- Access to printer, copier and fax machine

The SOM project team will include business owners, subject matter experts (SMEs), a DTMB project manager, and other project support personnel as needed.

Business Owners and Subject Matter Experts

The business owners and 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 business owners will review the following with the Contractor project manager and the DTMB project manager on a regular basis:

- Project issues
- Project plan and status



- Deviations from the project plan
- Deliverable acceptance requests
- Change control requests
- State resource needs

Business Owners and Subject Matter Experts		
Name	Agency/Division	Title
Peter Petainen	International Bridge	Chief Financial Officer, International Bridge
Mike Litzner	Mackinac Bridge	Auditor Manager, Mackinac Bridge
Michael Szuch	Blue Water Bridge	Blue Water Bridge Manager
James Mynsberge	Blue Water Bridge	Blue Water Bridge Operations Manager

DTMB Project Manager

DTMB will provide a project manager. DTMB will be responsible for the State’s infrastructure and work together with the contractor in determining the system configuration.

The DTMB project manager will provide the following services:

- Provide state facilities, as needed
- Coordinate the state resources necessary for the project
- Provide regular communication with vendor
- Facilitate communication between different state departments/divisions
- Provide acceptance and sign-off of deliverable/milestone
- Review and sign-off of timesheets and invoices
- Assist with resolution of project 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
Jim Normandin Project Manager MDOT IT Project Management Office 425 W. Ottawa P.O Box 30050 Lansing, Michigan 48909 Business Phone: 517-373-3462 Email address: NormandinJ@michigan.gov	DTMB	Project Manager

DTMB shall provide a Contract Administrator whose duties shall include, but not be limited to, supporting the management of the Contract.

Name	Agency/Division	Title
Mark Lawrence Purchasing Operations Department of Technology, Management and Budget Mason Bldg, 2nd Floor P.O. Box 30026 Lansing, MI 48909 Phone Number: 517-241-1640 Email address: LawrenceM1@michigan.gov	DTMB	Contract Administrator



1.203 OTHER ROLES AND RESPONSIBILITIES

Reserved.

1.300 Project Plan

1.301 PROJECT PLAN MANAGEMENT

Preliminary Project Plan

Contractor will provide a Preliminary Project Plan with the proposal for evaluation purposes, including necessary time frames and deliverables for the various stages of the project and the responsibilities and obligations of both the Contractor and the State.

1. In particular, the Preliminary Project Plan will include a MS Project plan or equivalent (check the SUITE/PMM standard):
 - a. A description of the deliverables to be provided under this contract.
 - b. Target dates and critical paths for the deliverables.
 - c. Identification of roles and responsibilities, including the organization responsible. Contractor is to provide a roles and responsibility matrix.
 - d. The labor, hardware, materials and supplies required to be provided by the State in meeting the target dates established in the Preliminary Project Plan.
 - e. Internal milestones
 - f. Task durations
2. The Preliminary Project Plan shall include the following deliverable/milestones for which payment shall be made.
 - a. Payment to the Contractor will be made upon the completion and acceptance of the deliverable or milestone, not to exceed contractual costs of the phase. A milestone is defined as complete when all of the deliverables within the milestone have been completed.
 - b. Failure to provide deliverable/milestone by the identified date may be subject to liquidated damages as identified in Article 2.

The preliminary project plan is in Appendix G.

Note: A Final Project Plan will be required as stated in Article 1, Section 1.301 (C) Project Control.

Orientation Meeting

Upon 15 calendar days from execution of the Contract, the Contractor will be required to attend an orientation meeting to discuss the content and procedures of the Contract. The meeting will be held in Lansing, Michigan, at a date and time mutually acceptable to the State and the Contractor. The State shall bear no cost for the time and travel of the Contractor for attendance at the meeting.

Performance Review Meetings

The State will require the Contractor to attend monthly meetings, at a minimum, to review the Contractor's performance under the Contract. The meetings will be held in Lansing, Michigan, or by teleconference, as mutually agreed by the State and the Contractor. The State shall bear no cost for the time and travel of the Contractor for attendance at the meeting.

Project Control

1. The Contractor will carry out this project under the direction and control of the DTMB project manager.
2. Within 14 working days of the execution of the Contract, the Contractor will submit to the DTMB project manager(s) the project plan and project schedule, for final approval. This project plan must be in agreement with Article 1, Section 1.104 Work and Deliverables, and must include the following:
 - The Contractor's project organizational structure (resource plan)
 - The Contractor's staffing table with names and title of personnel assigned to the project. This must be in agreement with staffing of accepted proposal. Necessary substitutions due to change of employment status and other unforeseen circumstances may only be made with prior approval of the State.



- The project work breakdown structure (WBS) showing sub-projects, activities and tasks, and resources required and allocated to each.
 - The time-phased plan in the form of a graphic display, showing each event, task, and decision point in the WBS.
3. Contractor will provide a preliminary Communication Plan with the proposal for evaluation purposes.
 4. The Contractor will manage the project in accordance with the State Unified Information Technology Environment (SUITE) methodology, which includes standards for project management, systems engineering, and associated forms and templates which is available at <http://www.michigan.gov/suite>
 - a. Contractor will use an automated tool for planning, monitoring, and tracking the Contract's progress and the level of effort of any Contractor personnel spent performing Services under the Contract. The tool shall have the capability to produce:
 - Staffing tables with names of personnel assigned to Contract tasks.
 - Project schedules showing tasks, subtasks, deliverables, and the resources required and allocated to each (including detailed plans for all Services to be performed within the next 30 calendar days, updated semi-monthly).
 - Updates must include actual time spent on each task and a revised estimate to complete.
 - Graphs showing critical events, dependencies and decision points during the course of the Contract.
 - b. Any tool(s) used by Contractor for such purposes must produce information of a type and in a manner and format that will support reporting in compliance with the State standards.

The Contractor shall use the Sharepoint site to communicate risks, issues, documentation, and status.

1.302 REPORTS

Reporting formats must be submitted to the DTMB Project Manager for approval within 15 business days after the execution of the contract. Once both parties have agreed to the format of the report, it shall become the standard to follow for the duration of the contract.

The Contractor shall submit a report with every monthly invoice that includes the following information:

- Contractor name, address and phone number
- Invoice beginning and ending dates
- Contract number
- Purchase order number
- Project status
 - Summary of activity during the report period
 - Accomplishments during the report period/since the last report
 - Updated project schedule at the milestone level
 - Deliverable status
 - Action item status
 - Issues
- Total hours billed
- Total dollars billed

1.400 Project Management

1.401 ISSUE MANAGEMENT

An issue is an identified event that if not addressed may affect schedule, scope, quality, or budget.

The Contractor shall maintain an issue log for issues relating to the provision of services under this Contract. The issue management log must be distributed to the DTMB project manager and the MDOT business owners on an agreed-upon schedule, with email notifications and updates. The issue log must be updated and must contain the following minimum elements:



- Description of issue
- Issue identification date
- Responsibility for resolving issue.
- Priority for issue resolution (to be mutually agreed upon by the State and the Contractor)
- Resources assigned responsibility for resolution
- Resolution date
- Resolution description

Issues shall be escalated for resolution from level 1 through level 3, as defined below:

Level 1 – Business leads

Level 2 – Project Managers

Level 3 – Executive Subject Matter Experts (SMEs)

Definitions of the severity of the production issues:

Critical: Defined as any malfunction or fault that will result in the immediate loss of revenue, closure of a lane, loss of audit data, loss of redundancy in any redundant system component, or hazard to personnel or driving public.

High: Defined as any malfunction or fault that will degrade the system performance, but not operational ability of the system.

Medium: Defined as any action or event that has a potential of resulting in a malfunction or degrading of the system performance

Low: Defined as any incident in which a toll lane is reliable and usable for toll collection but experiences an intermittent and infrequent problem or issue that requires preventive or predictive maintenance or troubleshooting and diagnostic attention.

1.402 RISK MANAGEMENT

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

The Contractor is responsible for establishing a risk management plan and process, including the identification and recording of risk items, prioritization of risks, definition of mitigation strategies, monitoring of risk items, and periodic risk assessment reviews with the State.

A risk management plan format shall be submitted to the State for approval within twenty (20) business days after the effective date of the contract. The risk management plan will be developed during the initial planning phase of the project, and be in accordance with the State's PMM methodology. 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 Contractor shall provide the tool to track risks. The Contractor will work with the State and allow input into the prioritization of risks.

The Contractor is responsible for identification of risks for each phase of the project. Mitigating and/or eliminating assigned risks will be the responsibility of the Contractor. The State will assume the same responsibility for risks assigned to them.

1.403 CHANGE MANAGEMENT

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 Technology, 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 DTMB 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 DTMB 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.

1.500 Acceptance

1.501 CRITERIA

Document Deliverables

- Documents are dated and in electronic format, compatible with State of Michigan software in accordance with Article 1.103.
- Requirements documents are reviewed and updated throughout the development process to assure requirements are delivered in the final product.
- Draft documents are not accepted as final deliverables.
- The documents will be reviewed and accepted in accordance with the requirements of the Contract and Appendices.
- DTMB will review documents within a mutually agreed upon timeframe.
 - Approvals will be written and signed by the DTMB project manager.
 - Issues will be documented and submitted to the Contractor.
 - After issues are resolved or waived, the Contractor will resubmit documents for approval within 30 days of receipt.

Software Deliverables

Software includes, but is not limited to, software product, development tools, support tools, data migration software, integration software, and installation software.

- Beta software is not accepted as final deliverable.
- The software will be reviewed and accepted in accordance with the requirements of the contract.
- DTMB will review software within a mutually agreed upon timeframe for acceptance of functionality, usability, installation, performance, security, standards compliance, backup/recovery, and operation.
 - Approvals will be written and signed by the DTMB project manager.
 - Unacceptable issues will be documented and submitted to the Contractor.
 - After issues are resolved or waived, the Contractor will resubmit software for approval within 30 days of receipt.
- Software is installed and configured, with assistance from DTMB, in an appropriate environment (e.g. development, conversion, QA testing, UAT testing, production, and training).
- Contingency plans, de- installation procedures, and software are provided by the Contractor and approved by DTMB Project Manager.
- Final acceptance of the software will depend on the successful completion of User Acceptance Testing (UAT).
- Testing will demonstrate the system’s compliance with the requirements of the Contract. At a minimum, the testing will confirm the following:



- Functional - the capabilities of the system with respect to the functions and features described in the Contract.
- Performance - the ability of the system to perform the workload throughput requirements. All problems should be completed satisfactorily within the allotted time frame.
- DTMB will review test software, data, and results within a mutually agreed upon timeframe.
 - Approvals will be written and signed by DTMB Project Manager.
 - Unacceptable issues will be documented and submitted to the Contractor.
 - After issues are resolved or waived, the Contractor will resubmit test software, data and results for approval within 30 days of receipt.
- DTMB will review software license agreements within a mutually agreed upon timeframe.
 - Approvals will be written and signed by DTMB Project Manager.
 - Unacceptable issues will be documented and submitted to the Contractor.
 - After issues are resolved or waived, the Contractor will resubmit the license agreement for approval and final signature by the authorized State signatory within 30 days of receipt
- Software source code, where applicable, is reviewed by DTMB within a mutually agreed upon timeframe for readability, structure, and configuration management.
 - Approvals will be written and signed by DTMB Project Manager.
 - Unacceptable issues will be documented and submitted to the Contractor.
 - After issues are resolved or waived, the Contractor will resubmit source code for approval.
- Usability and the User Experience - At the discretion of the DTMB Project Manager, any or all products and deliverables may be reviewed and accepted based upon the results of the usability-related testing listed below, even if all other technical and business criteria have been met. The vendor must provide an appropriately operational implementation of the product for review unless otherwise stipulated by the project DTMB Project Manager. For example, a Usability Evaluation requires a mostly complete user interface design and functionality. A design prototype must function at a pre-determined level for design phase usability testing. Overall usability of the product and the quality of the end user experience will be evaluated as follows:
 - Usability Evaluations: DTMB staff will evaluate the user interface and task flow of the product using State of Michigan identified best practices as a guide. The results of the evaluation will be based upon these usability categories:
 - **Visibility of system status** – The system should always keep users informed about what is going on. Feedback should be appropriate and timely.
 - **Plain and appropriate language** – The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
 - **User control** – System should be forgiving of errors, providing support of undo and redo.
 - **Consistency and standards** – Words, situations, or actions should always mean the same thing from screen to screen and within each screen. System should have consistency throughout and follow platform conventions.
 - **Error prevention** - The design should strive to eliminate error-prone conditions if at all possible. Otherwise it should check for them and present users with a confirmation option within a dialog before they commit to the action. Dialogs should be written concisely and in user terms.
 - **Ease of Recognition** - Make objects, actions, and options visible to the user. The user should not have to remember information from one screen to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
 - **Flexibility and efficiency of use** - Can the system adapt to user levels of proficiency? Is it designed to cater to both inexperienced and experienced users? Allow users to tailor frequent actions.
 - **Aesthetic and minimalist design** - Text boxes and dialogues should not contain information which is irrelevant or rarely needed.
 - **Help users recognize, diagnose, and recover from errors** - Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution with proper options to select.



- **Help and documentation** - Any such required information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.
- **Usability Testing** - All candidate products will undergo usability testing to evaluate ease of use and the quality of the user experience prior to selection. The test will be conducted by DTMB personnel using DTMB facilities.
 - **Testing Procedures** - DTMB will identify and select a number of potential users who are unfamiliar with the procurement project and the product. Routine tests use between six (6) and nine (9) participants for one hour each. DTMB and state agency staff will select processes to be tested and will develop the testing scenario. At the start of testing the participant will be given a list of tasks to accomplish with no additional instructions. They will attempt to complete each task. The facilitator may ask questions to better understand the issues a tester appears to be having. Testing software will make their screen, video camera image and audio available to observers sitting elsewhere. DTMB staff will be noting information such as time on task, errors committed, ease of use and any comments offered by the tester.
 - **Testing Facilities** - The Usability Lab consists of a room with two PCs - one for the tester and one for a DTMB facilitator - and a remote room for observers. The observation room is moderated by a DTMB staff person and is occupied by Contractor and SOM staff
 - **Testing Results** - Upon the completion of testing, DTMB staff will consolidate all notes and develop a ratings and recommendation document for review by Contractor and SOM. The results will be shared with the vendor to determine whether any usability issues may be overcome by pre-existing customization features native to the product.

1.502 FINAL ACCEPTANCE

Final acceptance is expressly conditioned upon completion of ALL deliverables/milestones, completion of ALL tasks in the project plan as approved, completion of ALL applicable inspection and/or testing procedures, and the certification by the State that the Contractor has met the defined requirements.

1.600 Compensation and Payment

1.601 COMPENSATION AND PAYMENT

Method of Payment

The price charged to MI DOT by Contractor for the VECTOR 4G Tolls software under this Agreement is as good as or better than the price that the Contractor or subsidiaries has charged other customers as of the Effective Date under the same commercial terms and conditions as contained in this Agreement.

Payment for this project will be made upon completion of project milestones, as outlined in Appendix F – Cost Tables. Please refer to section 1.104 for details about the deliverables to be provided for each milestone. The attached Costs Tables must be used as the format for submitting pricing information.

See Appendix F – Cost Tables

Travel

The State will not pay for any travel expenses, including hotel, mileage, meals, parking, etc. Travel time will not be reimbursed.

Invoicing

Contractor will submit properly itemized invoices to “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 commodities/hardware, including quantity ordered;
- Date(s) of delivery and/or date(s) of installation and set up;
- Price for each item, or contractor's list price for each item and applicable discounts;
- Maintenance charges;
- Net invoice price for each item;
- Shipping costs;
- Other applicable charges;
- Total invoice price; and
- Payment terms, including any available prompt payment discount.

Statements of Work and Issuance of Purchase Orders

Unless otherwise agreed by the parties, each Statement of Work will include:

1. Background.
2. Project Objective.
3. Scope of Work.
4. Deliverables.
5. Acceptance Criteria.
6. Project Control and Reports.
7. Specific Department Standards
8. Payment Schedule.
9. Project Contacts.
10. Agency Responsibilities and Assumptions.
11. Location of Where the Work is to be performed.
12. Expected Contractor Work Hours and Conditions.

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

The State may 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.

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

Software warranty has a 90-day duration, and may be invoiced on acceptance.

The cost for software licensing begins at the end of the 90-day software warranty period.

The cost for software maintenance and support begins at the end of the 90-day software warranty period.

The cost for vendor application hosting will begin on acceptance of implementation, hardware, training and knowledge transfer for Bridge 1.

1.602 HOLDBACK

RESERVED.



Article 2, Terms and Conditions

2.000 Contract Structure and Term

2.001 CONTRACT TERM

This Contract is for a period of 7 years beginning August 20, 2012 – August 19, 2019. All outstanding Purchase Orders must also expire upon the termination for any of the reasons listed in **Section 2.150** 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, shall remain in effect for the balance of the fiscal year for which they were issued.

2.002 OPTIONS TO RENEW

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 1 additional 3-year period.

2.003 LEGAL EFFECT

Contractor accepts this Contract by signing two copies of the Contract and returning them to the Purchasing Operations. 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 shall not be liable 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), 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 must issue an approved written Purchase Order, Blanket Purchase Order, Direct Voucher or Procurement Card Order 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 specifically contained in that Purchase Order or Blanket Purchase Order's accompanying Statement of Work. Exact quantities to be purchased are unknown; however, the contractor will be required to furnish all such materials and services as may be ordered during the Contract period. Quantities specified, if any, are estimates based on prior purchases, and the State is not obligated to purchase in these or any other quantities.

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 shall 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. The Contract 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 Technology, Management and Budget, Purchasing Operations and the Michigan Department of Transportation (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:

Mark Lawrence
Buyer
Purchasing Operations
Department of Technology, Management and Budget
Mason Bldg, 2nd Floor
P.O. Box 30026
Lansing, MI 48909
LawrenceM1@michigan.gov
517-241-1640

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:

Bill Pemble, ITS Manager
Department of Technology, Management, and Budget
425 W. Ottawa
Lansing, Michigan
PembleW@michigan.gov
517-241-0177
Fax: 517-335-4239

2.023 PROJECT MANAGER

The following individual will oversee the project:

Jim Normandin, Technical Project Coordinator
Department of Technology, Management and Budget
425 W. Ottawa, Lansing, MI
NormandinJ@michigan.gov
517-373-3462

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, contractor shall provide a detailed outline of all work to be done, including tasks necessary to accomplish the Additional 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 before commencing performance of the requested activities it believes 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 and 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 requires 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 Contractor believe the proposed Change 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 shall 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 shall 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 shall be performed until the proposed Change has been specified in a duly executed Contract Change Notice issued by the Department of Technology, 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:
 PO Box 30026
 530 West Allegan
 Lansing, Michigan 48909

Contractor:

Xerox State & Local Solutions, Inc.
 12410 Milestone Center Drive
 Germantown, MD 20876
 Attention: Richard Bastan
 Group President
 Americas Commercial & State Government Transportation

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 giving 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 shall be deemed to be an employee, agent or servant of the State for any reason. Contractor shall 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 shall act reasonably and in good faith. Unless stated otherwise in the Contract, the parties shall 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. 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 shall 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 shall 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 shall 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

The State shall not be obligated to pay any amounts in addition to the charges specified in this Contract for all Services/Deliverables to be provided by Contractor and its Subcontractors, if any, under 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 shall 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 shall 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 1.600**.
- (c) Correct invoices shall 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) All invoices should reflect actual work done. Specific details of invoices and payments shall be agreed upon between the Contract Administrator and the Contractor after the proposed Contract Agreement has been signed and accepted by both the Contractor and the Director of Purchasing Operations, Department of Management & Budget. This activity shall occur only upon the specific written direction from Purchasing Operations.

The specific payment schedule for any Contract(s) entered into, as the State and the Contractor(s) shall mutually agree upon. The schedule should show payment amount and should reflect actual work done by the payment dates, less any penalty cost charges accrued by those dates. As a general policy statements shall be forwarded to the designated representative by the 15th day of the following month.

The Government 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.

2.045 PRO-RATION

To the extent there are 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 shall 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 shall be made by electronic fund transfer (EFT).

2.050 Taxes

2.051 EMPLOYMENT TAXES

Contractor shall collect and pay all applicable federal, state, and local employment taxes, including the taxes.

2.052 SALES AND USE TAXES

Contractor shall register and 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 shall 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 shall notify the State of the proposed assignment, shall introduce the individual to the appropriate State representatives, and shall 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 shall 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 on 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.

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 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 shall 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 shall perform their duties either primarily at Contractor's offices and facilities or at State facilities. Without limiting the generality of the foregoing, Key Personnel shall, 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 shall 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 shall 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 shall 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 shall provide the Services/Deliverables directly or through its affiliates, subsidiaries, subcontractors or resellers. Regardless of the entity providing the Service/Deliverable, the Contractor shall 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 shall 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 shall 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 Technology, 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 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 shall 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 shall 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 shall 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 shall provide only the equipment and resources identified in the Statement 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 shall 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 shall 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 shall be used to determine Contractor personnel eligibility for working within State facilities and



systems. The investigations shall 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 shall be initiated by the State and shall be reasonably related to the type of work requested.

All Contractor personnel must 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 must be expected to agree to the State's security and acceptable use policies before the Contractor personnel shall be accepted as a resource to perform work for the State. It is expected the Contractor shall present these documents to the prospective employee before the Contractor presents the individual to the State as a proposed resource. Contractor staff must 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 shall 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 shall contact the Department of Technology, 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, shall 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 shall continue to treat cardholder data as confidential upon contract termination.

The Contractor shall provide the Department of Technology, Management and Budget, Financial Services documentation showing PCI Data Security certification has been achieved. The Contractor shall advise the Department of Technology, 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 shall provide a time line for corrective action.

2.100 Confidentiality

2.101 CONFIDENTIALITY

Contractor and the State each acknowledge that the other possesses and shall 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 shall 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 shall (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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall maintain at least until the end of the Audit Period all pertinent financial and accounting records (including 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, exclusive of access to Contractor's cost structure and profit factors, shall 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 shall 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 shall meet to review each audit report promptly after issuance. The Contractor shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 Technology, Management and Budget, Purchasing Operations.

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

To the extent Contractor is responsible under this Contract for maintaining equipment/system(s), Contractor represents and warrants that it shall maintain the equipment/system(s) in good operating condition and shall 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 3 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 shall pass through to the State any warranties obtained or available from the original equipment manufacturer, including any replacement, upgraded, or additional equipment warranties.

2.126 EQUIPMENT TO BE NEW

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.

2.127 PROHIBITED PRODUCTS

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 anyone directly or indirectly employed by Contractor, or by anyone for whose acts Contractor may be liable. Contractor shall require its subcontractors to also comply with the insurance requirements of this section at subcontractors’ expense.

The Contractor waives all rights in relation to applicable insurance against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and contract related agents for recovery of damages to the extent these damages are covered by the applicable 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 to the referenced types of policies required.

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
 - \$2,000,000 Products/Completed Operations Aggregate Limit
 - \$1,000,000 Personal & Advertising Injury Limit
 - \$1,000,000 Each Occurrence Limit
 Such required limits may be met through a combination of primary, excess liability insurance, or general aggregate limit.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, and employees and Bridge Authorities (MBA/BWB/IBA) as ADDITIONAL INSUREDS on the Commercial General Liability certificate. The Contractor also agrees to provide evidence on the certificate 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 business 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, and employees and Bridge Authorities (MBA/BWB/IBA) as ADDITIONAL INSUREDS on the business vehicle liability certificate. The Contractor also agrees to provide evidence on the certificate 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.
- 4. Employers liability insurance with the following minimum limits:
 - \$100,000 each accident
 - \$100,000 each employee by disease
 - \$500,000 aggregate disease

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. 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 DTMB Purchasing Operations, standard 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 SHALL NOT BE CANCELLED 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 Technology, 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, in the form of renewal or replacement certificates of insurance, that the State and its contract related 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, 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 unless Contractor provides a renewal or replacement certificate of insurance. 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 shall 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 shall 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 shall 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 convenience 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 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 shall 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 shall 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 shall 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 shall 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 30 days. These efforts must include, but are not limited to, those listed in **Section 2.150**.

2.172 CONTRACTOR PERSONNEL TRANSITION

The Contractor shall 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 shall 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 shall 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**. 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 2.182**.

2.182 CANCELLATION OR EXPIRATION OF STOP WORK ORDER

The Contractor shall resume work if the State cancels a Stop Work Order or if it expires. The parties shall agree upon an equitable adjustment in the delivery schedule, the Contract price, or both, and the Contract shall 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 shall be deemed to be a termination for convenience under **Section 2.153**, and the State shall pay reasonable costs resulting from the Stop Work Order in arriving at the termination settlement. For the avoidance of doubt, the State shall not be 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 shall be resolved under the Contract Management procedures in this Contract. If the parties are unable to resolve any dispute after compliance with the processes, the parties must meet with the Director of Purchasing Operations, DTMB, or designee, 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 at issue which the parties believe to be appropriate and germane in connection with its resolution. The representatives shall 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 shall 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 shall 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, DTMB, or designee, shall 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 shall 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 shall 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 shall 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 that the damages to the party resulting from the breach shall 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 shall 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, shall 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 shall 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 shall 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>.

2.204 PREVAILING WAGE

Wages rates and fringe benefits to be paid each class of individuals employed by the Contractor, its subcontractors, their subcontractors, and all persons involved with the performance of this Contract in privity of contract with the Contractor shall not be less than the wage rates and fringe benefits established by the Michigan Department of Labor and Economic Development, Wage and Hour Bureau, schedule of occupational classification and wage rates and fringe benefits for the local where the work is to be performed. The term Contractor shall include all general contractors, prime contractors, project managers, trade contractors, and all of their contractors or subcontractors and persons in privity of contract with them.

The Contractor, its subcontractors, their subcontractors and all persons involved with the performance of this contract in privity of contract with the Contractor shall keep posted on the work site, in a conspicuous place, a copy of all wage rates and fringe benefits as prescribed in the Contract. Contractor shall also post, in a conspicuous place, the address and telephone number of the Michigan Department of Labor and Economic Development, the agency responsible for enforcement of the wage rates and fringe benefits. Contractor shall keep an accurate record showing the name and occupation of the actual wage and benefits paid to each individual employed in connection with this contract. This record shall be available to the State upon request for reasonable inspection.

If any trade is omitted from the list of wage rates and fringe benefits to be paid to each class of individuals by the Contractor, it is understood that the trades omitted shall also be paid not less than the wage rate and fringe benefits prevailing in the local where the work is to be performed.

2.210 Governing Law

2.211 GOVERNING LAW

The Contract shall 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 shall 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 conveniens 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 shall be 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 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 shall 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) shall 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 shall 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 shall 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 shall 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 DTMB Purchasing Operations.
 - (2) Contractor shall also notify DTMB 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 shall also notify DTMB 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 shall 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 shall 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 shall 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 shall 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.

2.243 LIQUIDATED DAMAGES

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 2.152**, 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.

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 2.152**, the State may assess liquidated damages against Contractor as specified below.

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.

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.

Contractor's total liability for liquidated damages shall be capped at 10% of the contract amount.

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.

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.

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**.

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 shall 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.

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**.

2.256 FINAL ACCEPTANCE

"Final Acceptance" shall be considered to occur when the Custom Software Deliverable to be delivered has been approved by the State and has been operating in production without any material deficiency for fourteen (14) consecutive days. 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.

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>.

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

Act Number 431 of the Public Acts of 1984 permits the State of Michigan, Department of Technology, Management and Budget, 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. As a result of the enactment of this legislation, the MIDEAL Program has been developed. This program extends the use of state contracts to program members. The governmental agency must enter into an agreement with the State of Michigan to become authorized to participate, thus ensuring that local units of government secure a greater return for the expenditure of public funds.

In those cases, contract vendors supply merchandise at the established State of Michigan contract prices and terms. The Bidder must submit invoices and pay the authorized MIDEAL member on a direct and individual basis according to contract terms.

IT IS MANDATORY THAT ALL CONTRACTS RESULTING FROM THIS RFP WILL BE MADE AVAILABLE TO ALL STATE OF MICHIGAN AGENCIES AND AUTHORIZED MIDEAL PURCHASING PROGRAM MEMBERS.

Please Visit Mi DEAL at www.michigan.gov/buymichiganfirst under MiDeal.

Estimated requirements for authorized local units of government are not included in the quantities shown in this RFP.

2.282 STATE EMPLOYEE PURCHASES

Reserved. – Not Applicable.

2.290 Environmental Provision

2.291 ENVIRONMENTAL PROVISION

Energy Efficiency Purchasing Policy: The State seeks wherever possible to purchase energy efficient products. This includes giving preference to U.S. Environmental Protection Agency (EPA) certified 'Energy Star' products for any category of products for which EPA has established Energy Star certification. For other



purchases, the State may include energy efficiency as one of the priority factors to consider when choosing among comparable products.

Environmental Purchasing Policy: The State of Michigan is committed to encouraging the use of products and services that impact the environment less than competing products. The State is accomplishing this by including environmental considerations in purchasing decisions, while remaining fiscally responsible, to promote practices that improve worker health, conserve natural resources, and prevent pollution. Environmental components that are to be considered include: recycled content and recyclables; energy efficiency; and the presence of undesirable materials in the products, especially those toxic chemicals which are persistent and bioaccumulative. The Contractor should be able to supply products containing recycled and environmentally preferable materials that meet performance requirements and is encouraged to offer such products throughout the duration of this Contract. Information on any relevant third party certification (such as Green Seal, Energy Star, etc.) should also be provided.

Hazardous Materials: For the purposes of this Section, "Hazardous Materials" is a generic term used to describe asbestos, ACBMs, PCBs, petroleum products, construction materials including paint thinners, solvents, gasoline, oil, and any other material the manufacture, use, treatment, storage, transportation or disposal of which is regulated by the federal, state or local laws governing the protection of the public health, natural resources or the environment. This includes, but is not limited to, materials the as batteries and circuit packs, and other materials that are regulated as (1) "Hazardous Materials" under the Hazardous Materials Transportation Act, (2) "chemical hazards" under the Occupational Safety and Health Administration standards, (3) "chemical substances or mixtures" under the Toxic Substances Control Act, (4) "pesticides" under the Federal Insecticide Fungicide and Rodenticide Act, and (5) "hazardous wastes" as defined or listed under the Resource Conservation and Recovery Act.

- (a) The Contractor shall use, handle, store, dispose of, process, transport and transfer any material considered a Hazardous Material according to all federal, State and local laws. The State shall provide a safe and suitable environment for performance of Contractor's Work. Before the commencement of Work, the State shall advise the Contractor of the presence at the work site of any Hazardous Material to the extent that the State is aware of the Hazardous Material. If the Contractor encounters material reasonably believed to be a Hazardous Material and which may present a substantial danger, the Contractor shall immediately stop all affected Work, notify the State in writing about the conditions encountered, and take appropriate health and safety precautions.
- (b) Upon receipt of a written notice, the State will investigate the conditions. If (a) the material is a Hazardous Material that may present a substantial danger, and (b) the Hazardous Material was not brought to the site by the Contractor, or does not result in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Materials, the State shall order a suspension of Work in writing. The State shall proceed to have the Hazardous Material removed or rendered harmless. In the alternative, the State shall terminate the affected Work for the State's convenience.
- (c) Once the Hazardous Material has been removed or rendered harmless by the State, the Contractor shall resume Work as directed in writing by the State. Any determination by the Michigan Department of Community Health or the Michigan Department of Environmental Quality that the Hazardous Material has either been removed or rendered harmless is binding upon the State and Contractor for the purposes of resuming the Work. If any incident with Hazardous Material results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLAs for the affected Work will not be counted in a time as mutually agreed by the parties.
- (d) If the Hazardous Material was brought to the site by the Contractor, or results in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Material, or from any other act or omission within the control of the Contractor, the Contractor shall bear its proportionate share of the delay and costs involved in cleaning up the site and removing and rendering harmless the Hazardous Material according to Applicable Laws to the condition approved by applicable regulatory agency(ies).



Labeling: Michigan has a Consumer Products Rule pertaining to labeling of certain products containing volatile organic compounds. For specific details visit http://www.michigan.gov/deq/0,1607,7-135-3310_4108-173523--,00.html

Refrigeration and Air Conditioning: The Contractor shall comply with the applicable requirements of Sections 608 and 609 of the Clean Air Act (42 U.S.C. 7671g and 7671h) as each or both apply to this contract.

Environmental Performance: Waste Reduction Program - Contractor shall establish a program to promote cost-effective waste reduction in all operations and facilities covered by this contract. The Contractor's programs shall comply with applicable Federal, State, and local requirements, specifically including Section 6002 of the Resource Conservation and Recovery Act (42 U.S.C. 6962, et seq.).

2.300 Deliverables

2.301 SOFTWARE

A list of the items of software the State is required to purchase for executing 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

A list of the items of hardware the State is required to purchase for executing 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.

2.310 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.

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, and distribute internally or externally 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 to other authorized agents for the sole purpose of providing the services as set forth in this Contract and expressly conditioned upon sublicensee executing confidentiality agreements acceptable to Contractor prior to accessing Contractor's Licensed Software.

2.324 LICENSE RETAINED BY CONTRACTOR

Contractor grants to the State a non-exclusive, royalty-free, site-wide, irrevocable, non-transferable license to use the Software and related documentation according to the terms and conditions of this Contract for the sole purposes as set forth in this Contract. For the purposes of this license, "site-wide" includes any State of Michigan office regardless of its physical location.

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.

Contractor shall provide its proprietary VECTOR 4G Tolls lane software as delivered lane software with a perpetual license and its proprietary VECTOR 4G Tolls Central Host software as hosted software during the term of this Contract.

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 separate licensing and payment obligations as mutually agreed to at that time.

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 baseline 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 during the term of this Contract.

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 and Contractor fails to cure the default within a 30 day cure period.

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.



Glossary

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.
Deliverable	Physical goods and/or commodities as required or identified by a Statement of Work
DTMB	Michigan Department of Technology, 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).
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.
Deleted – Not Applicable	Section is not applicable or included in this RFP. This is used as a placeholder to maintain consistent numbering.
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.

Term	Toll Bridge-Related Definitions
Account card	For the purposes of these requirements, an account card is a transaction device that is used by patrons in unmanned lanes or by toll collectors in manned lanes to deduct a toll from a commuter or a business account. Currently, the bridges are using cards with a magnetic strip and proximity cards. However in the future, the transaction devices may be transponders or Smart cards.
Bag	A container for currency collected by a toll lane or office point of sale collector. A collector can use more than one bag during a shift.
Bridge hardware	For the purposes of these requirements, the phrase "bridge hardware" refers to the operational components on the bridges that may or may not interact with the automated system. Some examples of bridge hardware are: gates, loops, treadles and patron displays.
Business account	A business account is a pre-paid positive balance account for businesses where one or more of their vehicles routinely cross one or more of the bridges.
Commuter account	A commuter account is a pre-paid positive balance account for those bridge patrons who qualify for the commuter discount.
Loop and treadle	Hardware on the bridges that counts the number of axles and the number of vehicles.
Pre-paid account	A pre-paid positive balance account used by bridge patrons to pay tolls, purchase merchandise and pay fees.
Quick account	Similar to the commuter account but does not offer a discount.
Scrip	A piece of paper, previously sold, that can be used by a patron to pay a bridge toll
System hardware	For the purposes of these requirements, the phrase "system hardware" refers to the components of the automated system. Some examples of system hardware are: servers, desktop computers, and point of entry touch screens.
Tokens	A coin-like piece of metal that can be purchased by a patron and use to pay a bridge toll.



Term	IT-Related Definitions
Prototype	An experimental design of the whole or part of a product used for illustration or testing purposes. [http://www.theusabilitycompany.com/resources/glossary/prototype.html] See: Wireframe
Usability	A measure of the degree to which a product can be used by specified users or groups to achieve specific goals of effectiveness, efficiency, and satisfaction in a specified context of use. Factors affecting this measure include learn ability, readability, aesthetics, safety and error frequency. Another significant factor is keeping cost-effectiveness within acceptable levels for human cost measured in terms of tiredness, discomfort, embarrassment, frustration and personal effort. Keeping cost-effectiveness within acceptable levels increases user satisfaction, which in turn causes continued and enhanced usage of the system.
Usability Review	Usability specialists judge whether each element of the user interface follows Usability Heuristics and/or industry best practices. It is very effective when done in an iterative fashion throughout the design phase when screens are designed to catch potential usability issues early.
User Experience (UE)	Every aspect of the user's interaction with a product, service, or company that make up the user's perceptions of the whole. User experience design as a discipline is concerned with all the elements that together make up that interface, including layout, visual design, text, brand, sound, and interaction. UE works to coordinate these elements to allow for the best possible interaction by users.
Wireframe	Rough outline of navigation and content elements that make up a user interface. Typically visual design and precise layout are not addressed. See: Prototype



Appendix A – Functional Requirements Toll Lane Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system must process transactions from both staffed and unstaffed lanes.	R	Y	The same software solution is reconfigured to process transactions for each lane type.
B.	The system must post and save toll lane transactions in real time.	R	Y	Transactions are written to local storage when completed. In parallel, the transactions are forwarded to the plaza server via Java Message Service (JMS) a guaranteed delivery service.
C.	The system must require Toll Collectors and Supervisors to log in and log out at the beginning and end of each shift and at any time during a shift when they leave the toll booth.	R	Y	In order to ensure that collected revenues are associated with specific collectors, the system requires that collectors are authenticated and logged onto the system during their shift. The VECTOR application supports multiple standby operations for transitioning between collectors, collecting funds during a shift, or clearing the vehicle queue while closing a lane.
D.	The log in log out process must be automated. Note: While the exact method of log in/log out will be determined during functional design, there was some discussion of giving proximity cards to toll collectors that would be read as they entered or exited a toll booth. There was also discussion of using finger print recognition technology.	O	Y	The VECTOR 4G Tolls product supports the use of proximity cards as well as magnetic striped cards for collector login and logout procedures. The exact process will be determined during the design review.
E.	The system must allow the Supervisor to perform a forced logout of a Toll Collector.	R	Y	The Supervisors are provided remote control of the system including the ability to restrict or revoke access, close/open lanes and operate gates remotely.
F.	The system must accommodate both US and Canadian currencies at the International Bridge only. Canadian monies that are collected will be held separately and deposited in a Canadian bank. U.S. monies that are collected will be held separately and deposited in a U.S. bank. This also applies to electronic funds. No conversion of the currency can occur.	R	M	The VECTOR 4G Tolls product will be modified to accept multiple currencies including the Canadian dollar.
G.	The system must accommodate separate toll prices for US and Canadian currencies.	R	M	Our lane application will support toll rates for the US and Canadian dollar. The processing of the currency conversion table will be determined during the design phase, but is assumed here to be static and updated on a limited frequency.
H.	The system must accommodate a single toll price for both US and Canadian currencies.	R	M	See above.
I.	The system must allow each bridge to set unique toll prices.	R	Y	The VECTOR 4G Tolls Solution supports configurable business rule and unique tolling rates to be allocated to different locations.



#	Detailed Requirement	R/O	Y/N/M	Comments
J.	The system must allow toll prices to be modified by the System Administrator and other authorized users as identified during functional design.	R	Y	The VECTOR 4G Tolls product provides the flexibility for the end user with the appropriate authorization to establish toll rate tables and toll schedules without the intervention of XEROX.
K.	Toll prices must be date sensitive. The system must maintain toll price history as well as current toll prices and allow changes in the future.	R	Y	Past, current, and future toll rate tables are maintained for continued analysis and processing as needed by the MDOT.
L.	The system must accommodate variable toll pricing based on the time of day, congestion and other factors as determined during functional design.	O		The system is capable of supporting these pricing strategies and can be further discussed during the design phase. Time of day and congestion pricing is provided as part of the VECTOR 4G Tolls product. Variable congestion pricing such as dynamic pricing is supported by XEROX, but has not been included in our price estimate at this time.
M.	The system must allow the System Administrator, and other authorized users as identified in functional design, to set, override and disable the parameters for variable toll pricing.	R	Y	Variable toll rates can be adjusted or disabled by a system administrator.
N.	The system must default to the currency that is most common to the specific bridge. Currently, the defaults are: A. Blue Water defaults to US currency. B. International defaults to Canadian currency. C. This is not currently applicable to Mackinac.	R	M	A parameter will be provided to adjust the default currency at each bridge.
O.	The system must accept the following point-of-sale transactions in the toll lanes: D. Toll collections E. Pre-paid account deposits F. Fee collections as specified by each bridge	R	M	The VECTOR 4G Tolls product supports retail and POS transactions which are typically handled outside of the toll lanes to maximize vehicle throughput. Slight modifications are required to include this functionality within the lane application.
P.	The system must accommodate different transaction devices (herein after referred to as account cards) that deduct tolls from prepaid commuter/business accounts. Note: The bridges are currently accepting magnetic and/or proximity cards. The system must accommodate future uses of other technologies such as transponders or Smart cards.	R	Y	Optional payment devices such as magnetic cards, proximity cards, and smart cards are accepted in the VECTOR 4G Tolls toll lane. Account balances are maintained in the users account and not on the cards for financial integrity and to recue potential confusion in the lane.



#	Detailed Requirement	R/O	Y/N/M	Comments
Q.	The system must accommodate different methods of payment in the toll lanes including but not limited to: G. Commuter account cards H. Business account cards I. Quick account cards J. Cash K. Check L. Tokens M. Scrip N. Credit card O. Debit card	R	M	VECTOR 4G Tolls has accepted various payments types including most of those required by MDOT which subsequently have been eliminated to improve vehicle throughput. During the design phase, the Contractor will identify the appropriate implementation for each of these payment types.
R.	When an account card is used in an unstaffed lane, the system must: P. classify the vehicle according to the commuter or business account information or electronically identified by axle count and/or vehicle configuration and Q. deduct the toll amount from the account and R. display a confirmation message to the patron S. print a receipt if requested If there are not sufficient funds in the account, the system must display an error message to the patron.	R	Y	VECTOR 4G Tolls lane system will interface to the existing AVC system and Contractor will install an additional vehicle sensing loop at the proximity card reader location. When the patron is at the read loop and presents the proximity card, the system will look up the account, verify that the account is in good standing and below the threshold, it will record the vehicle class associated with the card, it will display the appropriate message to the patron if the account has insufficient funds a error message will be displayed, print a receipt if the patron requests on, but will not close the transaction until the vehicle crosses the treadle and exit loop. Once the vehicle crosses the treadle and exit loop the lane will determine if the card classification and the AVC match, if the lane detects a miss-class from the AVC the lane will flag the miss-class and alert the plaza application for later review and it will debit the account from the AVC classification
S.	When an account card is used in a staffed lane, the system must: T. for certain account types as identified in functional design, override any manual classification performed by the toll collector and U. deduct the toll amount from the account and V. display a confirmation message to the patron and the toll collector	R	Y	The business rules can be adjusted to determine which classification takes precedence. Messages are displayed on the PFD to indicate confirm the transaction status. Transactions are forwarded to deduct the amount from the account balance.
T.	The system must allow a toll collector to enter an account card number manually in the event that the card cannot be read by the system. The system must identify the card entry as being manual	R	Y	Manually entering card data for unreadable cards via the Collector GUI is part of the base VECTOR 4G Tolls solution



#	Detailed Requirement	R/O	Y/N/M	Comments
U.	When an account card is used in either a staffed or unstaffed lane, the system must capture the read medium (i.e. the way the card data got into the system.) Some examples of read mediums are: W. Magnetic card X. Proximity card Y. Bar code Z. Manual card number entry	R	Y	The source of the payment data is included in the transaction.
V.	When there is a card read error in a staffed lane, the system must display to the Toll Collector one of a series of pre-determined card error messages as identified during functional design.	R	Y	Read errors for detected cards are indicated to the collector (e.g. checksum failures, incorrect data formats, etc).
W.	When there is an error in an unstaffed lane, the system must display to the patron one of a series of pre-determined card errors as identified in functional design.	R	M	The lane application provides the end user the capability to add, delete, or modify the messaging to the PFD through configurable business rules.
X.	The system must allow, but not require, a Toll Collector to enter an amount tendered.	R	Y	VECTOR 4G Tolls supports the ability to either require the amount tendered, or to assume that the amount was entered via printing a receipt, processing the next vehicle, or hitting the payment type button.
Y.	The system must allow, but not require, the Toll Collector to identify the method of payment.	R	Y	VECTOR 4G Tolls can be configured to support mandatory entering of payment data, or can automatically utilize a detected payment method (e.g. AVI, card swipe) without requiring a collector confirmation.
Z.	The system must recognize and provide warning to the Toll Collector when a particular payment method is restricted for a particular account. For example, an account may not have check privileges.	R	Y	The VECTOR 4G Tolls system currently has a means to identify payment types for an account, the collector screen will have a message displayed when an account has payment restrictions associated to the account.
AA.	The system must accept manual entry of vehicle classifications based upon the number of axles and vehicle type in a staffed lane. Vehicle types include, but are not limited to: AA. Auto BB. Truck CC. Commuter DD. Motor Home EE. Towed Vehicles FF. Non Revenue	R	Y	Manual classification based on axles and a vehicle classification is fully supported. Additionally, the lane application provides MDOT the ability to handle and process various exceptions that may occur in the lane, such as emergency vehicle classifications.



#	Detailed Requirement	R/O	Y/N/M	Comments
BB.	The system must allow the Toll Collector to select additional sub-classifications of Non Revenue vehicles. Sub classifications include, but are not limited to: GG. Fire HH. Police II. Ambulance JJ. Snow Plow KK. Bridge Maintenance LL. Approved contractor	R	M	Currently the VECTOR 4G Tolls system has a non-revenue patron table very similar to TL 28, the Contractor will modify the current VECTOR 4G Tolls non-revenue type table according to those determined during detail design.
CC.	The system must allow the Toll Collector to correct an erroneous classification in real time prior to the vehicle rolling over the loop and treadle.	R	Y	Post classification is fully supported. Our lane application provides the collector an opportunity to classify or reclassify the vehicles prior to it exiting the AVC components.
DD.	The system must allow the Toll Collector to “gate” a vehicle, i.e. force write a classification without the aid of the loop and treadle hardware.	R	Y	The system provides the collector the ability to end a vehicle transaction in the event of a component malfunction.
EE.	The system must allow the Toll Collector to enter a classification for a vehicle after egress in the event the classification was not entered prior to the egress.	R	Y	VECTOR 4G Tolls currently has the ability to have a collector do a post classification of a vehicle; additionally Vector forwards a message to the plaza for review.
FF.	When a single vehicle is classified either by manual entry or by automated response to an account card, the system must display the toll deducted from the patron’s account and the remaining balance.	R	M	The adjusted classification processing needs to be integrated to support the associated account adjustment processing.
GG.	The system must allow the Toll Collector to process multiple vehicle, tolls and classifications that are paid for by a single patron.	R	Y	The support for multiple vehicles processing such as convoy is fully supported by the VECTOR 4G Tolls solution.
HH.	When multiple vehicles are processed to be paid by a single patron, the system must display the total amount due to the patron. Receipts must identify each vehicle processed.	R	Y	The support for multiple vehicles processing such as convoy is fully supported by the VECTOR 4G Tolls solution, including providing the vehicle details on the receipts.
II.	The system must accept and save vehicle and axle counts from the existing loop and treadle bridge hardware and/or from bridge hardware installed for similar purposes in the future.	R	Y	The lane track and reports device counts to the plaza which can display these in reports or on trend graphs.
JJ.	When the axle count captured by the bridge hardware or an account card classification is different from a manual classification, the system must accept the Toll Collector’s classification, alert the Supervisor in real time and flag the transaction for review in an audit.	R	M	The VECTOR 4G Tolls solution identifies various types of transactions and handles the display or alerts based on configurable rules such as violation transactions are displayed in red. A class mismatch identification and subsequent alert will be added to the plaza supervisor monitoring application.



#	Detailed Requirement	R/O	Y/N/M	Comments
KK.	In an unstaffed lane, when the axle count captured by the bridge hardware is greater than the card classification, the system must accept the bridge hardware classification, adjust the deduction from the account to match the axle count and flag the transaction for review by the supervisor and in an audit.	R	Y	VECTOR 4G Tolls lane system will interface to the existing AVC system and the Contractor will install an additional vehicle sensing loop at the proximity card reader location. When the patron is at the read loop and presents the proximity card, the system will look up the account, verify that the account is in good standing and below the threshold, it will record the vehicle class associated with the card, it will display the appropriate message to the patron, but will not close the transaction until the vehicle crosses the treadle and exit loop. Once the vehicle crosses the treadle and exit loop the lane will determine if the card classification and the AVC match, if the lane detects a miss-class from the AVC the lane will flag the miss-class and alert the plaza application for later review and it will debit the account from the AVC classification.
LL.	The system must allow a Toll Collector to record an unusual event through selection from a pre-determined list.	O	Y	VECTOR 4G Tolls currently has the ability to have a collector enter an unusual event such as run through or insufficient funds for a vehicle; when this occurs VECTOR 4G Tolls forwards a message to the plaza for review.
MM.	The system must produce receipts in both staffed and unstaffed lanes that include, but are not limited to: MM. a unique transaction number NN. Facility name OO. Toll Collector identifier PP. date and time QQ. transaction description RR. transaction amount SS. the method of payment, if applicable TT. the amount tendered, if applicable UU. the change due, if applicable VV. the account number charged, if applicable WW. the account balance, if applicable XX. more than one transaction per patron	R	M	The required functionality of multiple transactions per vehicle is a minor modification to our lane application.
NN.	In staffed lanes, the system must automatically print receipts for certain vehicle classifications as identified in functional design. For other classifications, Toll Collector will initiate printing a receipt or not print a receipt at all.	O	Y	This is a configurable setting in VECTOR 4G Tolls lane application.
OO.	In unstaffed lanes, the system must automatically produce a receipt for each patron upon request.	R	Y	VECTOR 4G Tolls can print a receipt in an unstaffed lane, the specific printer will need to be identified during the detail design so that the Contractor can configure the receipt with proper header and footer



#	Detailed Requirement	R/O	Y/N/M	Comments
PP.	The system must allow receipt footer to be printed on the bottom of the receipts.	R	Y	VECTOR 4G Tolls system allows for customization of both the header and footer.
QQ.	The system must allow special offers and informational notices to be printed on the back of receipts.	O	Y	The Contractor assumes that the special offers and informational notices are preprinted on the back of the receipt.
RR.	The system must allow the use of account cards in both staffed and unstaffed lanes.	R	Y	The VECTOR 4G Tolls system currently allows for unstaffed operation.
SS.	The system must capture information that will be used to measure and report on Toll Collector performance. The specific information will be identified during functional design.	R	Y	Since financial integrity is paramount in a toll collection system, VECTOR 4G Tolls product provides MDOT with keystroke capturing capabilities for the touch screen. Every key stroke or touch by the collector is captured as part of that transaction.
TT.	The system must generate proposed staff schedules based on historic traffic volumes, staff available for shifts and a calendar of special events.	O	N	Option not included.
UU.	The Supervisor must be able to override system generated schedules.	O	N	Option not included.
VV.	The system must allow the Supervisor to manually enter staff schedules.	O	N	Option not included.
WW.	The system must allow the entry of full and part time shifts with variable start and stop times.	O	N	Option not included.
XX.	The system must include staff time keeping functionality that can be exported into DCDS.	O	N	Option not included.
	Total number of required/optional requirements	40/10	40/3	



1. Plaza Monitor Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system must display alarms when completed transactions meet certain conditions in the toll lanes. Alarms and conditions include but are not limited to: A. A Toll Collector logs in B. A vehicle is classified as Non Revenue C. A toll collector has manually entered a pre-paid account card number. D. A toll collector manually gates a vehicle E. A toll collector's classification of a vehicle is different from the loop and treadle classification F. A vehicle is classified after egress G. A vehicle is towed H. A toll collector voids a classification and reclassifies a vehicle to a lesser toll charge I. A Toll Collector logs out	R	Y Y Y Y Y M Y Y	All of these alarms are currently part of the VECTOR 4G Tolls System, with the exception of a toll collector void and reclassification. The VECTOR 4G Tolls System will be modified prior to installation to additionally send the void and reclassification alarm. Alarms are communicated among subsystems using Java Message Queues. These queues allow for an asynchronous message-oriented design to ensure system reliability and responsiveness. The application uses J2EE framework using IBM Web Sphere, guaranteed delivery of messages.
B.	When there is a card processing error in either a staffed and/or unstaffed lane, the system must display to the Supervisor one of a series of pre-determined card error alarms as identified during functional design.	R	Y	In addition to having a full set of predefined alarms, the VECTOR 4G Tolls System also allows user-defined alarms to be displayed. This allows for system customization during functional design.
C.	The system must require the Supervisor to acknowledge each alarm. Alarms may be allowed to stack until acknowledged or the condition is corrected.	R	Y	VECTOR 4G Tolls allows all the configured alarms to pop in the supervisor screen and alarms are stacked until acknowledged or cleared by some other means.
D.	The system must allow the supervisor to re-sequence/sort stacked alarms. Alarms may be selected and acknowledged in any order from the stacked list of notices.	R	Y	VECTOR 4G Tolls allows sorting of alarms by severity, date time and lane. Alarms may be selected and acknowledged in any order from the stack.
E.	The system must allow the Supervisor to correct errors when they occur in real time whenever possible. Types of errors include but are not limited to, account card and classification errors	O	Y	The Supervisor has the ability to correct errors such as account card and classification etc.
F.	The system must provide a graphical representation of activity in the toll lanes including but not limited to: A. Lanes open and closed B. Staffed and unstaffed lanes C. Who is logged in on a staffed lane D. Transactions in process E. Traffic counts in each direction for a. Today b. Yesterday c. This hour d. Last hour e. Corresponding day of previous year	R	Y	The Traffic and Revenue Control System is a robust, browser-based graphical user interface (GUI). This GUI includes current status information including lane closings, lane staffing, user logon information, transactions in progress and various traffic counts including vehicles for today, this hour, and Last hour. Traffic counts for the corresponding day of pervious year and yesterday will be added prior to installation.
G.	The system must allow the Supervisor to drill down to view an individual Toll Collector activities and transactions.	R	Y	Dashboard supports the viewing of all the plazas and lanes. The Supervisor is provided the capability to drilldown to a specific lane and transactions within a lane



#	Detailed Requirement	R/O	Y/N/M	Comments
H.	The system must allow the Supervisor to authorize refunds in the toll lanes.	R	M	The VECTOR 4G Tolls system adjustments/reversal functionality will be modified for the Supervisor to authorize refunds.
I.	The system must allow the Supervisor to view and print hourly traffic reports.	R	Y	VECTOR 4G Tolls provides over 100 reports, including hourly traffic reports. In addition, Supervisors can create ad-hoc reports to meet their current, specific needs.
J.	The system must allow the Supervisor to enter comments about unusual occurrences.	R	Y	VECTOR 4G Tolls allows Supervisors to enter comments about any transaction, including unusual occurrences. This information can later be used in searches, and/or compiled into a monthly or yearly report.
K.	The system must allow the Supervisor to broadcast messages to all toll lanes and to selected toll lanes.	O	Y	VECTOR 4G Tolls has the capability to send messages to all lanes or selected lanes. Messages are handled through WebSphere Message Queues, and can be broadcast to selected lanes or to all lanes.
Total number of required/optional requirements		9/2	9/2	

2. Pre Paid Account Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system must support the creation and maintenance of pre-paid positive balance accounts including, but not limited to: YY. Commuter accounts ZZ. Business accounts AAA. Quick accounts	R	Y	VECTOR 4G Tolls will allow for the creation of multiple pre-paid account types with various discount plans including a "Quick" account with no discount. Discount plans can be associated with account types or usage rules.
B.	The system must support the use of account cards to perform automated deductions from the account to which the cards are assigned.	R	Y	Accounts will automatically be deducted per the business rules following completion of a valid transaction.
C.	The system must support multiple account cards and other transaction devices such as, but not limited to: A. Proximity cards B. Magnetic cards C. Transponders D. Smart cards Note: The bridges are currently using proximity and magnetic cards.	R	Y	VECTOR 4G Tolls application supports various payment devices including RFID, smart cards, proximity cards, magnetic striped cards, and license plates.
D.	The system must allow the creation and maintenance of Non Revenue accounts for the purpose of allowing certain patrons to use an account card in both staffed and unstaffed lanes.	R	Y	Non Revenue accounts are fully supported in VECTOR 4G Tolls as an Account Type.



#	Detailed Requirement	R/O	Y/N/M	Comments
E.	A single Account Owner may have more than one account and account type. For example, an account owner may have a commuter account and one or more business accounts.	R	Y	The VECTOR 4G Tolls application you will be operating is flexible, mature and robust and allows for the multiple account types to be associated with a single account owner. .
F.	A single account may have more than one account card assigned to it.	R	Y	Multiple cards may be assigned to the same customer account.
G.	The system must provide the option to restrict the use of a card in a toll lane from putting a pre-paid account into a negative balance.	R	Y	Accounts can be prevented from going into negative balance based on account type and business rules governing negative balances
H.	<p>The system must include the functionality for the Account Manager to perform the following pre-paid account activities:</p> <p>BBB. Create a new account</p> <p>CCC. Set a tolerance level in the account that the balance may not drop below</p> <p>DDD. Make a deposit to a new account</p> <p>EEE. Transfer money between multiple accounts for a single account owner</p> <p>FFF. Assign account cards to an account</p> <p>GGG. Charge a fee for new account cards devices assigned to an account</p> <p>HHH. Charge a fee for lost account cards</p> <p>III. Enter vehicle classifications associated with accounts</p> <p>JJJ. Blacklist a card on an account where the patron has reported the account card as lost, stolen or damaged</p> <p>KKK. Adjust account balances</p> <p>LLL. Update patron's identity information</p> <p>MMM. Refund money from an account</p> <p>NNN. Allow the restriction of certain payment methods from an account. For example, a check may not be acceptable for a particular account.</p> <p>OOO. Inactivate an account</p> <p>PPP. Close an account</p> <p>QQQ. Expire an account</p> <p>RRR. Set timeframes within which the system will close, inactivate or expire types of accounts for non-use. (For</p>	R	Y	<p>VECTOR 4G Tolls provides this functionality in the Customer Account Management System (CAMS) which provides all functionality required from account creation to account closing. The following functionality will be configured during the design phase:</p> <p>UUU. Create multiple types of accounts</p> <p>VVV. Set a Low Balance tolerance level in the account that the balance based on business rules enforced on the Central Host and the Lane Controller</p> <p>WWW. Make a deposit to a new account using multiple payment methods</p> <p>XXX. Transfer money between multiple accounts for a single account owner</p> <p>YYY. Assign account cards to an account from an inventory of available cards</p> <p>ZZZ. Charge a fee for new account cards devices assigned to an account</p> <p>AAAA. Charge a fee for lost account cards</p> <p>BBBB. Enter vehicle classifications associated with accounts</p> <p>CCCC. Blacklist a card on an account where the patron has reported the account card as lost, stolen or damaged</p> <p>DDDD. Adjust account balances</p> <p>EEEE. Update patron's identity information</p> <p>FFFF. Refund money from an account</p> <p>GGGG. Allow the restriction of certain payment methods from an</p>



#	Detailed Requirement	R/O	Y/N/M	Comments
	<p>example, the Account Manager should be able to set timeframes for all Commuter accounts or all Quick Accounts.)</p> <p>SSS. Set timeframes within which the system will close, inactivate or expire a single account for non-use.</p> <p>TTT. Other activities as identified during functional design</p>			<p>account. Restrictions are flagged on the account page so the user will see the patron's payment restrictions</p> <p>HHHH. Inactivate an account with configurable rules to enable maintenance fees to be charged on the remaining balance</p> <p>IIII. Close an account with a configurable automatic refund point</p> <p>JJJJ. Expire an account</p> <p>KKKK. Set timeframes within which the system will close, inactivate or expire types of accounts for non-use.</p> <p>LLLL. Set timeframes within which the system will close, inactivate or expire a single account for non-use.</p>
I.	The system must perform automated deductions from an account when an account card is used.	R	Y	Transactions are processed in real time and accounts are adjusted accordingly.
J.	The system must allow account cards to be used: A. In the toll lanes B. At office point of sale locations C. On the web	R	Y	Account cards are fully supported in the toll lanes, office point of sale locations and on the web and will utilize the account number on the card and possibly other customer identifiers when the card is not presented.
K.	The system must allow the authorized bridge user to override the tolerance on a single account to allow a deduction from an account unless the tolerance is set to zero or the deduction would cause a negative balance.	R	Y	VECTOR 4G Tolls contains a role based security system that grants authorized users to perform adjustments to business rules or perform overrides on a case by case basis. .
L.	The system must generate notices to patrons with pre-paid accounts when the balance of the account is close to falling below, or has fallen below, the tolerance level, or is nearing the inactive timeframe specified in PA 8. The customer may set the notice amount	R	Y	The system will generate notices using a number of user definable formats including paper, email and SMS. Customers can select the notice frequency via the various self-service channels provided by our product.
M.	When the tolerance amount for an account is reached, the system must set the account status to Flat and not allow any further automated deductions unless manually overridden by a Supervisor or an Account Manager. Overrides may not allow the account to go negative.	R	Y	VECTOR 4G Tolls includes a tolerance setting for Low Balance which will be used to indicate the Flat account status. Special processing rules will be enforced for the override at the time the transaction occurs.



#	Detailed Requirement	R/O	Y/N/M	Comments
N.	When an account is expired, closed or inactivated, the system must have the ability to zero out any remaining balances and recognize the amount as revenue for the business day on which the account status changed.	R	Y	VECTOR 4G Tolls includes a closing process fully meeting the stated requirement which will be refined during the Functional Design and System Design phases.
O.	The system must generate monthly account statements to Account Owners that include, but are not limited to, the following: MMMM. Account balance NNNN. Toll transactions for each card on the account OOOO. Fee transactions PPPP. Account deposits QQQQ. Adjustments RRRR. Customer information	R	Y	Vector 4G Tolls has a feature rich set of configurable settings that provides great flexibility to customize statements or reports to your customer wishes.
P.	The system must allow monthly statements to be printed or sent to Account Owners electronically through e-mail or other electronic medium.	R	Y	Monthly statements can be printed or generated electronically for each customer account.
Q.	The system must allow the Account Manager to generate account statements for a single Account Owner at any time.	R	Y	On demand statements are provided to all authorized customers.
R.	The system must allow the Account Manager to generate a batch of account statements to multiple Account Owners at any time.	R	M	VECTOR 4G Tolls currently supports Monthly or Quarterly billing statements on a configurable anniversary date cycle. This is required for a consistent account management system that is both auditable and easily maintained. The Contractor will work with MDOT to develop an account management profile that meets or exceeds the business needs.
S.	The system must allow the Account Manager to generate account statements for selected timeframes over more than one month.	R	Y	VECTOR 4G Tolls allows account managers to generate both monthly and quarterly statements for accounts and an account can be configured to use either timeframe as a default. The account manager may also generate account statements for multiple time periods when required.
T.	The system must include the functionality for patrons to access their commercial or commuter accounts on the web to: SSSS. view account balances and activity TTTT. make deposits into an account UUUU. print account statements	R	Y	The Web Self Service allows authorized customers to view and maintain their accounts in a secure and efficient manner.
	Total number of required/optional requirements	20/0	20/0	



3. Point of Sale Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system must process point of sale transactions that are initiated outside of the toll lanes either by a patron walking into a bridge office/window or by bridge staff receiving orders/deposits in the mail.	R	Y	VECTOR 4G Tolls provides account management features to authorized users at authorized walkup locations. This is in addition to a COTS POS which will support customer purchases for non-tolling transactions.
B.	The system must include functionality for the following point of sale activities including but not limited to: VVVV. Sell inventorial items WWWW. Sell non-inventorial items XXXX. Collect fees YYYY. Sell permits ZZZZ. Accept deposits to pre-paid accounts AAAAA. Sell account cards BBBBB. Generate itemized receipts CCCCC. Suspend transactions in process DDDDD. Cancel transactions EEEEE. Issue refunds FFFFF. Process insurance rebate checks GGGGG. Include sales tax and shipping charges where applicable HHHHH. Pay for transport of passengers, bicycles or snow mobiles IIIII. Accommodate many transactions per order JJJJJ. Accommodate multiple methods-of-payment per order KKKKK. Accommodate one method-of-payment for multiple orders	R	Y	The Contractor will provide a configurable COTS product to allow authorized users to sell both inventory and non-inventory items managed on the POS inventory or through Quickbooks or Peachtree interfaces. The POS will also allow authorized users to collect fees, access and manage customer accounts, perform transactions with multiple tender types per order. Fulfillment of customer account processing should be processed through a VECTOR 4G Tolls interface but the POS will also load customer account information and provide transactional processing to a customer account. The POS will provide itemized receipts and can suspend and restore transactions in process when needed.
C.	Point of Sale users must be required to log in and log out for each shift/session.	R	Y	The POS will include role-based security allowing authorized users to log in and log out.
D.	At the discretion of the Point of Sale user, the system must produce receipts that include, but are not limited to: A. A unique transaction id B. Date and time C. Point of Sale user identification D. List all sale items for the customer E. Transaction description F. Transaction amount G. Method of payment H. Amount tendered, if applicable I. Change due, if applicable J. Account charged, if applicable	R	Y	The receipts will include all sales information. The unique transaction id will be printed and will allow an authorized user to locate the order for refund if necessary.
E.	The system must allow for the entry, maintenance and collection of sales taxes.	R	Y	The POS system will allow the maintenance and collection of sales taxes. Inventory and non-inventory items may also be marked as taxable or non-taxable.



#	Detailed Requirement	R/O	Y/N/M	Comments
F.	The system must require the Point of Sale user to enter a payment method for each transaction. Payment methods include but are not limited to: LLLLL. Commuter account cards MMMMM. Business account cards NNNNN. Cash OOOOO. Check PPPPP. Credit cards QQQQQ. Debit cards RRRRR. Scrip SSSSS. Tokens	R	Y	The POS will allow multiple forms of payment and includes a management interface for customizing the method of payment. Customer accounts can be accessed from the POS and be used for payment.
G.	When the method of payment at the office point of sale is a check, the system must require the entry of identifying information from the check into the system for later reconciliation and deposit. The exact information to be captured will be determined during functional design.	R	Y	The POS will be configured as part of the system design phase to provide appropriate customer information to be entered when method of payment is a Check.
H.	Point of Sale activities must be customizable for each bridge	R	Y	Each bridge will be able to customize the POS to meet their specific needs.
I.	The system must accept imports of the chart of accounts from bridge accounting software into the point of sale module.	O	Y	The POS will allow the loading of accounts from QuickBooks or Peachtree to be used during sales processing.
J.	The system must export point of sale transactions into the bridge accounting software used on each bridge.	O	Y	The POS will allow daily transaction information to be transferred directly into QuickBooks or Peachtree.
K.	The system must capture information, as identified in functional design, that will be used to measure and report on Point of Sale user performance.	R	Y	Sales reports are available on the POS that will track user activity and can be used to measure performance of POS user.
	Total number of required/optional requirements	9/2	9/2	

4. Web Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system must include internet functionality that will allow Account Owners to access pre-paid accounts, and will allow Account Owners and Patrons to purchase merchandise, permits and to pay selected fees online.	R	Y	The VECTOR 4G Tolls web self-service portals provides the customer with self service access to their account and to purchase items managed within the Back Office.
B.	The system must allow each bridge to customize the web page view and the activities that a Patron may perform.	R	Y	During the system design phase the Contractor will work closely with representatives from each bridge to customize the website for their specific needs and desires.
C.	The system must have secure, password protected access to pre-paid accounts on HTTPS.	R	Y	The web interface provides secure access to the customer account.
D.	The system must be PCI compliant.	R	Y	The web interface is fully compliant with the standards and practices of PCI.



#	Detailed Requirement	R/O	Y/N/M	Comments
E.	If any sensitive data (personal identifiers (SSN) or financial) will be stored within the system, it must have at least 128 bit encryption.	R	Y	All sensitive Personal Identifiers (PI) are stored in a secure manner with strict controls on access.
F.	The system must include a shopping cart feature.	R	M	This feature will be added to the current feature set of the web portal for inventoried and non-inventoried items.
G.	All Patrons must be able to perform the following activities including but not limited to: TTTTT. Apply for a pre-paid account UUUUU. Purchase merchandise VVVVV. Select and use a method of payment including but not limited to: f. Credit Card g. Debit Card (from a bank) h. Pre-paid account card (from a bridge) i. Wire transfers from bank WWWWW. Pay fees XXXXX. Purchase permits YYYYY. Purchase tokens	R	M	VECTOR 4G web provides the customer with self-service access to their account and to purchase items managed within the Back Office. The only modification will be the inclusion of a shopping cart module to purchase merchandise online.
H.	Account Owners of pre-paid accounts must be able to perform the following account activities including but not limited to: ZZZZZ. View account balance AAAAAA. View account transactions BBBBBB. View adjustments to an account CCCCCC. Make a deposit into an account DDDDDD. Generate statements for a single month or for multiple months EEEEE. Inactivate a card associated with an account FFFFFF. Apply to have a card reactivated GGGGGG. Request account closure HHHHHH. Transfer funds from one account to another account for a single business owner IIIIII. Request additional account cards JJJJJJ. Pay for account cards	R	Y	Each account owner may access and maintain all aspects of their account.
	Total number of required/optional requirements	8/0		

5. Close Shift/Business Day Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	Each bridge must be able to define the time a business day is considered to be closed for the purposes of financial processing. Currently, the business day closure times for each bridge are: A. Blue Water Bridge: 11:00 PM B. International: 10:00 PM C. Mackinac: 12:00 AM Note: The bridges are open for operational purposes 24 hours a day, 7 days a week, and 365 days a year.	R	Y	Vector 4G Tolls allows the revenue time configurable for each plaza. Current implementation supports this feature. This value is configurable for every plaza.



#	Detailed Requirement	R/O	Y/N/M	Comments
B.	The system must place Toll Collectors and Point of Sale users into the proper business day/date upon login according to pre-defined timing criteria on each bridge. For example, if a toll collector logs in at 11:45 PM on a Monday on the Mackinac bridge, the system should place the toll collector in the first shift on Tuesday morning.	R	Y	The VECTOR 4G Tolls system uses the user-configurable end of day and shift values to assign each user login to the current shift.
C.	The system must accommodate a Toll Collector or a Point of Sale user using multiple money bags during a single shift as determined by the business practices at each bridge. For example, on the International bridge, each collector will have a bag for US currency and a bag for Canadian currency.	R	M	The Contractor will modify VECTOR 4G Tolls to add support for Canadian dollars.
D.	The system must recognize the end of a shift versus the close of a business day. <ul style="list-style-type: none"> • The end of a shift is when a Toll Collector or a Point of Sale user logs out of the system at the end of their assigned shift and will close and label their collection bag(s). • The end of a business day is when all shifts for a pre-defined 24 hour period are closed. 	R	Y	VECTOR 4G Tolls uses the user-configurable shift data at each plaza or bridge to accurately calculate the end of shift values when a Toll Collector or Point of Sale user logs out.
E.	The Toll Collector and the Point of Sale user must be able to log out temporarily (i.e. for short breaks or for lunch) without closing a shift.	R	Y	VECTOR 4G Tolls allows the flexibility of temporary log outs (for breaks or lunch) without closing a shift.
F.	When a Toll Collector or a Point of Sale user logs out at the end of a shift, the system must print label(s) for the bag(s) for that individual for that shift.	R	M	VECTOR 4G Tolls will be modified before installation to print one or more bag labels at the end of a shift by a Toll Collector or Point of Sale user.
G.	The system must provide the option for an automated forced closure of a Toll Collector's or Point of Sale user's session within a defined time period. However, the system may not close a session while a transaction is in process.	R	Y	VECTOR 4G Tolls can be configured to automatically force a Toll Collector's or Point of Sale user's session within a defined time period. If a transaction is currently in progress, it will delay the close until the transaction completes.
H.	The system must allow a Supervisor to perform a forced closure of a shift or business day for either a Toll Collector or a Point of Sale user. However, the Supervisor may not close a session while a transaction is in process.	R	Y	VECTOR 4G Tolls can be used by a Supervisor to force a Toll Collector's or Point of Sale shift or business day. If a transaction is currently in progress, it will delay the close until the transaction completes.
I.	The system must allow, but not require, Toll Collectors and Point of Sale users to count the collections in their bags and enter those counts into the system at the end of a shift.	R	Y	VECTOR 4G Tolls allows the entry of bag collection amounts by Toll Collectors and Point of Sale users at the end of the shift. This entry is not required.
	Total number of required/optional requirements	9/0	9/0	



6. Collections Count and Deposit Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system must calculate the expected totals of each Toll Collector's and Point of Sale user's bags based upon the transactions processed during a shift for each business day. However, these totals may not be viewed by the Vault Counters.	R	Y	Expected bag totals, with and without adjustments, are a standard calculation in the VECTOR 4G system. VECTOR 4G Tolls is designed for complete security of data. All access to all data is controlled by authentication and role-based authorization. Users never share logins, and simultaneous logins are prevented. Role-based authorization provides the flexibility to achieve this security without compromising usability.
B.	The system must associate each bag to a single business day.	R	Y	Upon the close of a shift—whether it was automatic or initiated by the Toll Collector, Point of Sale user, or Supervisor—the bag and its expected contents are associated with a single business day.
C.	The system must provide the ability for a Vault Counter to enter count results for each bag collected during a business day. The count categories will include, but are not limited to, the following: A. US currency denominations B. Canadian currency denominations C. checks D. tokens E. scrip F. tickets	R	Y M	VECTOR 4G Tolls collects and records Vault Counter count results for each bag collected during a business day. Count categories include US Currency denominations, checks, tokens, scrip, and tickets. Canadian currency denominations will be added before installation.
D.	The system must allow the Vault Counter to select and count one bag at a time.	R	Y	For added data integrity and security, Vault Counters are limited to selecting and counting one bag at a time.
E.	The system must allow a bag count in process to be reassigned from one Vault Counter to another.	R	Y	For flexibility and efficiency, VECTOR 4G Tolls allows a bag count in process to be reassigned to a different Vault Counter. This action is logged along with Vault ID and date/time.
F.	When a single bag for a Toll Collector is being counted and the currency is a check, the system must require that the Vault Counter enter identifying information from the check for later reconciliation and deposit. The exact information to be captured will be determined during functional design.	R	Y	VECTOR 4G Tolls allows the specification of user-defined data to be collected when the currency is a check. This user-defined data will be required to be entered for every check counted.
G.	The system must total the counted contents of each bag based upon the counts entered.	R	Y	VECTOR 4G Tolls, as part of the audit process, totals the counted contents of each bag based on the individual counts entered. VECTOR 4G Tolls has the capability to display the feed from the coin counter into the deposit system for each collector and displays the totals also and money room collector has the capability to override the counts.



#	Detailed Requirement	R/O	Y/N/M	Comments
H.	The system must provide the ability for a Vault Counter to enter count results for all bags combined for a single business day. The count categories include, but are not limited to, the following: G. US currency denominations H. Canadian currency denominations I. checks J. tokens K. scrip L. tickets	R	Y	VECTOR 4G Tolls allows the Vault Counter to enter count results for all bags combined during a business day. Count categories include US Currency denominations, checks, tokens, scrip, and tickets. Canadian currency denominations will be added before installation.
I.	The system must keep an inventory of tokens accepted in the toll lanes, stored and sold.	R	Y	VECTOR 4G Tolls keeps an up-to-date inventory of all tokens accepted, stored, and sold.
J.	The system must compare the grand total of the single bag count to the total of the combined bag count. When the totals differ, the system must allow the vault counter an option of doing the combined bag count again or to close the count without re-doing the combined bag count.	R	Y	As part of its extensive audit capabilities, VECTOR 4G Tolls compared the total of the single bag count to the total of the combined bag count. If the totals differ, the Vault Counter has the option of performing the combined bag count again, or closing without re-doing the combined count. Each time this occurs, the event is logged along with the Vault counters eventual decision whether or not to re-do the count.
K.	The system must allow the Vault Counter to enter comments on both single bag counts and on the combined bag count.	R	Y	VECTOR 4G Tolls allows the entry of comments by the Vault Counter, either when performing single bag counts or combined bag counts.
L.	The system must allow the Vault Counter to close the count for a business day. Once the count is closed, the system must not allow any changes to that business day's count.	R	Y	VECTOR 4G Tolls allows the Vault Counter to close the day's count. Once a day's count is closed, no changes are allowed to the count.
M.	The system must allow the Vault Counter to select one or more of the following counts for deposit: KKKKKK. single closed business day LLLLLL. multiple closed business days MMMMMM. single half closed business day NNNNNN. multiple half closed business days OOOOOO. other combinations as identified in functional design	R	Y	When performing deposits, VECTOR 4G Tolls allows the Vault Counter to select from several user-defined counts, including single closed business day, multiple closed business days, single half closed business day, multiple half closed business days, and other combinations as identified in the functional design.
N.	The system must support the following activities before a deposit is completed: A. entry of an exchange rate for Canadian currency B. perform currency exchanges for cash drawers C. alter the amount of the deposit	R	Y	Prior to installation, VECTOR 4G Tolls will be modified to accept entry of an exchange rate for Canadian currency, perform currency exchanges for cash drawers, and alter the amount of the deposit according to the currency exchanged.
O.	If the amount of the deposit is altered, the system must require the Vault Counter to enter an explanation.	R	Y	For auditing purposes, VECTOR 4G Tolls requires the Vault Counter to enter an explanation if the amount of the deposit is altered.



#	Detailed Requirement	R/O	Y/N/M	Comments
P.	The system must do deposits in both US and Canadian currency.	R	Y	Prior to installation, VECTOR 4G Tolls will be modified to handle deposits in Canadian currency in addition to its current handling of US currency.
Q.	The system must generate deposit slips and lists of checks according to the business practices on each bridge. The system must produce deposit slips including but not limited to: P P P P P P. US Currency (including checks) Q Q Q Q Q Q. Canadian Currency (including checks) R R R R R R. Combined US and Canadian Currency including checks) S S S S S S. US Checks Only T T T T T T. Canadian Checks Only U U U U U U. US and Canadian Checks V V V V V V. US Money (not including checks) W W W W W W. Canadian Money (not including checks) X X X X X X. US and Canadian Money (not including checks)	R	Y	VECTOR 4G Tolls automatically generates deposit slips for currency in several different forms, including US Currency (including checks), Canadian Currency (including checks), Combined US and Canadian Currency including checks) ,US Checks Only, Canadian Checks Only, US and Canadian Checks, US Money (not including checks), Canadian Money (not including checks), US and Canadian Money (not including checks). The deposit slips generated can be adapted to the business rules of each bridge,
R.	The system must generate customs declarations forms when required by the business practice of the bridge.	R	M	Prior to installation, VECTOR 4G Tolls will be modified to create customs declarations forms, to be generated when required by the business practice of the bridge.
S.	The system must capture data, as identified in functional design, which will be used to evaluate Vault Counter performance.	R	Y	VECTOR 4G Tolls includes the capability of capturing user-defined data to evaluate Vault Counter performance.
T.	The system must also allow for a collector or a supervisor to count a collector's funds prior to placing the funds into the vault. This will be used for testing the vault counts and allowing for collectors to count their own money if necessary.	R	Y	VECTOR 4G Tolls allows, but does not require, the collector or a Supervisor to count a collector's funds prior to placing the funds in the vault. These counts can be used for testing the fault count and allowing collectors to count their own money.
	Total number of required/optional requirements	20/0	20/0	

7. Audit Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system must accommodate an audit of transactions and collections for each business day.	R	Y	VECTOR 4G Tolls solution provides a robust audit trail record creation for each financial as well as non-financial transaction created in the system, including each toll transaction and associated financial activity. Financial reconciliation is performed based on a revenue day and all transactions and collections are reconciled along with audit record created for each transaction.



#	Detailed Requirement	R/O	Y/N/M	Comments
B.	The system must perform automated audits of discrepancies based on defined bridge policies and provide a mechanism for Auditors to disagree with and change the results.	O	Y	VECTOR 4G Tolls' reconciliation process provides an end-to-end audit mechanism to track the processing of individual transactions received at the back office system. The reconciliation audit process is fully automated and provides detailed records and reports of the audit process. The reconciliation process is guided by defined business rules and does allow flexibility in changing business rules and parameters for auditing process.
C.	The system must allow only one auditor to open and process a single business day audit.	R	M	VECTOR 4G Tolls' access for Auditors will be managed through the VECTOR 4G System Administration Management System (SAMS) module that will store data used by the application to authorize and authenticate access to the system and its interfaces. SAMS provides the capability to define the roles and access privileges for users of the VECTOR 4G Tolls system. User privileges are based on a system of roles and provide a very flexible means of granting or removing access to particular areas of the system as well as type of access. Access and modes of permissions are set at the role level and role(s) can be granted or revoked from users. The auditor's role and access can be allowed, managed, and controlled through this functionality.
D.	The system must allow a single auditor to have more than one business day open.	R	Y	SAMS provides the capability to define the roles and access privileges for users of the VECTOR 4G Tolls system. Once access is defined with specific roles and privileges for audit purposes, the system will allow the use to open multiple business days.
E.	The system must allow an audit of a business day that is in process to be reassigned from one Auditor to another.	R	M	SAMS will provide access to system areas based on defined roles and levels. Users with same role and privileges, will be able to have access or reassign the work to another user with same roles and privileges
F.	Within a single business day, the Auditor must be able to perform audits by Toll Collector/Point of Sale user.	R	Y	VECTOR 4G Tolls system creates audit records for each financial as well as non-financial transaction within the system. These records provide flexibility to perform assessment based on each point of sale (store fronts)and each system user (toll collector, CSRs, supervisors, etc.)
G.	The system must perform and display a high level comparison of: YYYYYY. vehicles classified manually or by account card to the axle/vehicle counts recorded by the bridge hardware ZZZZZZ. tolls/fees etc as classified by the Toll Collector or Point of Sale user to the currency as counted in a collector's bag	R	Y	VECTOR 4G Tolls reconciliation reports provide a strong tool to perform system integrity check to ensure comparative assessment of vehicles/transactions as they travel through the system from lane hardware to roadside lane equipment, to BOS. The financial reconciliation report provides the comparison between expected toll amount based on toll point of sell and actual toll amount posted to the account.



#	Detailed Requirement	R/O	Y/N/M	Comments
H.	The system must provide the functionality for the auditor to reconcile: AAAAAAA. Vehicle classifications BBBBBBB. Vehicle counts CCCCCC. Axle counts DDDDDDD. Tolls/fees etc. charged EEEEEEE. Tolls/fees etc. collected FFFFFFF. Other activities as identified during functional design	R	M	VECTOR 4G Tolls reconciliation process provides the ability to reconcile listed parameters. The current application uses US\$ as the currency and will need minor modifications to accommodate for Canadian currency.
I.	The system must enable the auditor to categorize fault when a discrepancy is found. Fault categories include but are not limited to: GGGGGGG. None HHHHHHH. Equipment IIIIIII. Collector JJJJJJJ. Currency Counter	R	Y	VECTOR 4G Tolls solution provides detailed reconciliation and audit trail for each transaction along with the ability to categorize any discrepancies
J.	The system must allow the Toll Collector or the Vault Counter to acknowledge/explain a fault.	R	Y	The VECTOR 4G Tolls system allows for toll collector of CSR to adjust, reverse, and cancel any transactions during the defined tour of duty for the toll collector or CSR. Each activity creates an audit trail and provides details of the activity performed by the toll collector. The CSR can also add notes or explanation for their action in the system
K.	The system must allow the auditor to enter comments at both the individual level and at the business day level.	R	Y	The auditor role and access will be configured in the system to have specific flexibility and access to provide comments as necessary.
L.	The system must allow the auditor to perform adjustments to correct discrepancies. Adjustments must not overwrite or delete any original transactions. Types of adjustments include but are not limited to: A. Vehicle Classification Discrepancies B. Axle Discrepancies C. Overage/Shortage of Collections D. Lane Transactions E. Pre Paid Account Correction F. Same Day Money Mix Up G. Between Days Money Mix Up H. Money Mix Up between multiple days and collectors. I. Scrip Error J. Commuter Error K. Money Error L. Post Deposit Error M. Refunded Traffic N. Derived Traffic O. Improvised Traffic P. Canadian Make-up	R	Y	All transactions, financial as well as non-financial, are recorded and an audit trail is created for the same. In case of reversals or adjustments, no original transactions are deleted. All reversals or adjustments are recorded as new transactions.
M.	The system must not allow the auditor to close an audit for the day when there are discrepancies that have not been corrected.	R	Y	Similar to CSR's, auditor roles can also be defined and configured in the system to require completely reconciled account activities. Through SAMS, restrictions for specific role is defined to require auditors to complete the reconciliation process before closing the shift/day.



#	Detailed Requirement	R/O	Y/N/M	Comments
N.	The system must prompt the auditor to close a day audit when all discrepancies have been reconciled.	R	Y	Upon completion of daily activities, based on the role and responsibilities, the user is prompted to close the shift or work day.
O.	The system must allow the close out of a pre-defined financial period, such as fiscal year, and not allow adjustments to be made to financial transactions in that closed financial period.	R	Y	The system is and can be configured for daily, weekly, monthly, and yearly reconciliation and close out as necessary. Upon close out, all transactions are final and are not allowed any modifications. In case of modifications at any point in process, audit records are created for all activities.
P.	The system must allow an auditor to re-open a closed audit for the purpose of making adjustments to financial transactions if the audit does not fall within a closed financial period. The system must keep an audit trail of all post-closing audit adjustments.	R	Y	The system allows authorized users to make transaction adjustments and reversals before closing. For each activity, audit trail is created within the system.
Q.	The system must allow an auditor to re-open a closed audit for the purpose of making adjustments to non-financial transactions at any time. The system must keep an audit trail of all post-closing audit adjustments.	R	Y	Authorized users are allowed to open closed financial activities and make necessary adjustments. For each change, audit trail is created and logged.
R.	The system must capture data, as identified in functional design that will be used to evaluate Auditor performance.	R	Y	The system is capable of recording detailed performance record for all audit activities.
S.	Audits completed by the Auditor must be sent electronically through an approval path (i.e. work list). Each step in the path will be notified of an audit needing approval.	R	Y	VECTOR 4G Tolls reates record documenting completed reconciliation activities and appropriate users are notified for follow-up approvals.
T.	The system must allow for video auditing. This would assign a video recording of each vehicle crossing the treadle and loop to the corresponding transaction number. The auditor should be able to view the vehicle in question when making an audit adjustment.	O	Y	All video recordings or camera images taken at the lane level are tied to the customer account and are available for the CSR use as well as customer notifications/notices.
U.	All financial transactions must comply with GAAP (General Accepted Accounting Principles).	R	Y	VECTOR 4G Tolls solution design for financial activities is in conformance with GAAP
	Total number of required/optional requirements	19/2	19/2	

8. Communication Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
•	The system must send e-mail notifications via the State standard e-mail system as defined in the functional design.	R	Y	VECTOR 4G Tolls system is fully capable of sending email notifications through standard email system
	Total number of required/optional requirements	1/0	1/0	



Appendix B – Technical Requirements

Appendix B – To Be Process Flows

Back Office Processes

Access or Request Pre-Paid Account Online

- Login cannot be created without an establishing an account. However, a user can request a paper application by name and address but no login is created. The request application will be fulfilled through mailing the application
- Customer can open the account by giving demographic information, adding vehicles, requesting account cards and making necessary payments using a credit or debit card
- An authorized VECTOR4G Tolls user can create a patron account for the mailed in application using the account management functionality of VECTOR 4G Tolls.
- VECTOR 4G Tolls can support file based interface or real time integration using web service with external mail processing services. In either case, the soft copy of the document will be attached to the account for future reference.
- An authorized VECTOR 4G Tolls user can create an account for patron who walks in to the facility and can issue account cards or mail them.
- Patron can make deposit online using the credit/debit card or mail the check. The system will handle International ACH transactions. The system will handle International ACH transactions through inclusion of the IAT (International ACH Transaction) SEC (Securities and Exchange Commission) codes and processing requirements in ACH file exchanges as required for IAT compliance. ACH transactions will be for account replenishment through banking account information stored to required NACHA (National Automated Clearing House Association) security standards.

Approve Request for Account Submitted Online

There is no required approval process. If the user passes all validation, he can establish the account online but this step can be added during the design phase

Manually Add New Pre-Paid Account

User can request new account online or by calling service center. The card can be mailed instead of being provided by the Account Manager.

Manage Pre Paid Account

- User can request account cards that will be fulfilled by assigning cards from inventory.
- Account status file can be generated based on rules rather than just a black list. The file can be full or incremental. Full file will be generated once a day. Incremental can be sent several time a day. The file will be pushed to each Toll Lane so the status is known on all accounts – not just the blacklisted ones
- If the balance falls below preconfigured threshold balance and there is no credit card on the account, the tag is marked as low balance which will be used as “Flat tolerance”



1. General Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
1.	The selected system solution must be flexible and highly configurable in response to future business needs and bridge hardware upgrades.	R	Y	VECTOR 4G Tolls products are currently deployed at other locations with some of these future business needs already supported and can be configured as required.
2.	<p>The system must accommodate the business practices of Blue Water, International and Mackinac bridges. Where business processes differ, the system must be built to accommodate the most robust process and allow opt out for the bridges that don't use part or all of a process. Some examples of differences in business processes are:</p> <p>KKKKKKK. Mackinac Bridge does not need a default currency setting for tolls</p> <p>LLLLLLL. Blue Water Bridge</p> <ul style="list-style-type: none"> a. performs accounting functions through MAIN b. does not have unmanned lanes c. does not use proximity cards d. does not have patron displays e. does not have a walk up window for patrons <p>MMMMMMM. International Bridge accepts checks in the toll lanes; the other bridges do not</p> <p>Additional differences will be identified during functional design.</p>	R	M	The Contractor will work with each bridge authority to provide a unique set of business rules for each of the bridges.
3.	The system must have role based security that is in compliance with separation of duties in accordance with internal controls.	R	Y	VECTOR 4G4G Tolls is designed to be configured based on roles and responsibilities of the staff on the project with providing the minimum access required for each role to perform their job. Ex. Staff cannot do adjustments unless the corresponding role has been enabled by the administrator for that user.



#	Detailed Requirement	R/O	Y/N/M	Comments
4.	The system must include the functionality to generate and maintain worker's schedules and record actual time worked by task code.	O	Y	The Contractor shall use an off-the-shelf product called SchedulePro Enterprise edition software to generate and maintain worker's schedules. This is a comprehensive employee/staff scheduling software that runs in a client-server environment using SQL Server database. It can also be run on Terminal Servers for access over the Web. It provides the following features: (i) Define as many different shifts as required – such as 4, 6, 8, 12-hour shifts including overlapping and staggered shifts (ii) Enter split-shift or multi-shift for an employee (iii) Create schedules for more than 6 months in advance (iv) Enter employees' availability into the system so it can account for when an employee is not available (v) Find a replacement employee quickly and easily when someone calls in sick thus eliminating avoidable overtime (vi) Role based access control will allow authorized supervisors to perform data input/modifications
5.	Automated system navigation must follow business process workflow.	R	Y	
6.	The system must have work list functionality. Work list functionality will include system generated notices of items due for action by a particular user. The system will default to the work list when a user logs in. While the actual work list items will be determined during functional design, a couple of examples of work list items are: NNNNNNN. When the vault count for a business day is complete, notify the Auditor that the day is ready for audit. OOOOOOO. When a day audit is more than X days old and has not been completed, notify the appropriate manager/supervisor.	O	N	This option is not included.
7.	The system must generate e-mail notices for certain events as identified in functional design.	R	Y	E-mail notifications can be configured as required for the events identified.
8.	Every transaction in the system must have a unique identifier.	R	Y	VECTOR 4G Tolls assigns a unique identifier to each transaction which will be unique throughout the system across all lanes.
	Total number of required/optional requirements	6/2	6/0	

2. System Architecture

#	Detailed Requirement	R/O	Y/N/M	COMMENTS
▪	The system employs client/server architecture with an intelligent workstation client accessing a central database through software on a server.	R	Y	The Contractor will provide VECTOR 4G Tolls as an Application Service Provider with browser based access to our Tarrytown, NY data center.



▪	The software is expandable and portable, with specific reference to the system capacity requirements presented in this Contract.	R	Y	The system is expandable with many options available outside the scope of the Contract including image based transactions and ETC transponders to name a few.
▪	The system is fully self-contained and capable of being operated by State staff with no dependency on Vendor services for its routine operation.	R	Y	The lane, plaza, and Host systems are fully manageable by the end-user without any intervention from the Contractor. The Host system from VECTOR 4G Host application is being offered as software as a service (SaaS) and will be managed by the Contractor with full insight and cooperation of MDOT.
▪	The system server is compatible with the State's technical architecture and is sized suitable for the system specified.	R	Y	The system will be sized for appropriate growth during the length of the contract and can be expanded should future needs change.
▪	The system is an open system, with no dependency on the use of specific models or models of equipment operating systems.	R	Y	The Contractor will be hosting the solution on the VECTOR 4G Host system and will work on the desktop infrastructure currently specified by the State of Michigan.
▪	The system is portable from one OS/RDBMS to another, i.e., from Unix to Windows 2000, or from one platform/OS to another, e.g., Sun Solaris to IBM AIX, etc.	O	N	This is a hosted application.
▪	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.	R	Y	The application will log all alterations to configuration and transactional status. The RDBMS will also use a low level change log.
	Total number of required/optional requirements	6/1	6/1	

3. Software Licensing

#	Detailed Requirement	R/O	Y/N/M	COMMENTS
▪	The software license is for perpetual use for a fixed fee without additional royalties or service fees, except for ongoing software maintenance.	R	M	<p>The Contractor will provide the proprietary VECTOR 4G Tolls lane software as delivered lane software with a perpetual license for the State to use the software for the Michigan bridges under this contract.</p> <p>The Contractor will also provide a limited license to the State to use XEROX' proprietary VECTOR 4G Tolls Central Host software as hosted software during the term of this contract for the purposes of this contract.</p> <p>Specific language for software licensing will be agreed to prior to contract award.</p>
▪	Source code ownership	R	M	The Contractor will deliver to Iron Mountain a Source Code Package for both the delivered lane software and hosted VECTOR 4G Tolls software to keep in escrow. Release from Escrow will include insolvency, liquidating its business or termination for default of its obligations under this contract.
	Total number of required/optional requirements	2/0	2/0	



4. Programming Language

#	Detailed Requirement	R/O	Y/N/M	COMMENTS
1.	The system's client applications are written in Java or .Net.	O	N	Web server components are in Java, lane systems are in C or C++
	The system offers Application Programming Interfaces (APIs) that enable the State to develop custom interfaces to all modules.	O	N	The hosted solution is capable of exposing web services to authorized users or applications as long as security and PCI compliance are maintained
	Total number of required/optional requirements	0/2	0/2	

5. Hardware

#	Detailed Requirement	R/O	Y/N/M	Comments
▪	The three bridges all have existing tolling hardware (e.g., gates, loops, treadles and patron displays). The state wishes to use these existing specialized peripherals if possible.	O	Y	The Contractor will replace the lane computers with the latest industrial PC and the interface (Relays and Power Supplies) panel for all lanes.
▪	All equipment supplied and/or supported under this contract must be configured in the most optimal manner and in conformance with MDIT standards.	R	Y	All the equipment will comply with DTMB standards or exceed .
Vendor's recommended hardware platform/topology provides for optimal functioning in the following areas:				
▪	<ul style="list-style-type: none"> Communication line speed for distributed entry functions and major online processes of departments and offices located in various areas of the State. 	O	N	This option is not included.
▪	<ul style="list-style-type: none"> Processing the volumes presented and any increases in volume that can be expected through the implementation of the proposed system. 	O	Y	The Contract designs to a minimum of 2X spare capacity for future increases.
▪	<ul style="list-style-type: none"> Remote access and administration 	O	Y	Using Cisco's client and having the security clearance the staff will have remote access and be able to perform administration capabilities.
▪	<ul style="list-style-type: none"> Application installation, administration and support 	O	Y	The Contractor will support all application installations and provide scripts for the installation process.
▪	<ul style="list-style-type: none"> Support for a variety of TCP/IP network configurations 	O	Y	Vector 4G Tolls supports a variety of TCP/IP configurations the specific network configuration will be determined during the detail design.
▪	<ul style="list-style-type: none"> Support wireless LAN and WAN configurations that support TCP/IP. 	O	Y	Vector 4G Tolls supports a variety wireless configurations for TCP/IP network configuration.
▪	System hardware must be compatible on all three bridges.	R	Y	The system hardware supplied for each toll lane will be identical for all three bridge toll collection systems.



#	Detailed Requirement	R/O	Y/N/M	Comments
▪	Wherever possible, the system hardware should use touch screen technology.	R	Y	The Contractor will reuse the existing toll collector touch screen terminal, and will configure the toll lane software to accommodate future changes in the toll collector touch terminal hardware. The specific touch screens terminals will be identified during the detail design period.
▪	Bridge hardware must be compatible on all three bridges.	R	Y	The bridge hardware, lane computers, credit card terminal, and lane electronics supplied for each toll lane will be identical for all three bridge toll collection systems.
▪	The bridge hardware must be off-the-shelf and available through multiple retailers and the vendor must provide timely hardware replacement when failures occur.	R	Y	All the bridge hardware will be available from at least two vendors. For example the toll collector touch screen terminal the Contractor can accommodate either Elo Touch Terminal or Computer Dynamics from GE. The credit card terminal that the Contractor has suggested is a Hypercon but the system will also accommodate VeriFone terminals.
▪	The toll lane equipment must remain operational in a harsh environment where outdoor temperatures may vary from 50 below to 110 above zero Fahrenheit and where there may be exposure to moisture and high winds.	R	Y	The Contractor will reuse all existing toll lane hardware. When a Bridge wishes to replace existing toll lane equipment operating in the harsh environment the Contractor will accommodate those requirements for replacement equipment.
▪	The bridge hardware vendor must begin addressing reported problems within 24 hours of receiving a problem notice and must be available to address problems 24 hours a day, 7 days a week, 365 days a year.	R	Y	The Contractor will address bridge hardware problems when they receive notice of a reported problem within 24 hours of receiving a problem notice and they will be available to address those problems 24 hours a day, 7 days a week, 365 days a year.
▪	All equipment supplied and/or supported under this contract must be configured in the most optimal manner and in conformance with MDIT standards.	R	Y	All equipment supplied as part of the contract shall be in conformance with DTMB standards
Vendor's recommended hardware platform/topology provides for optimal functioning in the following areas:				
▪	<ul style="list-style-type: none"> Communication line speed for distributed entry functions and major online processes of departments and offices located in various areas of the State. 	O	N	This option is not included.
▪	<ul style="list-style-type: none"> Processing the volumes presented and any increases in volume that can be expected through the implementation of the proposed system. 	O	Y	The Contractor system is design to have a minimum of 2X spare capacity for future increases.
▪	<ul style="list-style-type: none"> Remote access and administration 	O	Y	Using Cisco's client and having the security clearance the staff will have remote access and be able to perform administration capabilities.
▪	<ul style="list-style-type: none"> Application installation, administration and support 	O	Y	The Contractor will support all application installations and provide scripts for the installation process.



#	Detailed Requirement	R/O	Y/N/M	Comments
▪	<ul style="list-style-type: none"> Support for a variety of TCP/IP network configurations 	O	Y	Vector 4G Tolls supports a variety of TCP/IP configurations the specific network configuration will be determined during the detail design
▪	<ul style="list-style-type: none"> Support wireless LAN and WAN configurations that support TCP/IP. 	O	Y	Vector 4G Tolls supports a variety of wireless LAN and WAN configurations the specific wireless device configuration will be determined during the detail design.
	Total number of required/optional requirements	8/13	8/11	

6. Database Management

#	Detailed Requirement	R/O	Y/N/M	COMMENTS
•	The system is available with State's standard relational database management system	R	Y	The hosted application will use oracle 11g or higher
•	Full-text indexing and a full-text database search feature are available to provide easy retrieval of records.	O	Y	The hosted application provides these features
	Total number of required/optional requirements	1/1	1/1	

7. Computer Security and Access Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
•	The system must comply with all DTMB/MDOT enterprise security standards for actor security.	R	Y	T VECTOR 4G Tolls was designed with great emphasis on enterprise security standards with following active directory and single sign on capabilities as required.
•	The system must comply with all DTMB/MDOT database and security standards.	R	Y	VECTOR 4G Tolls was built on the best database and security standards followed in the industry
•	The system provides security at database, workstation, and individual operator levels.	R	Y	Yes, the system security is provided at each level
•	The system provides secure access control based upon unique user login, for types of record (e.g., fund, order) as well as by function performed upon the record (e.g., Display, Add, Edit, Delete.)	R	Y	VECTOR 4G Tolls includes a Role Based Access Control (RBAC) system with permissions appropriate for each function.
•	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	R	Y	The access to the system functions is controlled by the roles assigned to the user, which allows to enable only the authorized clients functions to enables based on the user profile.
•	The system provides varying levels of access within the application, such as administrators, view only, or scheduling only.	R	Y	This is provided through the Role Based Access Control.
	Total number of required/optional requirements	6/0	6/0	



8. Security/Password Controls

#	Detailed Requirement	R/O	Y/N/M	Comments
1.	The system provides an enforced minimum length for passwords.	R	Y	VECTOR 4G Tolls enforces minimum length for passwords for user access. The default minimum is 8 characters.
2.	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.	R	Y	VECTOR 4G Tolls enforces password renewal on a periodic basis. The default values are 65 days for regular users and 45 days for power users.
3.	The system provides users with the capability to change their own passwords.	R	Y	VECTOR 4G Tolls provides users capability to change their own passwords.
4.	The system disables user ID's after a specified number (3) of consecutive invalid login attempts.	R	Y	VECTOR 4G Tolls disables user ID's after a specified number of consecutive invalid log-in attempts. The default value is 5 invalid attempts.
5.	The system enters passwords in a non-display field.	R	Y	VECTOR 4G Tolls provides entering of password on a masked screen.
6.	The system encrypts passwords when they are routed over the network.	R	Y	VECTOR 4G Tolls encrypts passwords when they are routed over the network.
7.	The system encrypts passwords in system storage.	R	Y	VECTOR 4G Tolls encrypts passwords in the system storage.
8.	<p>Passwords must meet the following complexity requirements. Passwords:</p> <ul style="list-style-type: none"> PPPPPPP. May not be based on the user's account name QQQQQQQ. Must contain at least eight characters RRRRRRR. Must contain characters from three of the following four categories: <ul style="list-style-type: none"> j. Uppercase letters (A-Z) k. Lowercase letters (a-z) l. Numbers (0-9) a. Special characters (for example, ! \$ # %) 	R	Y	VECTOR 4G Tolls allows for putting outlined restrictions on selection of user passwords.
9.	The maximum password age is 120 days (i.e., a password may not be used for longer than 120 days).	R	Y	VECTOR 4G Tolls enforces password renewal well before 120 days. The default values are 65 days for regular users and 45 days for power users.
10.	The minimum password age is 1 day (i.e., a user may not change his/her password more than once in a 24-hour period).	R	Y	VECTOR 4G Tolls allows password minimum age to be 1 day. This value is configurable.
11.	To ensure that passwords are not repeated within a period of time, the password history limit is 10. This means that when a user creates a new password, he/she may not select one that is one of their 10 most recently used passwords.	R	Y	VECTOR 4G Tolls prohibits users from using recent passwords list. The number of historic passwords restricted for use is configurable.
12.	Users will be locked out of an account (prevented from accessing it) after 5 invalid login attempts.	R	Y	Yes. VECTOR 4G Tolls disables user ID's after a specified number of consecutive invalid log-in attempts. The default value is 5 invalid attempts.
13.	After a lockout, the account may not be automatically unlocked in fewer than 30 minutes (i.e., the account may be unlocked by the Client Service Center or a system administrator at any time).	R	Y	VECTOR 4G Tolls prohibits the account to automatically unlock immediately and the time for which the prohibition exists is configurable.
	Total number of required/optional requirements	13/0	13/0	



9. Security/Activity Logging

#	Detailed Requirement	R/O	Y/N/M	Comments
ARTICLE	The system logs unauthorized access attempts by date, time, user ID, device and location.	R	Y	VECTOR 4G Tolls logs all, authorized as well as unauthorized, access attempts by date, time, user, ID, device, and location.
ARTICLE	The system maintains an audit trail of all security maintenance performed by date, time, user ID, device and location, with easy access to information.	R	Y	Yes. VECTOR 4G Tolls keeps detailed reports and records audit trail of all performance
ARTICLE	Provides security reports of users and access levels.	R	Y	VECTOR 4G Tolls provides detailed reports outlining users, their identified roles, and allowed access privileges.
ARTICLE	Provides detailed reports of backups completed and backups failed.	R	Y	VECTOR 4G Tolls maintains detailed reports of backups completed and failed.
	Total number of required/optional requirements	4/0	4/0	

10. Software Package Specifications

#	Detailed Requirement	R/O	Y/N/M	Comments
1.	Systems currently in development at MDOT are written in Java and .Net. Preference will be given to solutions developed with one of those languages.	O	Y	Java is extensively used in VECTOR 4G Tolls.
2.	The software uses an industry standard relational database management system	R	Y	Oracle is the standard database management system used in VECTOR 4G Tolls.
3.	The software will operate effectively on state hardware as defined by Vendor with Vendor-supplied upgrade recommendations.	R	Y	VECTOR 4G is using standard hardware available for purchase for everyone.
4.	The software operates in a recognized industry standard operating environment.	R	Y	Yes VECTOR 4G Tolls meets this requirement
5.	The software allows the state, from PC workstations, to access and update all necessary information to complete a transaction.	R	Y	VECTOR 4G Tolls uses a browser based solution, so this allows for users to access the system and complete the transactions from a browser.
6.	The software allows for the accurate and timely input and extraction of state data.	R	Y	Yes VECTOR 4G Tolls meet this requirement
7.	The software allows for processing of all identified state business.	R	Y	Yes VECTOR 4G Tolls meet this requirement
8.	The software provides identified data reporting capabilities.	R	Y	Yes VECTOR 4G Tolls meet this requirement
9.	The software provides a Graphical User Interface (GUI) that is user-friendly and provides data, calculation, reporting, and communication capabilities to State users.	R	Y	VECTOR 4G Tolls meets these requirements and is currently in use at other toll authorities for years to provide similar functions.
10.	The system is modular in design to accommodate phased implementation and future expansion.	R	Y	VECTOR 4G Tolls is based on a modular design since the original system was introduced 18 years ago.



#	Detailed Requirement	R/O	Y/N/M	Comments
11.	The modularity allows the capabilities of the core systems to function without the entire system complement.	R	Y	The modular design provide the features in VECTOR 4G Tolls required for the contract requirements. Other modules such as image based violation enforcement can be integrated later and are not dependent on the entire system configuration.
12.	Additional modules may be integrated into the system without a major impact to the installed components.	R	Y	This modularity is designed into VECTOR 4G Tolls based on experience from the prior versions.
13.	All modules of the system are integrated and designed to work together using a single input and a common database with no redundant data entry or data storage.	R	Y	Usability is built into VECTOR 4G Tolls to eliminate data entry and share information from the various modules to allow single entry.
14.	The system supports paperless processing through the use of electronic documents that are routed for electronic signatures through user-defined approval paths.	O	Y	VECTOR 4G Tolls is built on Siebel CRM and will retain history of all workflow routing. Seibel is part of the base solution as are electronic financial approvals through the browser based interface and the attachment of electronic documents to the account. Document scanners are not included in the cost of the proposal but the capability to use scanned documents is built into VECTOR 4G.
15.	The system prevents transaction data from being posted in the system unless all members on the approval path have approved the associated electronic document.	R	Y	Siebel workflows allows to build the required approvals into the workflow
16.	The system has the ability to accept and output transactions in standard electronic data interchange (EDI) formats.	O	Y	Most of the data exchanges in the system are based on EDI formats.
17.	The system has the ability to accept batch entry from external sources while ensuring the same edits and validations as the online system.	O	Y	VECTOR 4G Tolls fully supports external batch interfaces and includes full validation
18.	Response times, at local and remote sites, for the major on-line processes stated above will meet business requirements.	R	Y	Yes the response times at local and remote sites will be met to provide the business requirements
19.	The software provides the capability of transferring data to and from the host/server to the client for processing on other software packages.	R	Y	The reporting capabilities include export to Excel which is commonly used by users to customize presentation of the information outside of the delivered system.
20.	The system provides the capability to access scanned images that are attached to various elements of the database.	O	Y	This functionality is available in VECTOR 4G Tolls which allows files to be viewed concurrently with customer information.
21.	The system provides the capability for expansion in order to take advantage of technology such as optical scanning and imaging in order to reduce data entry workload.	O	Y	This is a built-in capability of VECTOR 4G Tolls used by other customers already to attach correspondence to the customer account management.
	Total number of required/optional requirements	15/6	15/6	



11. Reporting Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
•	The system must produce reports for both internal and external customers.	R	Y	Yes, the reports can be run for all customers available in the database.
•	The user must be able to enter date ranges for selected reports as identified in functional design.	R	Y	Most of the reports accept data ranges as parameters to run them
•	The system must produce reports in .pdf, Excel or both as identified in functional design.	R	Y	All reports can be exported into PDF and Excel formats.
•	The system must automatically generate certain reports based on events as identified in functional design.	R	Y	Reports can be scheduled to run automatically as desired.
•	The system must provide the ability to generate: SSSSSSS. static reports with pre-determined formatting and data population TTTTTTT. dynamic reports where users can select from pre-determined data sets and can perform some sorts and filtering UUUUUUU.ad hoc reports	R	Y	Crystal reports is the reporting tool Contractor use, which provided all the capabilities to do static, dynamic and ad hoc reports
•	The system must allow a user to preview reports before printing them.	R	Y	Yes, VECTOR 4G Tolls allows you to preview before printing.
•	The system must generate reports including but not limited to the following broad categories: A. Pre Audit B. Traffic C. Lane Activity D. Supervisor Statistics E. Vehicle Statistics F. Toll Collector Assessment G. Vault Counter Assessment H. Auditor Assessment I. Point of Sale User Assessment J. Pre Paid Accounts (including statements) K. Financial Management L. Bridge Management	R	Y	VECTOR 4G Tolls will provide the reports in all these categories
•	The system includes ad-hoc query and reporting tools.	R	Y	Crystal reports tool supports ad hoc queries and reports.
•	The online query capability enables non-technical end-users to extract information.	O	Y	Yes, the crystal query tool allows you to extract required information
The standard (e.g., regularly scheduled, recurring) reporting environment allows:				
•	• Standard reports to be scheduled, executed, viewed on-line, printed (centrally or remotely) and dispersed (including the use of report distribution management software)	R	Y	All these functions are available in the reporting system.
•	• Offices and work locations to control which standard reports they do and do not receive.	O	Y	The reports a user can view or run depends on the privileges provided to that user, which can include location as one of the parameters.
•	• The State to control the information that appears on standard reports so that data security is maintained.	O	N	This option is not included.
The system provides:				



#	Detailed Requirement	R/O	Y/N/M	Comments
•	- Methods for retaining and modifying previously built queries	O	Y	Crystal reports tool allows the staff to do this.
•	- 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.)	O	N	This option is not included.
•	- The use of transaction databases, external files, or a "data warehouse" for ad-hoc reporting	O	N	This option is not included.
	Total number of required/optional requirements	9/6	9/3	

12. Audit Trail

#	Detailed Requirement	R/O	Y/N/M	Comments
(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.	R	Y	Only authorized users may perform this function and it is controlled through roles and permissions for each function.
(b)	The system's internal control functionality ensures that the data entry and processing associated with a business event has been completed before updating the database.	R	Y	All transaction functions are validated prior to committing to the database.
	Total number of required/optional requirements	2/0	2/0	

13. Edit and Validation Control

#	Detailed Requirement	R/O	Y/N/M	Comments
A.	The system includes comprehensive field edits to prevent incomplete or incorrect data from entering the system.	R	Y	There are checks on fields to prevent entering incorrect data as required.
B.	The system ensures data integrity and controls processing without hard-coded logic.	R	Y	VECTOR 4G Tolls is a rule based system that provides configurable settings for data entry fields.
	Total number of required/optional requirements	2/0	2/0	

14. Environment

#	Detailed Requirement	R/O	Y/N/M	Comments
•	The state of Michigan would prefer to own the source code and host the application in one of its Lansing-area hosting centers. However, the state will also consider having the vendor host the application in an appropriate hosting center environment that has implemented standardized change management practices.	O	M	The Contractor will deliver to Iron Mountain a Source Code Package for both the delivered lane software and hosted portion of VECTOR 4G Tolls software to keep in escrow. Release from Escrow will include insolvency, liquidating its business or termination for default of its obligations under this contract.



#	Detailed Requirement	R/O	Y/N/M	Comments
<p>Note: The remaining requirements in this section apply to applications hosted at a vendor site.</p> <p>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:</p>				
•	<ul style="list-style-type: none"> - Restrict perimeter access to equipment sites, State-specified processing and storage areas, and storage areas through a card key or other comparable system, 	R	Y	The proposed Contractor hosted system site is our Tarrytown NY facility which is Tier 4 datacenter. All site access is restricted to authorized personnel. Authorized access is permitted through card key identification and all entry access areas are staffed by security guards. All entry to the facility by card key is recorded for accountability.
•	<ul style="list-style-type: none"> - Provide accountability control to record access attempts, including attempts of unauthorized access. 	R	Y	The proposed Contractor hosted system site is our Tarrytown NY facility which is Tier 4 datacenter. All site access is restricted to authorized personnel. Authorized access is permitted through card key identification and all entry access areas are staffed by security guards. All entry to the facility by card key is recorded for accountability.
•	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.	R	Y	The proposed Contractor hosted system site is our Tarrytown NY facility which is Tier 4 datacenter. As Tier 4 datacenter it meets all the requirements of the TIA-942 standard for safeguards for fire prevention, security alarms, back-up power, environmental controls for temperature and humidity
•	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.	R	Y	The proposed Contractor hosted site is certified PCI and SAS70 Type II audits are conducted by Grant Thornton LLP.
	Total number of required/optional requirements	4/1	4/1	

15. User Interface Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
•	Toll lane interfaces must be easy to see in a variety of light levels, from full sun to limited light.	R	Y	The Contractor is proposing to reuse the TP 8000s, which are standard commercial touch screen interfaces, demonstrated to function successfully in tolling environments, including variations in lighting levels.
•	The system must employ touch screen technology where ever feasible.	R	Y	The Contractor is proposing to reuse the Posiflex TP 8000s for the in-lane collector interface.
	Total number of required/optional requirements	2/0	2/0	



16. System Interface Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
1.	The Office Point of Sale module must accept imports of charts of accounts from accounting software used by the bridges.	O	Y	The Office POS will accept import from chart of accounts and export sales to the ledger accounts at the bridges for QuickBooks and PeachTree.
2.	The system must export audited accounting entries and other transactions as identified in functional design to the bridge accounting software.	O	Y	The Office POS will accept import from chart of accounts and export sales to the ledger accounts at the bridges for QuickBooks and PeachTree.
3.	The system must export pre-paid account information to the card printing systems on the bridges.	R	Y	VECTOR 4G Tolls provides exports of managed accounts information appropriate to the security requirements of the system for various interfaces and will provide an export for the card printing systems.
4.	The system must use the state or province standard software to process web financial transactions, wherever applicable.	R	Y	Contractor will use the web financial transaction interface required for the state or province and provide reconciliation reports for each.
5.	The system must export time keeping data to DCDS.	O	N	Not included in the base solution.
6.	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.	O	Y	Data can be exchanged through multiple interface types including file based transfers including FTP or SFTP and web service interfaces. Specific interface utilities can be provided once the exchange process is determined during design.
7.	The system must provide real-time data transfer of identified data.	R	Y	Real time data transfer of identified data occurs on appropriate interfaces such as toll transaction processing, system monitoring and replenishment of account balances as examples.
8.	The system must send all operational data and reference tables to the data warehouse. Data should be loaded on a predefined timetable. The client machines in the toll booths should be able to work offline and then synchronize data at a later time.	R	Y	VECTOR 4G Tolls includes batch processing interfaces which will be used to populate tables in the data warehouse. Toll processing equipment in the lanes is designed to operate even when communications are lost with the servers at the plaza or data center. Data will be synchronized when communications are restored.
9.	Any electronic payment transaction processing must be payment card industry (PCI) compliant.	R	Y	All systems are PCI Compliant and 3 rd party devices using card information will be compliant with the standards required to maintain PCI compliance across the entire electronic payment processing system.
	Total number of required/optional requirements	5/4	5/4	

17. Capacity

#	Detailed Requirement	R/O	Y/N/M	Comments
•	The system should be able to support 1.5x the peak number of concurrent users in order to provide sufficient capacity for growth. The estimated number of concurrent users of the web portion of the system is 100.	R	Y	VECTOR 4G Tolls supports more than 100 concurrent users, and it is scalable well beyond 1.5 times the stated requirement. It is configurable at the time of installation based on the load.
	Total number of required/optional requirements	1/0	1/0	



18. System Auditing

#	Detailed Requirement	R/O	Y/N/M	Comments
•	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.	R	Y	Contractor shall follow strict change management process, all the releases goes through that process and the Contractor maintains the version control along with the issues resolved in that release and date time of the release was done including database changes.
•	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.	R	Y	VECTOR 4G Tolls has the capability to log all system events into log files and are available for debugging purposes. Even lane failures and hardware failures generate alarms for automatic work order generation.
•	The system offers the ability to query, view, filter, and sort the system audit trail. The system is able to store the queries.	O	N	This option is not included.
•	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.).	O	N	This option is not included.
•	The system has the ability to audit all override of edits and audits and identify the login ID, date, and time.	R	Y	All edits and override of edits are logged in the VECTOR 4G Tolls system including login ID and timestamp.
	Total number of required/optional requirements	3/2	3/0	

19. Error Handling

#	Detailed Requirement	R/O	Y/N/M	Comments
•	The system must ensure that all errors are written to an error log.	R	Y	VECTOR 4G Tolls provides multiple layers of error recording, including the operating system level, the process level and the application level. Lane application errors are transferred to the plaza system where they are recorded in a database.
•	The system must allow for an administrator to view, filter, sort, and search the error log.	O	Y	The application errors can be viewed, filtered, sorted and searched via the plaza workstation GUI, a web-based thin client application. For OS and process errors, standard ASCII editors in conjunction with command line options can be used to view and search the logs.
•	The system must allow for an administrator to archive error log entries based upon user-defined criteria.	O	Y	OS and process level error logs can be configured to adjust retention periods and archive processing can be customized by the user (using standard Linux OS administrative processes and tools). Application level errors can be archived as needed via the database administration processes.
•	The system must allow for a user to define an alert message to be executed upon the occurrence of an error.	O	Y	The system provides configurable tables that enable an administrator or other authenticated user to define the alert message text, priority, and other attributes for the available errors.
	Total number of required/optional requirements	1/3	1/3	



20.Backup and Recovery

#	Detailed Requirement	R/O	Y/N/M	Comments
	<ul style="list-style-type: none"> The toll lane software must be configured to generate and save transactions to the local machines in the toll booth if the network goes down. When the network is back up, the system must poll the local toll booth machines for the saved transactions. 	R	Y	The Contractor Lane Controller software is capable of generating and saving transactions up to 30 days, in case of loss of communications with the back office. Such transactions are stored by the lane controller and are transferred once the communications are resumed.
	<ul style="list-style-type: none"> The system must perform full daily database backup and hourly incremental database backup or functional equivalent. 	R	Y	The Contractor IT technical staff designs back up schemes for each project and accomplish the backup activities through a series of job scripts to ensure automated backup. The back office databases, application servers, and production application data files will be backed up on daily basis, in addition to specific periodic backups for specific applications.
	<ul style="list-style-type: none"> The daily backup must be to an offsite facility. 	R	Y	Yes, the back up will be at an offsite facility
	<ul style="list-style-type: none"> The system must comply with DTMB/MDOT standards for data archiving and purging. 	R	Y	The Contractor solution will comply with DTMB/MDOT standards for data archiving and purging. This period is configurable and will be consist with DTMB/MDOT requirements.
	<ul style="list-style-type: none"> The system must have high availability/redundant infrastructure that will provide zero downtime. 	R	Y	The Contractor shall provide a robust, high availability, and fully redundant solution for zero downtime.
	<ul style="list-style-type: none"> In the event of failure, the system must recover data from the latest incremental backup. 	R	Y	In the event of failure, the system will recover data from the latest back up and redundancy mechanism.
	<ul style="list-style-type: none"> The system has the ability to provide point-in-time recovery of data to the last completed transaction. 	R	Y	The system backup is comprehensive and can provide point-in-time recovery to the last transaction.
	<ul style="list-style-type: none"> The system has the ability to allow for continued use of the system during backup. 	R	Y	VECTOR 4G Tolls has the ability to allow for continued use of the system during back-up
	<ul style="list-style-type: none"> The system has the ability to provide a complete backup and recovery process for all database tables and system files. 	R	Y	All database tables, application servers, and production application data files will be backed up.
	<ul style="list-style-type: none"> The back up and archival features of the system proposed can be initiated automatically or by manual request. 	R	Y	The system backup solution will be done automatically by default and will support manual initiation as well.
	Total number of required/optional requirements	10/0	10/0	

21.Input and Output Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
	The system must accept the entry of toll prices in both US and Canadian amounts.	R	M	The system currently accepts US amounts and the Contractor will make modifications to allow each location to have separate rates for US and Canadian currency.



#	Detailed Requirement	R/O	Y/N/M	Comments
	The system must accept the entry of vehicle classification types.	R	Y	The VECTOR 4G Tolls allows collectors to enter vehicle classification types, including axle based, profile-based, or other definitions as required by different agencies.
	The system must accept the entry of axle counts.	R	Y	Axle counts are input into the system via the in-lane treadles and can also be entered by the collector.
	The system must accept the entry of tolls, fees and other charges made.	R	Y	Tolls, fees and other charges can be entered via the collector application.
	The system must accept the entry of tolls, fees and other payments made.	R	Y	Payments can be entered into the system via card readers, AVI subsystems or via the collector's touch screen interface.
	The system must accept entry of payment methods.	R	Y	The system accepts payment methods, including debit/credit cards, cash, scrip, etc.
	The system must accept deposits to pre-paid accounts.	R	M	Deposits are already accepted by the VECTOR 4G Tolls user interfaces and will be enhanced at the Toll Lanes to accept deposits to accounts using a web services interface to the Central Host via the Plaza system.
	The system must accept the entry of an amount tendered.	R	Y	The amount tendered can be entered via the collector's touch screen.
	The system must accept corrections to erroneous vehicle classifications	R	Y	Classifications can be adjusted via the collector's touch screen interface, if entered incorrectly.
	The system must allow the Toll Collector to record an unusual event.	R	Y	The system allows the collector to record unusual events via the touch screen terminal.
	The system must produce receipts in the toll lanes.	R	Y	Receipts are produced in the toll lanes for transactions that are generated.
	The system must accept the entry of a receipt footer to be printed on the bottom of a receipt.	O	Y	A configurable file allows the header and footer data of the receipts to be customized, as needed by the agency.
	The system must accept the entry of special offers and informational notices to be printed on the back of receipts.	O	Y	Contractor assume that the special offers and informational notices are preprinted on the back of the receipt.
	The system must accept the entry of staff schedules.	O	N	This option is not included.
	The system must export time keeping data to DCDS.	O	N	This option is not included.
	The system must display alarms when certain conditions are met in the toll lanes.	R	Y	Alarms are forwarded from the lanes and displayed on the Supervisor screen (a web-based thin-client).
	The system must produce hourly traffic statistics and reports.	R	Y	Standard reports are provided at the Plaza and Central Host levels to report traffic statistics. The Plaza Monitor includes a Traffic Trends screen which displays hourly traffic data in graphical form by lane, traffic direction, or the entire plaza.



#	Detailed Requirement	R/O	Y/N/M	Comments
	The system must allow the Supervisor to enter comments about unusual occurrences.	R	M	All unusual occurrences are flagged at the lane. Messages are submitted to the Plaza and Host systems, are, displayed in the Plaza Monitor window and available on the Unusual Occurrence report. Plaza Monitor application will be modified, so that Supervisor will be able to add comments about unusual occurrences.
	The system must accept the entry of pre-paid account data including but not limited to: <ul style="list-style-type: none"> - Account Owner identifying information - Account type - Account starting balance - Deposits - Transaction based debits - Tolerance amount - Timeframes for account inactivation, expiration and/or closure for non-activity - Assigned account cards - Vehicle classification, if applicable 	R	Y	Prepaid accounts are managed by the VECTOR 4G Tolls Customer Account Management System (CAMS). Owner information is entered when the account is established and may be updated by authorized users. The following features are provided to each account by default: <ul style="list-style-type: none"> • Account Type (Private, Business, Non-revenue No Fee, and Business with Government Plan) • Contact Name • Password Challenge question and answer • Address and address type (Shipping and Mailing) • Phone and phone type (Day, Night, Cell and Fax) • Email Address • Statement Period (Monthly, Quarterly) • Correspondence Delivery Method (Mail, Email) • Close Date • User Name (is available only on Web) <p>1) Pre-paid and Post-paid flag Account balances are maintained for each account owned by a customer. All deposits and transactions are recorded against the customer account and individual account cards are tracked on each account.</p> <p>Vehicles are also maintained on each account including make, model, license plate number and vehicle classification.</p>
	The system must produce pre-paid account statements.	R	Y	This is a standard feature of VECTOR 4G Tolls and can be generated on demand.
	The system must accept the entry prices for inventorial and non-inventorial items for sale.	R	Y	The Office POS will allow the entry of inventorial and non-inventorial items for each bridge.



#	Detailed Requirement	R/O	Y/N/M	Comments
	The system must accept entry of sales taxes.	R	Y	The Office POS will allow the entry of several types of taxes to be applied including sales tax and is configurable by authorized personnel located at each site.
	The system must accept the entry of shipping charges.	R	Y	Shipping charges may be entered at the Office POS or the VECTOR 4G Tolls system as part of the account management process.
	The system must accept the entry of fee descriptions and prices.	R	Y	All fees elements in VECTOR 4G Tolls and the Office POS accept descriptions and entries of fee items and may be modified by authorized personnel.
	The system must accept the entry of permit descriptions and prices.	R	Y	The Office POS is fully configurable and is designed to accept descriptions and prices of services and non-merchandise items such as permits. A full screen hierarchy will be designed for each bridge to allow individual permits to be selected quickly with programmable buttons that are linked to the permit and will display description and price on the receipt.
	The system must accept the entry of miscellaneous forms of receipts and charges, such as rent checks, special event fees, bridge use permit fees, etc.	R	Y	The Office POS is fully configurable and is designed to accept descriptions and prices of services and non-merchandise fees. A full screen hierarchy will be designed for each bridge to allow individual fees and charges to be selected quickly with programmable buttons that are linked to the permit and will display description and price on the receipt.
	The system must produce receipts at the point of sale locations.	R	Y	Receipts may be printed by the Office POS and are available in VECTOR 4G Tolls for printing by authorized users.
	The system must accept the entry of check information.	R	Y	Information may be entered into the Office POS when a check is tendered. VECTOR 4G Tolls will accept check information as part of a payment by mail or walk in.
	The system must accept the import of a chart of accounts from the bridge accounting software.	O	Y	The Office POS will except the chart of accounts from QuickBooks and Peachtree and link sales to appropriate accounts in the Ledger. The account numbers may be modified later by an authorized user of the POS.
	The system must export audited accounting entries and other transactions as identified in functional design to the bridge accounting software.	O	Y	The Office POS will export daily transaction information to QuickBooks and Peachtree and can produce electronic versions of reports for import to external systems.
	The system must accept the definition/timeframe of a business day for each bridge.	R	Y	Each Plaza server will operate on a configurable business day timeframe and is configurable independently from the other sites.



#	Detailed Requirement	R/O	Y/N/M	Comments
	The system must accept the entry of information that identifies a collection bag.	R	Y	Each collection bag will be identified by number in the Plaza system. Each bag can be tracked in the system.
	The system must accept the entry of the count of the contents of a collection bag.	R	Y	Entry of currency will be separated by denomination for both the Toll Lane POS and the Office POS.
	The system must allow the entry of the count of all collection bags together.	R	Y	Supervisor can assign the bags to collectors in the bag assignment screen and can view all the bags assigned to the collectors. Money room clerk has the capability to make deposit for multiple bags or single bag together.
	The system must allow the entry of counts of different types of currency.	R	M	The Plaza Host will be modified to allow the entry of US and Canadian currency collected during each Tour of Duty. Entry of currency will be separated by denomination for both the Toll Lane POS and the Office POS.
	The system must allow the vault counter to enter comments.	R	Y	The vault counter can enter comments for each count that will be reflected on the vault history reports.
	The system must accept the entry of an exchange rate for Canadian currency	R	M	The exchange rate will be entered as required as a modification on the fare management screens.
	The system must produce deposit slips and deposit reports.	R	Y	Deposit reports are provided with VECTOR 4G Tolls and deposit slips will be generated as part of the daily close out process.
	The system must produce lists of checks.	R	Y	VECTOR 4G Tolls supports cash and Check deposits and report can be generated against cash versus check deposit.
	The system must produce customs declarations forms.	R	M	VECTOR 4G Tolls provides standard resources for each location and the customs declarations will be made available.
	The system must accept an explanation of fault.	R	Y	Fault explanations may be entered in VECTOR 4G Tolls auditing screens.
	The system must allow an Auditor to enter comments.	R	Y	Auditors are provided with comment entry fields as part of the normal auditing process. Audit comments are displayed on the system audit reports.
	The system must accept adjustments to vehicle, traffic and financial discrepancies.	R	Y	Auditors are provided with a screen to adjust differences in traffic counts, vehicle types and financial discrepancies.
	The system must produce reports as identified during functional design.	R	Y	VECTOR 4G Tolls will generate a full suite of reports using Crystal Reports. Reports will be modified during the functional design as needed.
	Total number of required/optional requirements	39/6	39/4	



22. Performance Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
1.	The system must be available 24 hours a day, 7 days a week, and 365 days a year.	R	Y	The Contractor will provide a solution that provides 24/7/365 availability via providing a high availability solution and ensuring that adequate redundancy is introduced where required to continue revenue collections.
2.	The non-public portion of the system must support the activities of up to 50 users simultaneously.	R	Y	Yes, the non-public portion of the system supports 50 users simultaneously and can be increased as required.
3.	The public website portion of the system must support 50-100 users simultaneously.	R	Y	Yes, the public website portion of the system supports 50-100 users simultaneously and can be increased as required.
4.	The system must enable a Toll Collector to perform a routine vehicle classification within the system in less than 2 seconds.	R	Y	Classification processing can be completed within 2 seconds, as the responses from the collector interface are near-real-time (on the order of milliseconds).
5.	At a minimum, the system must accommodate the following yearly traffic volumes on each bridge: VVVVVVV. Blue Water Bridge 3,821,166 WWWWWWWW. International 1,900,000 XXXXXXXX. Mackinac 10,000,000 Note: Figures are based on 2008 vehicle counts for each bridge.	R	Y	VECTOR 4G Tolls is highly scalable, supporting back office systems that process over 1 million transactions per day and multi-lane subsystems that process over 100,000 transactions per day with a single controller. The Contractor will size the system to ensure that it meets and exceeds the projected volumes at each bridge.
6.	The system must be able to accommodate peak traffic volumes caused by commuter hours, holidays, special events and seasonal usage.	R	Y	VECTOR 4G Tolls is proven to support high volume peak traffic hours at some of the busiest tolling location in the US.
	Total number of required/optional requirements	6/0	6/0	
	Total number of Y/N/M responses	##/##/##	6/0/0	

23. Preliminary Implementation Requirements

#	Detailed Requirement	R/O	Y/N/M	Comments
	Existing commuter, business and quick accounts must be converted, with no change to existing customer cards (including but not limited to existing presold cards - proximity, magnetic, etc.) If changes are necessary, the system must except existing cards and provide for a change methodology	R	Y	All the existing commuter, business and quick accounts will be converted into the new VECTOR 4G Tolls system. If changes are required, it can be discussed during system design.
	Existing data must be saved in a manner that is easily accessible for reporting or review purposes.	R	Y	The migrated data will be available for reporting and review.
	Total number of required/optional requirements	2/0	2/0	



Appendix C – RESERVED

Appendix D – RESERVED

Appendix E – RESERVED



Appendix F – Cost Tables

Table 1: Summary of the Project Cost

One Time Project Costs			
Item	Project Cost(s)	Total (\$)	Comments
A.	COTS, Initiation and Planning One-time cost of vendor’s proposed COTS or configurable software package, if applicable. Licensing pricing to be provided in section M.	\$224,978.99	
B.	Application Design - Functional (New application or customization of COTS) Give breakdown in Table 2	\$94,182.12	
C.	Application Design - System (New application or customization of COTS) Give breakdown in Table 2	\$94,087.12	
D.	Application Construction (New application or customization of COTS) Give breakdown in Table 2	\$267,891.41	
E.	Testing (New application or customization of COTS) Give breakdown in Table 2	\$176,539.32	
F.	Implementation (New application or customization of COTS) Give breakdown in Table 2	\$457,246.96	
G.	Training Give breakdown in Table 3	\$144,202.51	
H.	Technical Documentation Give breakdown in Table 4	\$336,406.74	
I.	Knowledge Transfer/Transition Give breakdown in Table 5	\$52,530.10	
J.	Warranty Give breakdown in Table 6	66,177.67	
K.	Bridge Hardware Give breakdown in Table 7	\$807,564.14	Bridge hardware applies to lane/plaza system
	Sub-total of One-Time Project Costs	\$2,721,807.08	
On-Going/Future Project Costs			
Item	Project Cost(s)	Total (\$)	Comments
L.	Software Maintenance and Support Give breakdown in Table 8	\$775,165.63	
M.	Software Licensing (includes COTS and any third party software) Give breakdown in Table 8	\$107,186.75	
N.	Application Hosting Give breakdown in Table 9	\$2,765,707.11	Application hosting applies to Central Host/
O.	Future Enhancements - Staffing Give breakdown in Table 10	\$484,800.00	SOM can select how hours are to be used
P.	Future Enhancements - DVAS Give breakdown in Table 10	\$105,514.37	
	Total Project Cost	\$6,960,180.93	



Payment Schedule Based on Percentage of One-Time Project Costs

The following table outlines the payment milestones for this project. After each milestone is completed, the contractor may invoice the SOM for the indicated percentage of the total amount of one-time costs. On-going costs such as licensing and hosting are not covered in this table.

Note: The last row in the Payment Amount column (Total Cost) must equal the total of items A through K in Table 1: Summary of the Project Cost.

Payment Milestone	Percent to be Invoiced upon Acceptance of Milestone	Total (\$)	Comments
One-time cost of vendor’s proposed COTS or configurable software package, if applicable. Application design – functional and system (table 1 items A, B, and C)	15%	\$408,271.06	
Configuration, customization, or construction of new application (table 1, item D)	10%	\$272,180.71	
Completion of documentation, quality assurance and user acceptance testing (table 1 items H & E)	20%	\$544,361.42	
Implementation, hardware, training, and knowledge transfer (table 1 items F, G, I, and K) for Bridge 1	20%	\$544,361.42	Based on the proposed roll-out for separate bridges, pay points are established for each bridge.
Implementation, hardware, and knowledge transfer (table 1 items F, I, and K) for Bridge 2	15%	\$408,271.06	
Implementation, hardware, and knowledge transfer (table 1 items F, I, and K) for Bridge 3	10%	\$272,180.71	
Completion of warranty period (table 1 item J)	10%	\$272,180.71	
Total for one-time project costs	100%	\$2,721,807.08	



Table 2: New Application or Customization of COTS - Design, Construction, Testing and Implementation Costs

No.	Category	Resources Required (Contractor to identify IT classification)	Total # of hours (Contractor to identify # of hours per resource)	Total cost (\$) (Contractor must transfer category totals to Table 1)	Comments (Contractor must provide a narrative to explain how they arrived at the costs identified)
B.	Application Design - Functional	Senior software engineer DBA Business Analyst Project Manager	660 200 150 100	\$94,182.12	See Note 1
C.	Application Design - System	Senior software engineer DBA Business Analyst Project Manager	660 200 150 100	\$94,087.12	See Note 1
D.	Construction	Software Engineer Senior software engineer DBA Project Manager	1400 1550 300 200	\$267,891.41	See Note 1
E.	Testing	Senior tester QA Engineer Project Manager	1100 800 200	\$176,539.32	See Note 1
F.	Implementation	Project Manager Business Analyst Project Scheduler Configuration Management QA Engineer Senior software engineer DBA	1500 300 450 500 1200 1400 750	\$457,246.96	See Note 1
	Total Cost through Implementation			\$1,089,946.92	

Note 1: Xerox calculated the costs identified in this project based upon our extensive experience in tolling operations and back-office customer service center systems. Xerox is very familiar with the types of equipment utilized at the MDOT bridge facilities, the software needed to operate such equipment and the software needed to handle back-office functions.



Table 3: Training Costs

No.	Training	Resources Required (IT classification)	Total # of hours (hours per resource)	Total cost (\$)
G.	Develop Training Material	Subject Matter Expert Trainer Technical Writer	900	\$97,627.12
	Training Delivery			
	Toll Management Training	Trainer	40	\$4,338.98
	Audit and Reports Training	Trainer	40	\$4,338.98
	Maintenance Training	Trainer	40	\$4,338.98
	System Administration Training	Trainer	60	\$6,508.47
	VECTOR 4G Tolls Operations Training	Trainer	50	\$5,423.73
	Training ODCs	N/A	N/A	\$21,626.24
	Total Training Cost			\$144,202.51

MDOT Toll Bridge System – training delivery				
Course Name	Class Size	# of Classes	Class Location	Class Duration
Toll Management Training	10	1	Instructor led Self-study	3 days
Audit and Reports Training	10	1	Instructor led Self-study	3 days
Maintenance Training	10	1	Instructor led Self-study	3 days
System Administration Training	10	1	Instructor led	5 days
VECTOR 4G Tolls Operations Training	10	1	Instructor led Self-study	5 days
Total		5		19 days



Table 4: Technical Documentation Costs

No.	Technical Documentation	Resources Required (IT classification)	Total # of hours (# of hours per resource)	Total (\$)	Comments
	Data dictionary definitions	Subject matter expert Technical writer	310	\$33,640.67	
	Release notes	Subject matter expert Technical writer	310	\$33,640.67	
	System administration manual	Subject matter expert Technical writer	682	\$74,009.48	
	Use case and system design, updated to reflect changes made during construction and testing	Senior tester QA Engineer Project Manager	1,436	\$155,756.32	Line item is inclusive of required design documentation
	Installation procedures	Subject matter expert Technical writer	177	\$19,175.18	
	Test scripts	Subject matter expert Technical writer	186	\$20,184.40	
	Total Documentation Cost		3,101	\$336,406.74	

Table 5: Knowledge Transfer/ Transition

No.	Knowledge Transfer/ Transition	Resources Required	Total # of hours (# of hours per resource)	Total cost (\$)	Comments
I.	Archived project documentation – for details, please refer to section 1.104 section H, in the RFP document	Subject matter expert Technical writer	484	\$52,530.10	
	Total Knowledge Transfer Cost		484	\$52,530.10	

Table 6: Warranty

No.	Duration	Total (\$)	Comments
J.	90 day (after the software is fully implemented at all project locations)	\$66,177.67	



Table 7: Bridge Hardware Cost

Bridge hardware cost	Brand	Model # and Description	Lane/Plaza Cost (\$)
Other bridge hardware (list separately):			
International 6 Lanes			
10A CIRCUIT BREAKER (Qty - 9) - International	ABB	S201-C10	307.34
24VDC 30W Power Supply (D I/O Relays) (Qty - 9)	SOLA	SDP2-24-100T	833.45
5MM TERMINAL BLOCK, GREEN, 2-PORT (GROUND) (Qty - 20)	WEIDMULLER	1608660000	350.81
5VDC 30W Power Supply (D I/O Relays) (Qty - 9)	SOLA	SCP30S5B-DN	1,502.73
6MM TERMINAL BLOCK, BEIGE, 2-PORT Loops, treadle, gate, and traffic lights (Qty - 124)	WEIDMULLER	1632050000	348.31
6MM TERMINAL BLOCK, WHITE, 2-PORT (NEUTRAL) (Qty - 20)	WEIDMULLER	1632050000	80.18
Digital I/O Card (Qty - 9)	Western Reserves Controls	1781-PXB241	2,109.74
DIN RAIL (Qty - 6)	WEIDMULLER	0514500000	123.01
DIN RAIL END BLOCK (Qty - 12)	WEIDMULLER	9540000000	53.53
Enclosure Aluminum Subpanel (Qty - 6)	Saginaw Control and Eng	SCE-30P30	793.02
FERRULE, 16AWG, 500PK (Qty - 6)	WEIDMULLER	1161015	386.31
Loop Detector Shelf, 2-channel (Qty - 9)	EDI	ORACLES2ES	4,429.38
NEMA 4 Enclosure, 30"H x 30"W x 12"D (Qty - 6)	Saginaw Control and Eng	30EL3012LP	5,737.90
OS, Linux Enterprise Basic (Qty - 9)	Red Hat	MCT0988	2,721.54
RocketPort Serial Coms Interface Board, 8-Port (Qty - 9)	Comtrol	99110-6	2,431.64
Standard 16 Position I/O Rack Card Edge Connector (Qty - 9)	Grayhill	70RCK16-HL	647.41
Standard AC Output Relay (Qty - 24)	Grayhill	70-OAC5A-11	406.45
Standard DC Input Relay (Qty - 24)	Grayhill	70-IDC5K	321.52
Standard DC Output Relay (Qty - 9)	Grayhill	70-ODC5B	267.93
Wall-Mount Lane Controller System (Qty - 9)	Advantech	SYS-WM-BTO	12,438.42
Mackinac 11 Lanes			
10A CIRCUIT BREAKER (Qty - 16) - Mackinac	ABB	S201-C10	443.73
24VDC 30W Power Supply (D I/O Relays) (Qty - 16)	SOLA	SDP2-24-100T	1,203.29
5MM TERMINAL BLOCK, GREEN, 2-PORT (GROUND) (Qty - 44)	WEIDMULLER	1608660000	459.39
5VDC 30W Power Supply (D I/O Relays) (Qty - 16)	SOLA	SCP30S5B-DN	2,169.57
6MM TERMINAL BLOCK, BEIGE, 2-PORT Loops, treadle, gate, and traffic lights (Qty - 264)	WEIDMULLER	1632050000	514.17
6MM TERMINAL BLOCK, WHITE, 2-PORT (NEUTRAL) (Qty - 44)	WEIDMULLER	1632050000	262.51
Digital I/O Card (Qty - 16)	Western Reserves Controls	1781-PXB241	3,045.94
DIN RAIL (Qty - 11)	WEIDMULLER	0514500000	175.73
DIN RAIL END BLOCK (Qty - 22)	WEIDMULLER	9540000000	38.24
Enclosure Aluminum Subpanel (Qty - 11)	Saginaw Control and Eng	SCE-30P30	1,132.88
FERRULE, 16AWG, 500PK (Qty - 11)	WEIDMULLER	1161015	551.86
Loop Detector Shelf, 2-channel (Qty - 16)	EDI	ORACLES2ES	6,394.92
NEMA 4 Enclosure, 30"H x 30"W x 12"D (Qty - 11)	Saginaw Control and Eng	30EL3012LP	5,737.90
OS, Linux Enterprise Basic (Qty - 16)	Red Hat	MCT0988	3,929.22
RocketPort Serial Coms Interface Board, 8-Port (Qty - 16)	Comtrol	99110-6	3,510.68
Standard 16 Position I/O Rack Card Edge Connector (Qty - 16)	Grayhill	70RCK16-HL	934.70
Standard AC Output Relay (Qty - 47)	Grayhill	70-OAC5A-11	523.20
Standard DC Input Relay (Qty - 47)	Grayhill	70-IDC5K	413.87
Standard DC Output Relay (Qty - 16)	Grayhill	70-ODC5B	386.83
Wall-Mount Lane Controller System (Qty - 16)	Advantech	SYS-WM-BTO	17,957.97



Blue Water 5 Lanes			
10A CIRCUIT BREAKER (Qty - 7) - Blue Water	ABB	S201-C10	230.51
24VDC 30W Power Supply (D I/O Relays) (Qty - 7)	SOLA	SDP2-24-100T	625.08
5MM TERMINAL BLOCK, GREEN, 2-PORT (GROUND) (Qty - 20)	WEIDMULLER	1608660000	208.81
5VDC 30W Power Supply (D I/O Relays) (Qty - 7)	SOLA	SCP30S5B-DN	1,127.05
6MM TERMINAL BLOCK, BEIGE, 2-PORT Loops, treadle, gate, and traffic lights (Qty - 24)	WEIDMULLER	1632050000	257.08
6MM TERMINAL BLOCK, WHITE, 2-PORT (NEUTRAL) (Qty - 20)	WEIDMULLER	1632050000	47.73
Digital I/O Card (Qty - 7)	Western Reserves Controls	1781-PXB241	1,582.31
DIN RAIL (Qty - 5)	WEIDMULLER	0514500000	87.86
DIN RAIL END BLOCK (Qty - 10)	WEIDMULLER	9540000000	19.12
Enclosure Aluminum Subpanel (Qty - 5)	Saginaw Control and Eng	SCE-30P30	566.44
FERRULE, 16AWG, 500PK (Qty - 5)	WEIDMULLER	1161015	275.93
Loop Detector Shelf, 2-channel (Qty - 7)	EDI	ORACLES2ES	3,322.03
NEMA 4 Enclosure, 30"H x 30"W x 12"D (Qty - 5)	Saginaw Control and Eng	30EL3012LP	2,868.95
OS, Linux Enterprise Basic (Qty - 7)	Red Hat	MCT0988	2,041.15
RocketPort Serial Cons Interface Board, 8-Port (Qty - 7)	Control	99110-6	1,823.73
Standard 16 Position I/O Rack Card Edge Connector (Qty - 7)	Grayhill	70RCK16-HL	485.56
Standard AC Output Relay (Qty - 19)	Grayhill	70-OAC5A-11	254.03
Standard DC Input Relay (Qty - 19)	Grayhill	70-IDC5K	200.95
Standard DC Output Relay (Qty - 7)	Grayhill	70-ODC5B	200.95
Wall-Mount Lane Controller System (Qty - 7)	Advantech	SYS-WM-BTO	9,328.81
Toll System ACS Engineering, Design, Documentaion, Draw ings, BOM, Test, and Commisison Implementation Labor - International			
	N/A	N/A	56,881.70
Toll System ACS Constrction Oversight, Electrical Subcontractor Installation Labor - International			
	N/A	N/A	54,573.49
Toll System ACS Engineering, Design, Documentaion, Draw ings, BOM, Test, and Commisison Implementation Labor - Mackinac			
	N/A	N/A	104,283.12
Toll System ACS Constrction Oversight, Electrical Subcontractor Installation Labor - Mackinac			
	N/A	N/A	100,051.40
Toll System ACS Engineering, Design, Documentaion, Draw ings, BOM, Test, and Commisison Implementation Labor - Blue Water			
	N/A	N/A	47,401.42
Toll System ACS Constrction Oversight, Electrical Subcontractor Installation Labor - Blue Water			
	N/A	N/A	45,477.91
Other Direct Costs			
	N/A	N/A	28,105.54
DVAS ACS, Electrical Sub-Contractor Installation Labor - Mackinac			
	N/A	N/A	101,663.72
DVAS ACS Engineering, Design, Documentaion, Draw ings, BOM, Test, and Commisison Labor - Mackinac			
	N/A	N/A	21,228.47
DVAS Equipment - Mackinac (32 Cameras)			
	N/A	N/A	51,851.00
DVAS ACS, Electrical Sub-Contractor Installation Labor - Blue Water			
	N/A	N/A	46,210.78
DVAS ACS Engineering, Design, Documentaion, Draw ings, BOM, Test, and Commisison Labor - Blue Water			
	N/A	N/A	14,524.75
DVAS Equipment - Blue Water (9 Cameras)			
	N/A	N/A	23,679.54
Total Cost of Hardware			807,564.14



Table 8: Recurring Costs: Software License and Maintenance/Support (if applicable)

No.	Cost Categories	Software Cost (\$)	Comments	
L - M	Software Licensing			
	First Year (-		
	Second Year	10,550.81		
	Third Year	10,867.33		
	Fourth Year	11,193.35		
	Fifth Year	11,529.15		
	Sixth Year	11,875.02		
	Seventh Year	12,231.27		
	Eighth Year	12,598.21		
	Ninth Year	12,976.16		
	Tenth Year	13,365.44		
		Total Software Licensing	107,186.75	
		Software Maintenance and Support		
		First Year	-	
		Second Year	76,302.54	
		Third Year	78,591.62	
		Fourth Year	80,949.37	
		Fifth Year	83,377.85	
		Sixth Year	85,879.18	
		Seventh Year	88,455.56	
		Eighth Year	91,109.23	
		Ninth Year	93,842.50	
		Tenth Year	96,657.78	
		Total Software Maintenance/Support	775,165.63	
		Combined Total	882,352.37	

Table 9: Vendor Application Hosting (if applicable)

No.	Vendor application hosting	Cost (\$)	Comments
N.	Vendor application hosting costs (list separately):	-	
	First Year	-	
	Second Year	272,239.22	
	Third Year	280,406.39	
	Fourth Year	288,818.59	
	Fifth Year	297,483.14	
	Sixth Year	306,407.64	
	Seventh Year	315,599.87	
	Eighth Year	325,067.86	
	Ninth Year	334,819.90	
	Tenth Year	344,864.50	
		Total Cost of Application Hosting	2,765,707.11



Table 10: Future Enhancements Rate Card

No.	Staffing Category	Key Staff	# of Hours (years 1-7)	Firm Fixed Hourly Rate	Extended Price (\$)
O.	Project Manager / Technical Lead	TBD	800	130.00	104,000.00
	System architect	TBD	800	104.00	83,200.00
	Business Analyst	TBD	800	104.00	83,200.00
	Senior Software Developer	TBD	800	95.00	76,000.00
	Programmer	TBD	800	82.00	65,600.00
	Technical Writer	TBD	800	91.00	72,800.00
	Total Staffing		4800		484,800
P.	DVAS ACS, Electrical Sub-Contractor Installation Labor, - International	N/A	N/A	N/A	55,452.94
	DVAS ACS Engineering, Design, Documentaion, Drawings, BOM, Test, and Commisison Labor - International	N/A	N/A	N/A	12,848.81
	DVAS Equipment - International (18 Cameras)	N/A	N/A	N/A	37,212.62
	Total DVAS				105,514.37

Notes:

1. Hourly rates quoted are firm, fixed rates for the duration of the contract base years, 1-7. Travel and other expenses will not be reimbursed.

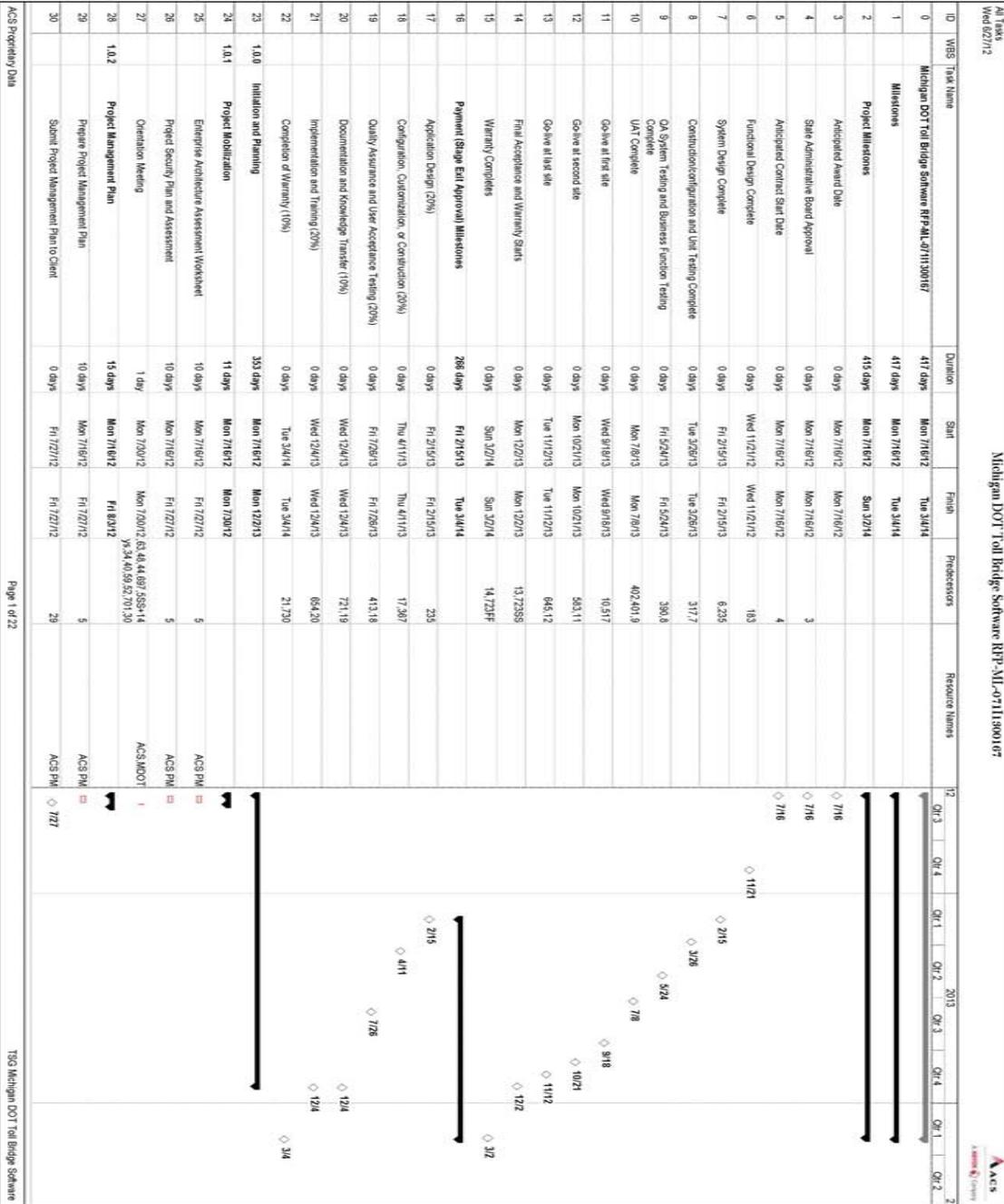
2. There is no guarantee that future enhancements will be required.

The Contractor shall assign qualified, knowledgeable personnel at the time of request from the SOM.

3. Pricing for DVAS Equipment is subject to a 6% annual increase. The increase takes effect on the anniversary of the contract start date.



Appendix G – Preliminary Project Plan





All Tasks
Wed 6/27/12

Michigan DOT Toll Bridge Software RFP-MI-0711300167



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Q1-3	Q1-4	Q1-1	Q1-2	Q1-3	Q1-4	Q1-1	Q1-2	2
31	Client Reviews & Approves Project Management Plan	5 days	Mon 7/30/12	Fri 8/3/12		DTMB Project Manager	0									
32	1.0.3 Project Schedule and Work Plan	11 days	Mon 7/16/12	Mon 7/30/12		ACS Scheduler	0									
33	Prepare detailed schedule and work plan, starting with Proposal data	10 days	Mon 7/16/12	Fri 7/27/12		ACS Scheduler	0									
34	Submittal Schedule to Client for review	0 days	Fri 7/27/12	Fri 7/27/12		ACS PM	0	7/27								
35	Client Reviews & Approves Project Schedule	5 days	Mon 7/16/12	Fri 7/20/12		DTMB Project Manager	0									
36	Update schedule for mobilization meeting and comments	5 days	Mon 7/23/12	Fri 7/27/12		ACS Scheduler	0									
37	Baseline Schedule	1 day	Mon 7/30/12	Mon 7/30/12		ACS Scheduler	0									
38	1.0.4 Communications Plan	15 days	Mon 7/16/12	Fri 8/3/12			0									
39	Prepare Communications Plan	10 days	Mon 7/16/12	Fri 7/27/12		ACS PM	0									
40	Submittal Communications Plan to Client	0 days	Fri 7/27/12	Fri 7/27/12		ACS PM	0	7/27								
41	Client Reviews & Approves Communications Plan	5 days	Mon 7/30/12	Fri 8/3/12		DTMB Project Manager	0									
42	1.0.5 Resource Plan	15 days	Mon 7/16/12	Fri 8/3/12			0									
43	Prepare Resource Plan	10 days	Mon 7/16/12	Fri 7/27/12		ACS PM	0									
44	Submittal Resource Plan to Client	0 days	Fri 7/27/12	Fri 7/27/12		ACS PM	0	7/27								
45	Client Reviews & Approves Resource Plan	5 days	Mon 7/30/12	Fri 8/3/12		DTMB Project Manager	0									
46	1.0.6 Issues Management Plan	15 days	Mon 7/16/12	Fri 8/3/12			0									
47	Prepare Issues Management Plan	10 days	Mon 7/16/12	Fri 7/27/12		ACS PM	0									
48	Submittal Issues Management Plan to Client	0 days	Fri 7/27/12	Fri 7/27/12		ACS PM	0	7/27								
49	Client Reviews & Approves Issues Management Plan	5 days	Mon 7/30/12	Fri 8/3/12		DTMB Project Manager	0									
50	1.0.7 Change Management Plan	15 days	Mon 7/16/12	Fri 8/3/12			0									
51	Prepare Change Management Plan	10 days	Mon 7/16/12	Fri 7/27/12		ACS PM	0									
52	Submittal Change Management Plan to Client	0 days	Fri 7/27/12	Fri 7/27/12		ACS PM	0	7/27								
53	Client Reviews & Approves Change Management Plan	5 days	Mon 7/30/12	Fri 8/3/12		DTMB Project Manager	0									
54	1.0.8 Status Reporting Forms	13 days	Mon 7/16/12	Wed 8/1/12			0									
55	Prepare Status Reporting Forms	5 days	Mon 7/16/12	Fri 7/20/12		ACS PM	0									
56	Submittal Status Reporting Forms to Client	0 days	Fri 7/20/12	Fri 7/20/12		ACS PM	0	7/20								
57	Client Reviews & Comments on Status Reporting Forms	2 days	Mon 7/23/12	Tue 7/24/12		DTMB Project Manager	0									
58	Revise Status Reporting Forms	1 day	Wed 7/25/12	Wed 7/25/12		ACS PM	0									
59	Submittal Revised Status Reporting Forms to Client	0 days	Wed 7/25/12	Wed 7/25/12		ACS PM	0	7/25								
60	Client Reviews & Approves Status Reporting Forms	5 days	Thu 7/26/12	Wed 8/1/12		DTMB Project Manager	0									
61	1.0.9 Risk Management Plan	25 days	Mon 7/16/12	Fri 8/17/12			0									

ACS Proprietary Data

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ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	13	14	15	16	17	18	19	20	21	22
62	Prepare Risk Management Plan	10 days	Mon 7/16/12	Fri 7/27/12	5	ACS PM	0	0	0	0	0	0	0	0	0	0	0
63	Submit Revised Risk Management Plan to Client	0 days	Fri 7/27/12	Fri 7/27/12	62	ACS PM	0	0	0	0	0	0	0	0	0	0	0
64	Update risk register and risk management plan from Modernization Meeting	5 days	Mon 8/6/12	Fri 8/10/12	27,60,84,41,31,45,55	ACS PM	0	0	0	0	0	0	0	0	0	0	0
65	Client Reviews & Approves Risk Management Plan	5 days	Mon 8/13/12	Fri 8/17/12	64	DYMB Project Manager	0	0	0	0	0	0	0	0	0	0	0
66	Bi-weekly Status Meetings and Risk Management Plan/risks Up	355 days	Mon 7/16/12	Mon 12/24/13			0	0	0	0	0	0	0	0	0	0	0
104	Monthly Performance Reviews	342 days	Thu 7/26/12	Thu 11/28/13			0	0	0	0	0	0	0	0	0	0	0
122	1.18.0 Application Design - Functional	92 days	Mon 7/16/12	Wed 11/21/12			0	0	0	0	0	0	0	0	0	0	0
134	1.18.1 Draft Requirements Traceability Matrix	28 days	Mon 7/16/12	Wed 8/22/12			0	0	0	0	0	0	0	0	0	0	0
135	Prepare Requirements Traceability Matrix from RFP App A and B	8 days	Mon 7/16/12	Wed 7/25/12	5	ACS Business Analyst	0	0	0	0	0	0	0	0	0	0	0
136	Submit Requirements Traceability Matrix to Client	0 days	Wed 7/25/12	Wed 7/25/12	135	ACS PM	0	0	0	0	0	0	0	0	0	0	0
137	Client Reviews & Comments on Requirements Traceability Matrix	5 days	Thu 7/26/12	Wed 8/1/12	136	DYMB OA	0	0	0	0	0	0	0	0	0	0	0
138	Validates requirements with the State	5 days	Thu 8/2/12	Wed 8/8/12	137	MCOI'SOM/ACS Business Analyst	0	0	0	0	0	0	0	0	0	0	0
139	Update Requirements Traceability Matrix	5 days	Thu 8/9/12	Wed 8/15/12	138	ACS Business Analyst	0	0	0	0	0	0	0	0	0	0	0
130	Submit Revised Requirements Traceability Matrix to Client	0 days	Wed 8/15/12	Wed 8/15/12	139	ACS PM	0	0	0	0	0	0	0	0	0	0	0
131	Client Reviews & Approves Requirements Traceability Matrix	5 days	Thu 8/16/12	Wed 8/22/12	130	DYMB OA	0	0	0	0	0	0	0	0	0	0	0
132	1.18.2 Use Cases	35 days	Thu 8/16/12	Thu 9/27/12			0	0	0	0	0	0	0	0	0	0	0
133	Draft Use Cases	10 days	Thu 8/16/12	Wed 8/22/12	132	ACS Business Analyst	0	0	0	0	0	0	0	0	0	0	0
134	Provide Interviews for Requirements Traceability Matrix	2 days	Thu 8/23/12	Fri 8/24/12	133	MCOI'SOM	0	0	0	0	0	0	0	0	0	0	0
135	Revises Requirements Traceability Matrix	3 days	Mon 8/27/12	Wed 8/29/12	134	ACS Business Analyst	0	0	0	0	0	0	0	0	0	0	0
136	Submit Use Cases	0 days	Wed 8/29/12	Wed 8/29/12	135	ACS PM	0	0	0	0	0	0	0	0	0	0	0
137	Client Reviews & Comments on Use Cases	5 days	Thu 8/30/12	Thu 9/6/12	136	DYMB OA	0	0	0	0	0	0	0	0	0	0	0
138	Update Use Cases	5 days	Fri 9/7/12	Thu 9/13/12	137	ACS Business Analyst	0	0	0	0	0	0	0	0	0	0	0
139	Resubmit Use Cases	0 days	Thu 9/13/12	Thu 9/13/12	138	ACS PM	0	0	0	0	0	0	0	0	0	0	0
140	Client Reviews & Approves Use Cases	10 days	Fri 9/14/12	Thu 9/27/12	139	DYMB OA	0	0	0	0	0	0	0	0	0	0	0
141	1.18.3 Functional Design Document	39 days	Fri 9/7/12	Wed 10/31/12			0	0	0	0	0	0	0	0	0	0	0
142	Prepare Functional Design Document	10 days	Fri 9/7/12	Thu 9/20/12	137	ACS Development Lead	0	0	0	0	0	0	0	0	0	0	0
143	Provide input for Functional Design Document	2 days	Fri 9/21/12	Mon 9/24/12	142	DYMB SME	0	0	0	0	0	0	0	0	0	0	0
144	Revises Functional Design Document	2 days	Tue 9/25/12	Wed 9/26/12	143	ACS Development Lead	0	0	0	0	0	0	0	0	0	0	0
145	Submit Functional Design Document to Client	0 days	Wed 9/26/12	Wed 9/26/12	144	ACS PM	0	0	0	0	0	0	0	0	0	0	0
146	Client Reviews & Comments on Functional Design Document	10 days	Thu 9/27/12	Wed 10/10/12	145	DYMB Architect	0	0	0	0	0	0	0	0	0	0	0
147	Revises Functional Design Document	5 days	Thu 10/11/12	Wed 10/17/12	146	ACS Development Lead	0	0	0	0	0	0	0	0	0	0	0



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Q1-3	Q1-4	Q1-1	Q1-2	2013	Q1-3	Q1-4	Q1-1	Q1-2
148	Submit Revised Functional Design Document to Client	0 days	Wed 10/17/12	Wed 10/17/12	147	ACS PM		◊ 10/17								
149	Client Reviews & Approves Functional Design Document	10 days	Thu 10/18/12	Wed 10/31/12	148	DTMB Admin										
150	System Prototype	4 days	Thu 10/18/12	Thu 10/23/12												
151	Prepare logical data model and definitions	2 days	Thu 10/18/12	Fri 10/19/12	148	ACS PM										
152	Deliver web access to system prototype	2 days	Mon 10/22/12	Tue 10/23/12	151	ACS PM										
153	Usability Testing	14 days	Thu 10/18/12	Tue 11/6/12												
154	Develop testing scenarios	5 days	Thu 10/18/12	Wed 10/24/12	148	DTMB OA										
155	Identify testers (6-9)	5 days	Thu 10/25/12	Wed 10/31/12	154	DTMB OA										
156	Prepare testing facilities	5 days	Thu 10/25/12	Wed 10/31/12	154	DTMB OA										
157	Perform usability, Testing and Evaluation	2 days	Thu 11/1/12	Fri 11/02/12	156, 155	DTMB OA										
158	Document testing results, distribute	2 days	Mon 11/05/12	Tue 11/06/12	157	DTMB OA										
159	Draft Project Security Plan	23 days	Thu 10/18/12	Mon 11/19/12												
160	Draft Project Security Plan	8 days	Thu 10/18/12	Mon 10/29/12	147	ACS PM										
161	Submit Project Security Plan to IS - Initial lookpoint	0 days	Mon 10/29/12	Mon 10/29/12	160	ACS PM										
162	Client IS Reviews & Comments on Project Security Plan	5 days	Tue 10/30/12	Mon 11/05/12	161	IS										
163	Revise Project Security Plan	5 days	Tue 11/06/12	Mon 11/12/12	162	ACS PM										
164	Submit Revised Project Security Plan to Client IS	0 days	Mon 11/12/12	Mon 11/12/12	163	ACS PM										
165	Client IS Reviews & Approves Project Security Plan	5 days	Tue 11/13/12	Mon 11/19/12	164	IS										
166	Draft Infrastructure Service Request	23 days	Thu 10/18/12	Mon 11/19/12												
167	Draft Infrastructure Service Request	8 days	Thu 10/18/12	Mon 10/29/12	147	ACS PM										
168	Submit Infrastructure Service Request to Client - Initial OES lookpoint	0 days	Mon 10/29/12	Mon 10/29/12	167	ACS PM										
169	Client OES Reviews & Comments on Infrastructure Service Request	5 days	Tue 10/30/12	Mon 11/05/12	168	OES										
170	Revise Infrastructure Service Request	5 days	Tue 11/06/12	Mon 11/12/12	169	ACS PM										
171	Submit Revised Infrastructure Service Request to Client OES	0 days	Mon 11/12/12	Mon 11/12/12	170	ACS PM										
172	Client OES Reviews & Approves Infrastructure Service Request	5 days	Tue 11/13/12	Mon 11/19/12	171	OES										
173	Draft Solution Assessment Worksheet	23 days	Thu 10/18/12	Mon 11/19/12												
174	Draft Solution Assessment Worksheet	8 days	Thu 10/18/12	Mon 10/29/12	147	ACS PM										
175	Submit Solution Assessment Worksheet to Client - Initial OES lookpoint	0 days	Mon 10/29/12	Mon 10/29/12	174	ACS PM										
176	Client OES Reviews & Comments on Solution Assessment Worksheet	5 days	Tue 10/30/12	Mon 11/05/12	175	EA										
177	Revise Solution Assessment Worksheet	5 days	Tue 11/06/12	Mon 11/12/12	176	ACS PM										
178	Submit Revised Solution Assessment Worksheet to Client OES	0 days	Mon 11/12/12	Mon 11/12/12	177	ACS PM										



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Name	EA	2	3	4	1	2	3	4	1	2
119	Client/CS Reviews & Approves Solution Assessment Worksheet	5 days	Tue 11/20/12	Mon 11/19/12	178											
180	1.1B.9 Stage closed-out	2 days	Tue 11/20/12	Wed 11/21/12												
181	Prepare Stage exit agenda	1 day	Tue 11/20/12	Tue 11/20/12	182/183 1 day	ACS PM										
182	Attend Functional Design stage exit meeting	1 day	Tue 11/20/12	Tue 11/20/12 16:00:00-18:00:00 179,172,149		ACS, MDOOT, DTMB										
183	Functional Design stage exit approval	1 day	Wed 11/21/12	Wed 11/21/12	182,181	MDOOT										
184	1.1C.0 Application Design - System	89 days	Thu 10/11/12	Fri 1/19/13												
185	1.1C.1 System Design Document	54 days	Thu 10/18/12	Fri 1/18/13												
186	Prepare System Design Document	20 days	Thu 10/18/12	Wed 11/14/12	148	ACS Development Lead										
187	Provide Interviews for System Design Document	2 days	Fri 11/23/12	Mon 11/26/12	186,183	DTMB SRE										
188	Revise System Design Document	2 days	Tue 11/27/12	Wed 11/28/12	187,149	ACS Development Lead										
189	Submit System Design Document to Client	0 days	Wed 11/28/12	Wed 11/28/12	188	ACS PM										
190	Client Reviews & Comments on System Design Document	10 days	Thu 11/29/12	Wed 12/12/12	189	DTMB Archited										
191	Revise System Design Document	5 days	Thu 12/13/12	Wed 12/19/12	190	ACS Development Lead										
192	Update Requirements Traceability Matrix	5 days	Thu 12/13/12	Wed 12/19/12	190	ACS Business Analyst										
193	Submit Revised System Design Document to Client	0 days	Wed 12/19/12	Wed 12/19/12	191,192	ACS PM										
194	Client Reviews & Approves System Design Document	10 days	Thu 12/20/12	Fri 1/18/13	193	DTMB Archited										
195	1.1C.2 Data Migration Plan and Data Migration Test Plan	72 days	Thu 10/11/12	Wed 1/23/13												
196	Perform Data Assessment	15 days	Thu 10/11/12	Wed 10/31/12	148,27	ACS DBA										
197	Provide Interviews for Data Assessment	2 days	Thu 10/11/12	Fri 10/12/12	27,148	DTMB DBA										
198	Update logical data model to MDOOT	5 days	Thu 11/11/12	Wed 11/17/12	151,196,197	ACS DBA										
199	Update Data dictionary	5 days	Thu 11/11/12	Wed 11/17/12	152,196,197	ACS DBA										
200	Develop data map for testing, migration scripts and test procedure	5 days	Thu 11/8/12	Wed 11/14/12	196,197,198	ACS DBA										
201	Provide Data Migration Plan and Data Migration Test Plan	15 days	Thu 11/15/12	Thu 12/6/12 198,200,199,197,198		ACS DBA										
202	Conduct Internal Review of Data Migration Plan and Data Migration Test Plan	5 days	Fri 12/17/12	Thu 12/13/12	201	ACS DBA										
203	Revise Data Migration Plan and Data Migration Test Plan	2 days	Fri 12/14/12	Mon 12/17/12	202	ACS DBA										
204	Submit Data Migration Plan and Data Migration Test Plan to Client	0 days	Mon 12/17/12	Mon 12/17/12	203	ACS PM										
205	Client Reviews & Comments on Data Migration Plan and Data Migration Test Plan	10 days	Tue 12/18/12	Wed 12/27/12	204	DTMB DBA, DTMB OA										
206	Revise Data Migration Plan and Data Migration Test Plan	5 days	Thu 12/13/12	Wed 12/19/12	205	ACS DBA										
207	Submit Revised Data Migration Plan and Data Migration Test Plan to Client	0 days	Wed 12/19/12	Wed 12/19/12	206	ACS PM										
208	Client Reviews & Approves Data Migration Plan and Data Migration Test Plan	10 days	Thu 1/1/13	Wed 1/23/13	207	DTMB DBA, DTMB OA										
209	1.1C.3 Master Test Plan (Test Approach Document)	34 days	Thu 11/29/12	Thu 11/17/13												



At Tasks
Wed 6/27/12

Michigan DOT Toll Bridge Software RFP-MI-0711300107



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Q1-3	Q1-4	Q1-1	Q1-2	2013	Q1-3	Q1-4	Q1-1	Q1-2
210	Prepare Master Test Plan	10 days	Thu 11/29/12	Wed 12/12/12	189, 148	ACS Quality Assurance										
211	Submit Master Test Plan to Client	0 days	Wed 12/12/12	Wed 12/12/12	210	ACS PM										
212	Client Reviews & Comments on Master Test Plan	10 days	Thu 12/13/12	Thu 12/27/12	211	DTMB QA										
213	Revised Master Test Plan	4 days	Fri 12/28/12	Thu 1/2/13	212	ACS Quality Assurance										
214	Submit Revised Master Test Plan	0 days	Thu 1/2/13	Thu 1/2/13	213	ACS PM										
215	Client Reviews & Approves Master Test Plan	10 days	Fri 1/4/13	Thu 1/17/13	214	DTMB QA										
216	1.1C.4 UAT Test Cases	38 days	Thu 1/23/12	Wed 2/13/13												
217	Prepare UAT test cases	8 days	Thu 1/23/12	Wed 1/23/13	192, 193	ACS Quality Assurance										
218	Conduct Internal Review of UAT test cases	2 days	Thu 1/23/13	Fri 1/24/13	217	ACS Quality Assurance										
219	Review UAT test cases	3 days	Mon 1/27/13	Wed 1/30/13	218	ACS Quality Assurance										
220	Submit UAT Test Cases to Client	0 days	Wed 1/30/13	Wed 1/30/13	219	ACS PM										
221	Client Reviews & Comments on UAT Test Cases	10 days	Thu 1/31/13	Wed 1/23/13	220	DTMB QA										
222	Review UAT Test Cases	5 days	Thu 1/24/13	Wed 1/30/13	221	ACS Quality Assurance										
223	Submit Revised UAT Test Cases	0 days	Wed 1/30/13	Wed 1/30/13	222	ACS PM										
224	Client Reviews & Approves UAT Test Cases	10 days	Thu 1/31/13	Wed 2/13/13	223	DTMB QA										
225	1.1C.5 Transition Plan	23 days	Thu 1/16/13	Mon 2/14/13												
226	Prepare Transition Plan	8 days	Thu 1/16/13	Mon 1/21/13	148, 189, 208	ACS PM										
227	Submit Transition Plan to Client	0 days	Mon 1/21/13	Mon 1/21/13	226	ACS PM										
228	Client Reviews & Comments on Transition Plan	5 days	Tue 1/22/13	Mon 1/28/13	227	DTMB Project Manager										
229	Review Transition Plan	5 days	Tue 1/29/13	Mon 2/4/13	228	ACS PM										
230	Submit Revised Transition Plan to Client	0 days	Mon 2/4/13	Mon 2/4/13	229	ACS PM										
231	Client Reviews & Approves Transition Plan	5 days	Tue 2/6/13	Mon 2/11/13	230	DTMB Project Manager										
232	1.1C.6 Signage close-out	3 days	Wed 2/13/13	Fri 2/15/13												
233	Prepare Signage exit agenda	1 day	Wed 2/13/13	Wed 2/13/13	234, 235, 1 day	ACS PM										
234	Attend System Design Signage exit meeting	1 day	Thu 2/14/13	Thu 2/14/13	215, 192, 231, 194, 224	ACS MDOOT DTMB										
235	System Design Signage exit approval	1 day	Fri 2/15/13	Fri 2/15/13	234, 233	MDOOT										
236	1.1D.0 Application Construction/Configuration	68 days	Mon 1/14/13	Thu 4/11/13												
237	1.1D.1 Hardware/Software Procurement	40 days	Mon 1/14/13	Fri 3/1/13												
238	Finalize Bill of Materials and purchasing requirements	10 days	Mon 1/17/13	Fri 1/18/13	194	ACS PM										
239	Prepare purchase orders	10 days	Mon 1/21/13	Fri 2/1/13	238	ACS PM										
240	Manage System Procurement	20 days	Mon 2/4/13	Fri 3/1/13	239	ACS PM										



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Q1-3	Q1-4	Q1-1	Q1-2	2013	Q1-3	Q1-4	Q1-1	Q1-2
272	Receipt customizations	1.5 days	Tue 2/19/13	Wed 2/20/13	271	ACS Placeholder Developer(200%)										
273	PCI hardening	7.5 days	Thu 2/21/13	Mon 3/4/13	272	ACS Placeholder Developer(200%)										
274	Perform Unit testing	2 days	Mon 3/4/13	Wed 3/6/13	280, 273, 282, 275											
275	Plaza Software Development/Configuration	57 days	Mon 1/7/13	Tue 3/26/13	194											
278	Plaza setup and configuration	10 days	Mon 1/7/13	Fri 1/18/13		ACS Plaza Developer(200%)										
277	Automatically generate schedules based on historical traffic volumes, submit available for edit, and canceler of the system must include the functionality to generate and maintain worker's schedules and record actual time (Technical req - B8)	15 days	Mon 1/21/13	Fri 2/8/13	276	ACS Plaza Developer(200%)										
278	Automatically generate schedules based on historical traffic volumes, submit available for edit, and canceler of the system must include the functionality to generate and maintain worker's schedules and record actual time (Technical req - B8)	10 days	Mon 2/11/13	Fri 2/22/13	277	ACS Plaza Developer(200%)										
279	Calendar - Fry without Account card (App B B-5)	10 days	Mon 2/25/13	Fri 3/8/13	278	ACS Plaza Developer(200%)										
280	Calendar - Fry without Account card (App B B-5)	5 days	Mon 3/11/13	Fri 3/15/13	279	ACS Plaza Developer(200%)										
281	Card Support as new prototype	5 days	Mon 3/11/13	Fri 3/22/13	280	ACS Plaza Developer(200%)										
282	Perform Unit testing	2 days	Mon 3/25/13	Tue 3/26/13	280, 281	ACS Plaza Developer(200%)										
283	Historic Software	32 days	Mon 1/7/13	Tue 2/19/13	194											
284	CSG Account Management Setup and Configuration	20 days	Mon 1/7/13	Fri 2/1/13	194	ACS CSG Developer(200%)										
285	Inventory to support cards	10 days	Mon 2/4/13	Fri 2/15/13	284	ACS CSG Developer(200%)										
286	Perform Unit testing	2 days	Mon 2/18/13	Tue 2/19/13	285, 284, 285	ACS CSG Developer(200%)										
287	WEB - Development/Configuration	32 days	Mon 1/7/13	Tue 2/19/13												
288	Customize Web site, Blue Water Bridge (US)	7.5 days	Mon 1/7/13	Wed 1/16/13	194	ACS Web Developer(200%)										
289	Customize Web site, International Bridge	7.5 days	Wed 1/16/13	Fri 1/25/13	288	ACS Web Developer(200%)										
290	Customize Web site, Mackinac Bridge	7.5 days	Mon 1/28/13	Wed 2/6/13	289	ACS Web Developer(200%)										
291	Customize Web site, Blue Water Bridge (Canada)	7.5 days	Wed 2/6/13	Fri 2/15/13	290	ACS Web Developer(200%)										
292	Perform Unit testing	2 days	Mon 2/18/13	Tue 2/19/13	291, 290, 289, 289, 292	ACS Web Developer(200%)										
293	Reports	39.5 days	Mon 1/7/13	Fri 3/1/13												
294	Display traffic counts for corresponding day of previous year	5 days	Mon 1/7/13	Fri 1/11/13	194	ACS Crystal Developer ACS DBA										
295	Report summarization of US and Canadian currency, using current conversion rates	2.5 days	Mon 1/14/13	Wed 1/16/13	294	ACS Crystal Developer ACS DBA										
296	Per Audit	2.5 days	Wed 1/16/13	Fri 1/18/13	295	ACS Crystal Developer ACS DBA										
297	Traffic	2.5 days	Mon 1/21/13	Wed 1/23/13	296	ACS Crystal Developer ACS DBA										
298	Lane Activity	2.5 days	Wed 1/23/13	Fri 1/25/13	297	ACS Crystal Developer ACS DBA										
299	Supervisor Statistics	2.5 days	Mon 1/28/13	Wed 1/30/13	298	ACS Crystal Developer ACS DBA										
300	Vehicle Statistics	2.5 days	Wed 1/30/13	Fri 2/1/13	299	ACS Crystal Developer ACS DBA										
301	Toll Collector Assessment	2.5 days	Mon 2/4/13	Wed 2/6/13	300	ACS Crystal Developer ACS DBA										
302	Vault Counter Assessment	2.5 days	Wed 2/6/13	Fri 2/8/13	301	ACS Crystal Developer ACS DBA										



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	2	3	4	1	2	3	4	1	2
303	Auditor Assessment	2.5 days	Mon 2/11/13	Wed 2/13/13		302 ACS Crystal Developer ACS DBA									
304	Point of Sale User Assessment	2.5 days	Wed 2/13/13	Fri 2/15/13		303 ACS Crystal Developer ACS DBA									
305	Pre Paid Accounts (including statements)	2.5 days	Mon 2/18/13	Wed 2/20/13		304 ACS Crystal Developer ACS DBA									
306	Financial Management	2.5 days	Wed 2/20/13	Fri 2/22/13		305 ACS Crystal Developer ACS DBA									
307	Bridge Management	2.5 days	Mon 2/25/13	Wed 2/27/13		306 ACS Crystal Developer ACS DBA									
308	Perform Unit testing	2 days	Wed 2/27/13	Fri 3/1/13		307, 235 ACS Crystal Developer ACS DBA									
309	Point of Sale	37 days	Mon 1/17/13	Tue 2/19/13											
310	Customize POS, Blue Water Bridge (US)	2.5 days	Mon 1/17/13	Wed 1/23/13		194 ACS POS Development(200%)									
311	Customize POS, International Bridge (US)	2.5 days	Wed 1/23/13	Fri 1/25/13		310 ACS POS Development(200%)									
312	Customize POS, Machine Bridge (US)	2.5 days	Mon 1/14/13	Wed 1/16/13		311 ACS POS Development(200%)									
313	Customize POS, Blue Water Bridge (Canada)	2.5 days	Wed 1/16/13	Fri 1/18/13		312 ACS POS Development(200%)									
314	Account Card Interface to BGS	10 days	Mon 1/21/13	Fri 2/1/13		313 ACS POS Development(200%)									
315	Perform Unit testing	2 days	Mon 2/18/13	Tue 2/19/13	314, 312, 310, 313, 311	ACS POS Development(200%)									
316	Initiate defect log	1 day	Wed 2/27/13	Wed 2/27/13	308, 202, 215, 206, 202	ACS Development Lead									
317	Complete Unit Testing	0 days	Tue 2/26/13	Tue 2/26/13	206, 274, 202, 202, 206	ACS Development Lead									
318	Update Requirements Traceability Matrix	5 days	Wed 2/27/13	Tue 4/2/13		317 ACS Business Analyst									
319	1.10.3 Engineering	25 days	Mon 1/17/13	Fri 2/8/13											
320	Deliver supply CDs to existing line hardware	5 days	Mon 1/17/13	Fri 1/17/13		194 MDOT									
321	Develop to CDs	10 days	Mon 1/14/13	Fri 1/25/13		320 ACS Eng									
322	Ship line hardware to Germantown Lab	5 days	Mon 1/17/13	Fri 1/17/13											
323	Profile TR-3000's Touch screens - with magnetic card	5 days	Mon 1/17/13	Fri 1/17/13		194 MDOT									
324	Recept printers - USB-capable TR-4220's	5 days	Mon 1/17/13	Fri 1/17/13		194 MDOT									
325	AMT's Photon line displays	5 days	Mon 1/17/13	Fri 1/17/13		194 MDOT									
326	The Revenue Markers, Incorporated Magnetic loop and	5 days	Mon 1/17/13	Fri 1/17/13		194 MDOT									
327	Valtron customized patron display	5 days	Mon 1/17/13	Fri 1/17/13		194 MDOT									
328	Set up components in lab	10 days	Mon 1/14/13	Fri 1/25/13	323, 324, 324, 326, 327	ACS Eng									
329	Test to CDs and hardware	10 days	Mon 1/28/13	Fri 2/8/13		321, 328 ACS Eng									
330	1.10.4 Software Reviews	34 days	Wed 2/20/13	Mon 4/8/13											
331	Review software set: Lane software	1 day	Wed 3/6/13	Thu 3/7/13		274 DTMB Project Manager									
332	Review software set: Plaza software	1 day	Wed 3/27/13	Wed 3/27/13		282 DTMB Project Manager									
333	Review software set: Head/CSC software	1 day	Thu 3/28/13	Thu 3/28/13		332, 286 DTMB Project Manager									





All Tasks
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ID	WBS	Task Name	Duration	Start	Finish	Predecessors	Resource Names	2	Q1-3	Q1-4	Q1-1	Q1-2	2013	Q1-3	Q1-4	Q1-1	Q1-2
334		Review software set - web sites	1 day	Wed 2/20/13	Wed 2/20/13	292	DTMB Project Manager										
335		Review software set- reports	1 day	Fri 3/29/13	Fri 3/29/13	333,308	DTMB Project Manager										
336		Review software set- POS software	1 day	Mon 4/1/13	Mon 4/1/13	335,315	DTMB Project Manager										
337		Manage reads of reviews and fees, if needed	5 days	Tue 4/2/13	Mon 4/8/13	335,333,334,332	ACS PM										
338	1.0.3	Data Migration preparation/development	28 days	Thu 10/11/12	Mon 3/18/13		MDOT, ACS										
339		Data Cleansing (initial), data set #1	5 days	Thu 1/24/13	Wed 1/30/13	208											
340		Export data	5 days	Thu 1/24/13	Wed 2/6/13	339	MDOT										
341		Create/lygate test data to OA	10 days	Thu 1/24/13	Wed 2/6/13	208	ACS DBA										
342		Test import #1 to OA environment- Smoke test, dataset #1	5 days	Thu 2/7/13	Wed 2/13/13	341,340	ACS DBA										
343		Identify differences in data definition fields	2 days	Thu 2/14/13	Fri 2/15/13	342	ACS DBA										
344		Test load #2 to OA environment- Extraction, Transformation, and Population (ting, dataset #1	5 days	Mon 2/18/13	Fri 2/22/13	343	ACS DBA										
345		Apply performance tuning strategies	5 days	Mon 2/18/13	Fri 2/22/13	343	ACS DBA										
346		Update migration scripts and test procedures	5 days	Mon 2/25/13	Fri 3/1/13	344,345	ACS Quality Assurance										
347		Evaluate data and volumes of dataset #2 and #3 against #1	1 day	Mon 2/25/13	Mon 2/25/13	344	ACS DBA										
348		Update Data Migration Plan	5 days	Tue 2/26/13	Mon 3/4/13	345,344,347	ACS DBA										
349	1.0.6	Integration Testing	10 days	Wed 3/27/13	Tue 4/9/13												
350		Integrate and test subsystems- CSC, Reports	5 days	Wed 3/27/13	Tue 4/2/13	317	ACS Integration Specialist										
351		Integrate and test Subsystems- Lane Plaza	5 days	Wed 3/27/13	Tue 4/2/13	320,317	ACS Integration Specialist										
352		Integrate and test subsystems- all	5 days	Wed 4/2/13	Tue 4/9/13	350,351	ACS Integration Specialist										
353	1.0.7	Installation Plan	33 days	Tue 2/12/13	Thu 3/28/13												
354		Prepare Installation Plan	8 days	Tue 2/12/13	Thu 2/21/13	231,238	ACS Installer PM										
355		Prepare Contingency Plan and de-installation procedures	8 days	Tue 2/12/13	Thu 2/21/13	238,231	ACS Installer PM										
356		Schedule Installation Plan to Client	0 days	Thu 2/21/13	Thu 2/21/13	355,183,354	ACS Installer PM										
357		Client Reviews & Comments on Installation Plan	10 days	Fri 2/22/13	Thu 3/7/13	356	DTMB Project Manager										
358		Revise Installation Plan	5 days	Fri 3/8/13	Thu 3/14/13	357	ACS Installer PM										
359		Schedule Revised Installation Plan to Client	0 days	Thu 3/14/13	Thu 3/14/13	358	ACS Installer PM										
360		Client Reviews & Approves Installation Plan	10 days	Fri 3/15/13	Thu 3/28/13	359	DTMB Project Manager										
361	1.0.8	Sign close-out	12 days	Wed 3/27/13	Thu 4/11/13												
362		Finalize EA Solution Assessment Worksheet and sign-off	5 days	Wed 3/27/13	Tue 4/2/13	317,178	EA,ACS PM										
363		Finalize Infrastructure Service Request and sign-off	5 days	Wed 3/27/13	Tue 4/2/13	171,317	GES,ACS PM										
364		Finalize Project Security Plan and Assessment and sign-off	5 days	Wed 3/27/13	Tue 4/2/13	317,164	IS,ACS PM										

ACS Proprietary Data

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TSG Michigan DOT Toll Bridge Software



ID	WBS Task Name	Duration	Start	Finish	Processors	Resource Names	CR 3	CR 4	CR 1	CR 2	2013	CR 3	CR 4	CR 1	CR 2
365	Prepare Stage and agenda	1 day	Tue 4/6/13	Tue 4/6/13	366(1-1 day)	ACS PM									
366	Attend contractor/configuration stage and meeting	1 day	Wed 4/10/13	Wed 4/10/13	362,364,337,346,363	ACS, MDOT, DTMB									
367	Conduct/configuration stage and approval	1 day	Thu 4/11/13	Thu 4/11/13	365,366	MDOT									
368	1.1E.0 Internal and External Testing	110.33 days	Wed 2/28/13	Fri 7/28/13											
369	1.1E.2 Conduct System (QA) Testing	42.33 days	Wed 2/28/13	Fri 4/19/13											
370	Conduct Lane Software Testing	16.67 days	Wed 3/6/13	Fri 3/29/13	274	ACS Quality Assurance(300%)									
371	Conduct Hoop/CS-System Test	24 days	Wed 2/28/13	Tue 3/26/13	266	ACS Quality Assurance(300%)									
372	Conduct Plaza Software Testing	10.33 days	Wed 3/27/13	Wed 4/10/13	262,371	ACS Quality Assurance(300%)									
373	Conduct Web System Test	9.17 days	Wed 2/28/13	Tue 3/5/13	292	ACS Quality Assurance(300%)									
374	Conduct Point of Sale System Test	4.17 days	Tue 3/5/13	Mon 3/11/13	315,373	ACS Quality Assurance(300%)									
375	Conduct Reports testing	12 days	Fri 3/1/13	Tue 3/19/13	308	ACS Quality Assurance(300%)									
376	System test complete	0 days	Wed 4/10/13	Wed 4/10/13	370,373,374,372,370	ACS QA Lead									
377	Update Test Direct Log	2 days	Wed 4/10/13	Fri 4/12/13	376	ACS Quality Assurance(150%)									
378	Deliver Testing matrix and Test results	5 days	Fri 4/12/13	Fri 4/19/13	378,377	ACS QA Lead									
379	1.1E.1 UAT Test Cases	10 days	Fri 4/19/13	Fri 5/3/13											
380	Deliver UAT Test cases	0 days	Fri 4/19/13	Fri 4/19/13	378,379	ACS PM									
381	Review and approve UAT Test cases	10 days	Fri 4/19/13	Fri 5/3/13	380	DTMB QA									
382	1.1E.3 Business Function Testing (BFT)	25 days	Fri 4/19/13	Fri 5/24/13											
383	Finalize and submit BFT Procedures	10 days	Fri 4/19/13	Fri 5/3/13	378,387	ACS Quality Assurance									
384	Client Reviews & Approves BFT testing scripts and RTM	5 days	Fri 5/3/13	Fri 5/10/13	383	DTMB QA									
385	Conduct BFT Dry Run Testing	5 days	Fri 5/3/13	Fri 5/10/13	320,344,378,383	ACS Quality Assurance									
386	Update RTM (review BFT dry run results)	3 days	Fri 5/10/13	Wed 5/15/13	385	ACS Quality Assurance									
387	Conduct BFT Testing ACS site	5 days	Fri 5/10/13	Fri 5/17/13	384,385	ACS Quality Assurance									
388	BFT Follow-up and BFT Report Generation	3 days	Fri 5/17/13	Wed 5/22/13	387,388	ACS Quality Assurance									
389	Initial deficiencies log and start workoff	3 days	Fri 5/17/13	Wed 5/22/13	387	ACS PM									
390	BFT Review & Approval	2 days	Wed 5/22/13	Fri 5/24/13	388,389	MDOT									
391	1.1E.4 Performance Testing	20 days	Wed 5/22/13	Thu 6/20/13											
392	Finalize performance testing procedures, expectations	5 days	Wed 5/22/13	Thu 5/30/13	388	ACS QA									
393	Conduct performance testing	10 days	Thu 5/30/13	Thu 6/13/13	392	ACS QA									
394	Deliver Testing matrix and Test results	5 days	Thu 6/13/13	Thu 6/20/13	393	ACS QA									
395	1.1E.3 Data Migration Testing	15 days	Fri 4/19/13	Fri 5/10/13											



All Tasks
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ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	CR 3	CR 4	CR 1	CR 2	2013	CR 3	CR 4	CR 1	CR 2
386	Extract and cleanse data, dataset #1	3 days	Fri 4/19/13	Wed 4/24/13	200, 376, 386, 384, 348	MLA, DBA									
387	Test Load #3 and Load to Pre-Production Migration Acceptance	10 days	Wed 4/24/13	Wed 5/8/13	398	ACS DBA									
388	Verify against control files	10 days	Wed 4/24/13	Wed 5/8/13	200, 348, 341, 344, 398	ACS DBA									
389	Prepare data migration test report	2 days	Wed 5/8/13	Fri 6/10/13	388, 397	ACS DBA									
400	Facilitate User Acceptance Testing	33 days	Fri 5/24/13	Fri 7/12/13		DTMB, QA									
401	DTMB QA Testing, using loaded data	45 edays	Fri 5/24/13	Mon 7/8/13	376, 380, 381, 387, 390										
402	Share Review Period, using loaded data	45 edays	Fri 5/24/13	Mon 7/8/13	387, 390, 378	MOOT									
403	Update Requirements Traceability Matrix	3 days	Mon 7/8/13	Thu 7/11/13	401, 402, 390	ACS Business Analyst									
404	Update acceptance test cases and results	3 days	Mon 7/8/13	Thu 7/11/13	402, 401	ACS Business Analyst									
405	Approve UAT results	1 day	Thu 7/11/13	Fri 7/12/13	404, 403	MOOT									
406	Deficiencies Work-off	12 days	Mon 7/8/13	Wed 7/24/13											
407	Update Test Defect Log	2 days	Mon 7/8/13	Wed 7/10/13	376, 389, 402, 401	ACS Quality Assurance									
408	Work off testing deficiencies	10 days	Wed 7/10/13	Wed 7/24/13	407	ACS Development Lead									
409	Priority 1 & 2 Testing deficiencies resolved, submit log to client	0 days	Wed 7/24/13	Wed 7/24/13	408	ACS PM									
410	1.1.E.B. Stage close-out	3 days	Thu 7/25/13	Fri 7/26/13											
411	Prepare Stage exit agenda	1 day	Thu 7/25/13	Wed 7/24/13	412PF, 1 day	ACS PM									
412	Attend Testing Stage exit meeting	1 day	Wed 7/24/13	Thu 7/25/13	394, 409, 404, 405	ACS, MOOT, DTMB									
413	Testing Stage exit approval	1 day	Thu 7/25/13	Fri 7/26/13	412, 411	MOOT									
414	1.1.F.0 Implementation	88.67 days	Fri 7/26/13	Mon 12/27/13											
415	1.1.F.1 Server Installation and Integration	31 days	Fri 7/26/13	Tue 8/10/13											
416	Install Load server	5 edays	Fri 7/26/13	Fri 8/2/13	240, 413	ACS IT Operations									
417	Install CSC servers (2)	10 days	Fri 7/26/13	Fri 8/9/13	413, 240	ACS IT Operations									
418	Install MOOT Sshel instance at host site	2 days	Fri 8/9/13	Tue 8/13/13	417	ACS IT Operations									
419	Build CSC software system	5 days	Tue 8/13/13	Tue 8/20/13	418	ACS CSC Lead									
420	Build MOOT web server at host site	2 days	Tue 8/13/13	Thu 8/15/13	240, 413, 418	ACS IT Operations									
421	Install four web sites on web server	1 day	Thu 8/15/13	Fri 8/16/13	420	ACS Web Lead									
422	Complete connectivity from CSC to host	5 days	Tue 8/20/13	Tue 8/27/13	418, 419, 421	ACS Networking Team									
423	Shakedown Host and CSC system	5 days	Tue 8/27/13	Wed 9/3/13	422	ACS Development Lead, ACS QA Lead									
424	Submit e-Mail Notification of New Online Service form	1 day	Mon 9/3/13	Tue 9/10/13	5185S, 7 edays	ACS PM									
425	1.1.F.2 Implement Bridge 1 (Mackinac Bridge)	41.5 days	Fri 7/26/13	Wed 10/27/13											
426	Turned Installation	17 days	Fri 7/26/13	Tue 8/20/13											

ACS Projecter Data

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TSO Michigan DOT Toll Bridge Software



All Tasks
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ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Qtr 3	Qtr 4	Qtr 1	Qtr 2	2013	Qtr 3	Qtr 4	Qtr 1	Qtr 2
427	Lane Controller Cabinet	4.5 days	Fri 7/26/13	Thu 8/1/13												
428	Install lane controller cabinet, bridge #1	2 days	Fri 7/26/13	Tue 7/23/13	240, 413	ACS Eng										
429	Install of Extend conduit to cabinet	2.5 days	Tue 7/23/13	Thu 8/1/13	428	ACS Eng										
430	Lane Enclosure Cabinet (LEC)	4.5 days	Thu 8/1/13	Thu 8/8/13												
431	Install LEC in tunnel	2 days	Thu 8/1/13	Mon 8/5/13	429	ACS Eng										
432	Install of Extend conduit to cabinet	2.5 days	Mon 8/5/13	Thu 8/8/13	431	ACS Eng										
433	Lane Controller	8 days	Thu 8/8/13	Tue 8/20/13												
434	Install power wiring and panels	3 days	Thu 8/8/13	Tue 8/13/13	432	ACS Eng										
435	Install/terminate power wiring from power panels to lane controller	3 days	Tue 8/13/13	Fri 8/16/13	434	ACS Eng										
436	Install and terminate lane controller equipment	1.5 days	Fri 8/16/13	Mon 8/19/13	435	ACS Eng										
437	Terminate lane controller to local switch	0.5 days	Mon 8/19/13	Tue 8/20/13	436	ACS Eng										
438	Plaza Installation	19 days	Thu 7/26/13	Mon 8/26/13												
439	Install UPS Server equipment	10 days	Tue 7/23/13	Tue 8/13/13	428	ACS IT Operations										
440	Install connectivity to Ethernet	10 days	Tue 7/23/13	Tue 8/13/13	428	ACS Networking Team										
441	Build Plaza System software	2 days	Tue 8/20/13	Thu 8/22/13	437, 440, 439	ACS Configuration Management										
442	Set up Plaza lane backup systems	2 days	Thu 8/22/13	Mon 8/26/13	441	ACS IT Operations										
443	Install POS Workstations (11) and registers	11 days	Tue 7/23/13	Wed 8/14/13	428	ACS Eng										
444	Install touch screens	1 day	Wed 8/14/13	Thu 8/15/13	443	ACS Eng										
445	Install receipt printers	1 day	Thu 8/15/13	Fri 8/16/13	444	ACS Eng										
446	In-road Equipment Installation	22 days	Fri 7/26/13	Tue 8/27/13												
447	Lane 1 Installation	2 days	Fri 7/26/13	Tue 7/30/13												
448	Close lane and cut and trench loop	2 days	Fri 7/26/13	Tue 7/30/13	413, 240	ACS Test/200%										
449	Wrap and seal loop	2 days	Fri 7/26/13	Tue 7/30/13	240, 413	ACS Test/200%										
450	Terminate loop	2 days	Fri 7/26/13	Tue 7/30/13	240, 413	ACS Test/200%										
451	Tune loop	2 days	Fri 7/26/13	Tue 7/30/13	240, 413	ACS Test/200%										
452	Lane 2 Installation	2 days	Thu 7/26/13	Thu 8/1/13												
453	Close lane and cut and trench loop	2 days	Thu 7/26/13	Thu 8/1/13	450, 448, 451, 449	ACS Test/200%										
454	Wrap and seal loop	2 days	Thu 7/26/13	Thu 8/1/13	448, 450, 451, 449	ACS Test/200%										
455	Terminate loop	2 days	Thu 7/26/13	Thu 8/1/13	448, 451, 450, 449	ACS Test/200%										
456	Tune loop	2 days	Thu 7/26/13	Thu 8/1/13	451, 448, 449, 450	ACS Test/200%										
457	Lane 3 Installation	2 days	Thu 8/1/13	Mon 8/5/13												



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	CR 3	CR 4	CR 1	CR 2	2013	CR 3	CR 4	CR 1	CR 2
436	Close line and cut and trench loop	2 days	Thu 8/1/13	Mon 8/5/13	433,436,435,434	ACS Tend200%									
439	Wrap and seal loop	2 days	Thu 8/1/13	Mon 8/5/13	434,436,435,433	ACS Tend200%									
440	Terminate loop	2 days	Thu 8/1/13	Mon 8/5/13	434,435,436,433	ACS Tend200%									
441	Tune loop	2 days	Thu 8/1/13	Mon 8/5/13	434,436,433,435	ACS Tend200%									
442	Lane 4 Installation	2 days	Mon 8/5/13	Wed 8/7/13											
443	Close line and cut and trench loop	2 days	Mon 8/5/13	Wed 8/7/13	440,448,461,459	ACS Tend200%									
444	Wrap and seal loop	2 days	Mon 8/5/13	Wed 8/7/13	440,448,461,459	ACS Tend200%									
445	Terminate loop	2 days	Mon 8/5/13	Wed 8/7/13	441,440,459,458	ACS Tend200%									
446	Tune loop	2 days	Mon 8/5/13	Wed 8/7/13	459,458,461,460	ACS Tend200%									
447	Lane 5 Installation	2 days	Wed 8/7/13	Fri 8/9/13											
448	Close line and cut and trench loop	2 days	Wed 8/7/13	Fri 8/9/13	445,444,466,463	ACS Tend200%									
449	Wrap and seal loop	2 days	Wed 8/7/13	Fri 8/9/13	443,446,464,465	ACS Tend200%									
450	Terminate loop	2 days	Wed 8/7/13	Fri 8/9/13	464,465,463,466	ACS Tend200%									
451	Tune loop	2 days	Wed 8/7/13	Fri 8/9/13	464,465,466,463	ACS Tend200%									
452	Lane 6 Installation	2 days	Fri 8/9/13	Tue 8/13/13											
453	Close line and cut and trench loop	2 days	Fri 8/9/13	Tue 8/13/13	471,469,470,468	ACS Tend200%									
454	Wrap and seal loop	2 days	Fri 8/9/13	Tue 8/13/13	468,471,470,469	ACS Tend200%									
455	Terminate loop	2 days	Fri 8/9/13	Tue 8/13/13	468,470,471,469	ACS Tend200%									
456	Tune loop	2 days	Fri 8/9/13	Tue 8/13/13	468,470,469,471	ACS Tend200%									
457	Lane 7 Installation	2 days	Tue 8/13/13	Thu 8/15/13											
458	Close line and cut and trench loop	2 days	Tue 8/13/13	Thu 8/15/13	474,476,473,475	ACS Tend200%									
459	Wrap and seal loop	2 days	Tue 8/13/13	Thu 8/15/13	473,475,474,476	ACS Tend200%									
460	Terminate loop	2 days	Tue 8/13/13	Thu 8/15/13	476,473,474,474	ACS Tend200%									
461	Tune loop	2 days	Tue 8/13/13	Thu 8/15/13	475,474,478,473	ACS Tend200%									
462	Lane 8 Installation	2 days	Thu 8/15/13	Mon 8/19/13											
463	Close line and cut and trench loop	2 days	Thu 8/15/13	Mon 8/19/13	480,479,481,478	ACS Tend200%									
464	Wrap and seal loop	2 days	Thu 8/15/13	Mon 8/19/13	478,480,481,479	ACS Tend200%									
465	Terminate loop	2 days	Thu 8/15/13	Mon 8/19/13	480,481,479,478	ACS Tend200%									
466	Tune loop	2 days	Thu 8/15/13	Mon 8/19/13	478,481,479,480	ACS Tend200%									
467	Lane 9 Installation	2 days	Mon 8/19/13	Wed 8/21/13											
468	Close line and cut and trench loop	2 days	Mon 8/19/13	Wed 8/21/13	484,485,483,486	ACS Tend200%									



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Name	2	GR 3	GR 4	GR 1	GR 2	2013	GR 3	GR 4	GR 1	GR 2
489	Wrap and seal loop	2 days	Mon 9/19/13	Wed 9/27/13	486,483,484,485	ACS Tech200%										
490	Terminate loop	2 days	Mon 9/19/13	Wed 9/27/13	486,483,484,485	ACS Tech200%										
491	Tune loop	2 days	Mon 9/19/13	Wed 9/27/13	484,486,485,483	ACS Tech200%										
492	Lane 10 Installation	2 days	Wed 9/27/13	Fri 9/29/13												
493	Close lane and cut and trench loop	2 days	Wed 9/27/13	Fri 9/29/13	484,489,490,491	ACS Tech200%										
494	Wrap and seal loop	2 days	Wed 9/27/13	Fri 9/29/13	489,490,491,488	ACS Tech200%										
495	Terminate loop	2 days	Wed 9/27/13	Fri 9/29/13	489,488,490,491	ACS Tech200%										
496	Tune loop	2 days	Wed 9/27/13	Fri 9/29/13	491,489,490,488	ACS Tech200%										
497	Lane 11 Installation	2 days	Fri 9/29/13	Tue 9/27/13												
498	Close lane and cut and trench loop	2 days	Fri 9/29/13	Tue 9/27/13	486,485,493,494	ACS Tech200%										
499	Wrap and seal loop	2 days	Fri 9/29/13	Tue 9/27/13	486,483,494,485	ACS Tech200%										
500	Terminate loop	2 days	Fri 9/29/13	Tue 9/27/13	483,485,494,486	ACS Tech200%										
501	Tune loop, left lane	2 days	Fri 9/29/13	Tue 9/27/13	483,494,496,485	ACS Tech200%										
502	Field Check-out Testing and Lane Tuning	10 days	Tue 9/27/13	Wed 9/11/13	483,501,445,442,441											
503	Data Conversion and Go-Live	20.5 days	Wed 9/27/13	Wed 10/27/13												
504	Data Migration, Dataset #1	20 days	Wed 9/27/13	Wed 10/27/13												
505	Delete test data from bridge production system	2 days	Wed 9/27/13	Fri 9/29/13	670,671,423	ACS DBA										
506	Client data in existing production system	2 days	Wed 9/27/13	Fri 9/29/13	423,500,498,499,501	MSA DBA										
507	Delay for weekend migration timing (11/22/13 is Th)	0 days	Wed 9/11/13	Wed 9/11/13	902	ACS PM										
508	Create extract from Production systems	2 days	Wed 9/11/13	Fri 9/13/13	507,506,505	MSA DBA										
509	Convert and load Data	3 days	Fri 9/13/13	Mon 9/16/13	508	ACS DBA										
510	Validate /Shrink Data Migration (go-to-go decision)	2 days	Mon 9/16/13	Wed 9/18/13	509	ACS DBA,MSA DBA										
511	Data deficiencies Log workoff	10 days	Wed 9/18/13	Wed 10/27/13	510	ACS DBA										
512	Priority 1 & 2 Data deficiencies resolved	0 days	Wed 10/27/13	Wed 10/27/13	511	ACS DBA										
513	Database indexing tuning	2 days	Wed 9/18/13	Fri 9/20/13	510	ACS DBA										
514	Open bridge to new software system	12.5 days	Mon 9/16/13	Wed 10/27/13												
515	Integrate CSC, LC, and Plaza software	2.5 days	Mon 9/16/13	Wed 9/18/13	509,442,445,505,506	ACS Development Lead										
516	Implement MCOE website for bridge	2.5 days	Mon 9/16/13	Wed 9/18/13	509	ACS PM										
517	Turn lanes On (Bridge #1 go-live)	0 days	Wed 9/18/13	Wed 9/18/13	513,510,516,424	ACS										
518	Forecast Bump in software system for site	10 days	Wed 9/18/13	Wed 10/27/13	516,517,515	ACS Eng										
519	1.1.1.3 Implement Bridge 2 (Blue Water Bridge)	47.17 days	Tue 9/27/13	Fri 11/11/13												



All Tasks
Wed 02/21/12

Michigan DOT Toll Bridge Software RFP-MI-071118001.07



ID	WBS Task Name	Duration	Start	Finish	Processors	Resource Names	CR 3	CR 4	CR 1	CR 2	2013	CR 3	CR 4	CR 1	CR 2
551	Lane 3 Installation	2 days	Tue 9/2/13	Thu 9/5/13	545,550, 547, 548	ACS Line Test200%									
552	Close line and cut and trench loop	2 days	Tue 9/2/13	Thu 9/5/13	545,550, 547, 548	ACS Line Test200%									
553	Wrap and seal loop	2 days	Tue 9/2/13	Thu 9/5/13	545,549, 547, 550	ACS Line Test200%									
554	Terminate loop	2 days	Tue 9/2/13	Thu 9/5/13	545,550, 548, 547	ACS Line Test200%									
555	Tune loop	2 days	Tue 9/2/13	Thu 9/5/13	545,548, 550, 547	ACS Line Test200%									
556	Lane 4 Installation	2 days	Thu 9/5/13	Mon 9/9/13	555,554, 552, 555	ACS Line Test200%									
557	Close line and cut and trench loop	2 days	Thu 9/5/13	Mon 9/9/13	555,554, 552, 555	ACS Line Test200%									
558	Wrap and seal loop	2 days	Thu 9/5/13	Mon 9/9/13	555,554, 555, 555	ACS Line Test200%									
559	Terminate loop	2 days	Thu 9/5/13	Mon 9/9/13	555,553, 554, 555	ACS Line Test200%									
560	Tune loop	2 days	Thu 9/5/13	Mon 9/9/13	555,552, 554, 555	ACS Line Test200%									
561	Lane 5 Installation	2 days	Mon 9/9/13	Wed 9/11/13	565,565, 567, 568	ACS Line Test200%									
562	Close line and cut and trench loop	2 days	Mon 9/9/13	Wed 9/11/13	565,565, 567, 568	ACS Line Test200%									
563	Wrap and seal loop	2 days	Mon 9/9/13	Wed 9/11/13	565,565, 568, 567	ACS Line Test200%									
564	Terminate loop	2 days	Mon 9/9/13	Wed 9/11/13	567,568, 568, 569	ACS Line Test200%									
565	Tune loop	2 days	Mon 9/9/13	Wed 9/11/13	565,569, 569, 567	ACS Line Test200%									
566	Lane 6 Installation	2 days	Wed 9/11/13	Fri 9/13/13	565,564, 562, 563	ACS Line Test200%									
567	Close line and cut and trench loop	2 days	Wed 9/11/13	Fri 9/13/13	565,564, 562, 563	ACS Line Test200%									
568	Wrap and seal loop	2 days	Wed 9/11/13	Fri 9/13/13	564,565, 563, 562	ACS Line Test200%									
569	Terminate loop	2 days	Wed 9/11/13	Fri 9/13/13	563,565, 562, 564	ACS Line Test200%									
570	Tune loop	2 days	Wed 9/11/13	Fri 9/13/13	564,563, 562, 565	ACS Line Test200%									
571	Field Checklist Testing and Lane Tuning	4 days	Wed 10/2/13	Tue 10/8/13	570,534, 533, 535, 536										
572	Data Conversion and QA-HW	27.17 days	Wed 9/25/13	Fri 11/1/13											
573	Data Migration, Dataset #2	26.61 days	Wed 9/25/13	Thu 10/31/13											
574	Clearse data in existing production system	2 days	Wed 9/25/13	Fri 9/27/13	568,570,872,569,567	BWB DBA									
575	Daily for weekend migration timing	0 days	Tue 10/8/13	Tue 10/8/13	574,571	ACS PM									
576	Create extract from Production systems	4.67 days	Tue 10/8/13	Sat 10/27/13	571,517,575,574	BWB DBA									
577	Convert and load Data	4 days	Sun 10/27/13	Wed 10/30/13	576	ACS DBA									
578	Validate /Shakedown Data Migration	1 day	Thu 10/27/13	Thu 10/27/13	577	ACS DBA, BWB DBA									
579	Data deficiencies (log weekend)	10 days	Fri 10/26/13	Thu 10/31/13	578	ACS DBA									
580	Priority 1 & 2 Data deficiencies resolved	0 days	Thu 10/31/13	Thu 10/31/13	579	ACS DBA									
581	Database indexing tuning	2 days	Fri 10/26/13	Mon 10/21/13	578	ACS DBA									

ACS Proprietary Data

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TSO Michigan DOT Toll Bridge Software



All Tasks
Wed 9/27/12

Michigan DOT Toll Bridge Software RFP-ML-07111300167



ID	WBS	Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Q1 3	Q1 4	Q1 1	Q1 2	2013	Q1 3	Q1 4	Q1 1	Q1 2
582		Open Bridge to new software system	10.5 days	Fri 10/01/13	Fri 11/17/13												
583		Integrate CSC, LC, and Plaza software	2 days	Fri 10/01/13	Mon 10/21/13	589, 585, 587, 588, 581	ACS Development Lead										
584		Implement MDOE website for bridge	0.5 days	Fri 11/01/13	Fri 11/01/13	585, 580, 581	ACS Development Lead										
585		Turn lanes On (Bridge #2 go live)	0 days	Fri 11/01/13	Fri 11/01/13	584, 578, 583	ACS PM										
586	1.1.F.4	Implement Bridge 3 (International Bridge)	48.67 days	Fri 9/13/13	Mon 11/18/13												
587		Tunnel Installation	17 days	Tue 9/24/13	Thu 10/17/13												
588		Lane Controller Cabinet	4.5 days	Tue 9/24/13	Mon 9/30/13												
589		Install lane controller cabinet	2 days	Tue 9/24/13	Thu 9/26/13	526	ACS Eng										
590		Install or Extend conduit to cabinet	2.5 days	Thu 9/26/13	Mon 9/30/13	588	ACS Eng										
591		Lane Enclosure Cabinet (LEC)	4.5 days	Mon 9/30/13	Mon 10/07/13												
592		Install LEC in tunnel	2 days	Mon 9/30/13	Wed 10/23/13	590	ACS Eng										
593		Install or Extend conduit to cabinet	2.5 days	Wed 10/23/13	Mon 10/27/13	592	ACS Eng										
594		Lane Controller	8 days	Mon 10/07/13	Thu 10/17/13												
595		Install power wiring and panels	3 days	Mon 10/07/13	Thu 10/10/13	593	ACS Eng										
596		Install/terminate power wiring from power panels to lane controller	3 days	Thu 10/10/13	Tue 10/15/13	595	ACS Eng										
597		Install and terminate lane controller equipment	1.5 days	Tue 10/15/13	Wed 10/16/13	596	ACS Eng										
598		Terminate lane controller to local switch	0.5 days	Wed 10/16/13	Thu 10/17/13	597	ACS Eng										
599		Plaza Installation	20 days	Tue 9/24/13	Tue 10/22/13												
600		Install UPS Server equipment	10 days	Thu 9/26/13	Thu 10/10/13	589	ACS IT Operations										
601		Install connectivity to Ethernet	10 days	Thu 9/26/13	Thu 10/10/13	589	ACS Networking Team										
602		Build Plaza System software	1 day	Thu 10/17/13	Fri 10/18/13	598	ACS Configuration Management										
603		Set up Plaza tape backup systems	2 days	Fri 10/18/13	Tue 10/22/13	602	ACS IT Operations										
604		Install PDS Workstations (6) and printers	6 days	Tue 9/24/13	Wed 10/23/13	589, 585	ACS Eng										
605		Install touch screens	1 day	Tue 9/24/13	Wed 9/25/13	589, 585	ACS Eng										
606		Install receipt printers	1 day	Wed 9/25/13	Thu 9/26/13	605, 589, 585	ACS Eng										
607		In-road Equipment Installation	10 days	Fri 9/13/13	Fri 9/27/13												
608		Lane 1 Installation	2 days	Fri 9/13/13	Tue 9/17/13												
609		Close lane and cut and trench loop	2 days	Fri 9/13/13	Tue 9/17/13	589, 587, 589, 570	ACS Lane Tech(200%)										
610		Wrap and seal loop	2 days	Fri 9/13/13	Tue 9/17/13	570, 589, 589, 587	ACS Lane Tech(200%)										
611		Terminate loop	2 days	Fri 9/13/13	Tue 9/17/13	587, 589, 589, 570	ACS Lane Tech(200%)										
612		Tune loop	2 days	Fri 9/13/13	Tue 9/17/13	570, 587, 589, 589	ACS Lane Tech(200%)										



All Tasks
Wed 6/27/12

Michigan DOT Toll Bridge Software RFP-MI-07111300167



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Qtr 3	Qtr 4	Qtr 1	Qtr 2	2013	Qtr 3	Qtr 4	Qtr 1	Qtr 2
613	Lane 2 Installation	2 days	Tue 9/17/13	Thu 9/19/13												
614	Close lane and cut and trench loop	2 days	Tue 9/17/13	Thu 9/19/13	610,609,612,611	ACS Lane Teal(200%)										
615	Wrap and seal loop	2 days	Tue 9/17/13	Thu 9/19/13	609,612,611,610	ACS Lane Teal(200%)										
616	Terminate loop	2 days	Tue 9/17/13	Thu 9/19/13	610,611,609,612	ACS Lane Teal(200%)										
617	Tune loop	2 days	Tue 9/17/13	Thu 9/19/13	612,609,611,610	ACS Lane Teal(200%)										
618	Lane 3 Installation	2 days	Thu 9/19/13	Mon 9/23/13												
619	Close lane and cut and trench loop	2 days	Thu 9/19/13	Mon 9/23/13	615,614,617,616	ACS Lane Teal(200%)										
620	Wrap and seal loop	2 days	Thu 9/19/13	Mon 9/23/13	615,616,614,617	ACS Lane Teal(200%)										
621	Terminate loop	2 days	Thu 9/19/13	Mon 9/23/13	617,614,616,615	ACS Lane Teal(200%)										
622	Tune loop	2 days	Thu 9/19/13	Mon 9/23/13	617,616,614,615	ACS Lane Teal(200%)										
623	Lane 4 Installation	2 days	Mon 9/23/13	Wed 9/25/13												
624	Close lane and cut and trench loop	2 days	Mon 9/23/13	Wed 9/25/13	620,622,621,619	ACS Lane Teal(200%)										
625	Wrap and seal loop	2 days	Mon 9/23/13	Wed 9/25/13	621,619,620,622	ACS Lane Teal(200%)										
626	Terminate loop	2 days	Mon 9/23/13	Wed 9/25/13	620,621,622,619	ACS Lane Teal(200%)										
627	Tune loop	2 days	Mon 9/23/13	Wed 9/25/13	619,620,622,621	ACS Lane Teal(200%)										
628	Lane 5 Installation	2 days	Wed 9/25/13	Fri 9/27/13												
629	Close lane and cut and trench loop	2 days	Wed 9/25/13	Fri 9/27/13	626,627,624,625	ACS Lane Teal(200%)										
630	Wrap and seal loop	2 days	Wed 9/25/13	Fri 9/27/13	626,627,624,625	ACS Lane Teal(200%)										
631	Terminate loop	2 days	Wed 9/25/13	Fri 9/27/13	624,627,625,626	ACS Lane Teal(200%)										
632	Tune loop	2 days	Wed 9/25/13	Fri 9/27/13	624,625,627,626	ACS Lane Teal(200%)										
633	Field Checkout Testing and Lane Tuning	7 days	Tue 10/22/13	Thu 10/31/13	601,600,632,603,602											
634	Data Conversion and Go-Live	29.67 days	Tue 10/29/13	Mon 11/18/13												
635	Data Migration, Dataset #3	29.67 days	Tue 10/29/13	Mon 10/29/13												
636	License data in production system	2 days	Tue 10/29/13	Thu 10/31/13	673,631,629,632,630	IBA DBA										
637	Delay for weekend migration tuning	2 days	Thu 10/31/13	Mon 11/4/13	636,633	ACS PM(100%)										
638	Create extract from Production systems	2 days	Mon 11/4/13	Wed 11/6/13	633,636,637	IBA DBA										
639	Convert and load Data	3 days	Wed 11/6/13	Sat 11/9/13	636	ACS DBA										
640	Validate / Shakeout Data Migration	2.67 days	Sat 11/9/13	Mon 11/11/13	639	ACS DBA IBA DBA US IBA DBA Can										
641	Data deficiencies Log workof	5 days	Tue 11/12/13	Mon 11/18/13	640	ACS DBA										
642	Priority 1 & 2 Data deficiencies resolved	0 days	Mon 11/18/13	Mon 11/18/13	641	ACS DBA										
643	Database indexing, tuning	2 days	Tue 11/12/13	Wed 11/13/13	640	ACS DBA										

ACS Proprietary Data



All Tasks
Wed 6/27/12
Michigan DOT Toll Bridge Software RFP-MI-071B2200310

ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Qtr 3	Qtr 4	Qtr 1	Qtr 2	2013	Qtr 3	Qtr 4	Qtr 1	Qtr 2
644	Open bridge to new software system	1 day	Tue 11/12/13	Tue 11/12/13												
645	Integrate CSC, LLC and Plaza software	0.5 days	Tue 11/12/13	Tue 11/12/13	605,606,604,602,640	ACS Development Lead										
646	Implement MDOIT website for bridge	0.5 days	Tue 11/12/13	Tue 11/12/13	645,585,584	ACS Development Lead										
647	Turn lanes On (Bridge #3 go-live)	0 days	Tue 11/12/13	Tue 11/12/13	645,646	ACS PM										
648	Stage close-out	13 days	Tue 11/12/13	Mon 12/2/13		ACS PM										
649	Manage 14 day turn-in of software from last site	14 edays	Tue 11/12/13	Tue 11/26/13		ACS PM										
650	Close-out documentation and presentations for two of MDOIT's IT governance groups, the IT Operations Team	1 day	Wed 11/27/13	Wed 11/27/13		ACS PM										
651	Provide final updated installation plan	1 day	Wed 11/13/13	Wed 11/13/13	647	ACS PM										
652	Prepare Stage exit agenda	1 day	Wed 11/27/13	Wed 11/27/13	653FF-1 day	ACS PM										
653	Attend implementation stage exit meeting	1 day	Fri 11/29/13	Fri 11/29/13	651,648,650,645,692	ACS PM										
654	Stage exit approval	1 day	Mon 12/2/13	Mon 12/2/13	653	DTMB, MDOIT										
655	Provide Final Acceptance	0 days	Mon 12/2/13	Mon 12/2/13	654,652,648	DTMB, MDOIT										
656	1.1.G.0 Training	193.33 days	Mon 11/11/13	Tue 10/8/13												
657	1.1.G.1 Training Plan	23 days	Mon 11/11/13	Wed 2/6/13												
658	Prepare Training Plan	8 days	Mon 11/11/13	Wed 11/6/13	194	ACS Training Specialist										
659	Submit Training Plan to Client	0 days	Wed 11/6/13	Wed 11/6/13	656	ACS Training Specialist										
660	Client Reviews & Comments on Training Plan	5 days	Thu 11/17/13	Wed 12/3/13	656	DTMB, OA										
661	Revise Training Plan	5 days	Thu 11/24/13	Wed 12/10/13	660	ACS Training Specialist										
662	Submit Revised Training Plan to Client	0 days	Wed 12/10/13	Wed 12/10/13	661	ACS Training Specialist										
663	Client Reviews & Approves Training Plan	5 days	Thu 12/11/13	Wed 2/6/13	662	DTMB, OA										
664	1.1.G.2 Conduct Training	101.33 days	Wed 5/15/13	Tue 10/8/13												
665	Set up training system and facilities at MDOIT's Hovulio Estate	10 days	Wed 5/15/13	Wed 5/29/13	881	DTMB										
666	Train the trainer training to train toll bridge staff, Bridge #1	3 days	Tue 6/11/13	Fri 6/16/13	881,686,685,428	ACS Training Specialist										
667	Train the trainer training to train toll bridge staff, Bridge #2	3 days	Fri 6/13/13	Wed 6/18/13	522	ACS Training Specialist										
668	Train the trainer training to train toll bridge staff, Bridge #3	3 days	Thu 6/26/13	Tue 10/1/13	586	ACS Training Specialist										
669	Train the lane maintenance staff	5 days	Fri 6/16/13	Fri 6/22/13	666	ACS Tech Lead										
670	System administration training	5 days	Fri 6/20/13	Fri 6/26/13	666	ACS Tech Lead										
671	CSR application Training, Bridge #1	5 days	Fri 6/16/13	Fri 6/22/13	666	MDOIT Training Specialist										
672	CSR application Training, Bridge #2	5 days	Wed 6/18/13	Wed 6/25/13	667	MDOIT Training Specialist										
673	CSR application Training, Bridge #3	5 days	Tue 10/1/13	Tue 10/8/13	668	MDOIT Training Specialist										
674	1.1.H.0 Technical Documentation	118.33 days	Wed 4/23/13	Thu 8/19/13												





ID	WBS	Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Qtr 3	Qtr 4	Qtr 1	Qtr 2	2013	Qtr 3	Qtr 4	Qtr 1	Qtr 2
675	1.1H.1	User/admin Materials	30 days	Wed 4/30/12	Tue 5/14/13												
676		Tutor user guide	10 days	Wed 4/23/12	Tue 4/16/13	316, 316	ACS Tech Writer										
677		Tutor system administration manual	10 days	Wed 4/23/12	Tue 4/16/13	316, 318	ACS Tech Writer										
678		Review User Guide and Administration Manual	5 days	Wed 4/17/12	Tue 4/23/13	677, 676	DTMB Tech Writer										
679		Update user materials from comments	5 days	Wed 4/24/12	Tue 4/20/13	678	ACS Tech Writer										
680		Deliver user manuals to client	0 days	Tue 4/20/13	Tue 4/20/13	679	ACS Tech Writer										
681		Review and approve User Manual	10 days	Wed 5/1/12	Tue 5/14/13	680	DTMB Tech Writer										
682	1.1H.2	Training Materials	80 days	Fri 4/19/12	Tue 8/13/13												
683		Tutor CSR application training modules	20 days	Fri 4/19/12	Fri 5/17/13	683, 378	ACS Training Specialist(50%)										
684		Tutor system admin training modules	40 days	Fri 5/17/12	Tue 7/16/13	683, 683	ACS Training Specialist(50%)										
685		Review Training Materials	5 days	Tue 7/16/12	Tue 7/23/13	683, 684	DTMB Tech Writer										
686		Update training materials from comments	5 days	Tue 7/23/12	Tue 7/20/13	685	ACS Training Specialist										
687		Deliver training materials to client	0 days	Tue 7/20/13	Tue 7/20/13	686	ACS Tech Writer										
688		Review and approve Training materials	10 days	Tue 7/20/12	Tue 8/13/13	687	MOOT Training Specialist										
689	1.1H.3	Wrap-up documentation	29 days	Thu 8/8/12	Thu 9/19/13												
690		Deliver final data dictionary definitions	0 days	Wed 8/15/12	Wed 9/18/13	510, 200, 199	ACS DBA, ACS Tech Pubs										
691		Prepare Release notes	3 days	Thu 8/8/12	Tue 8/13/13	419SS-3 days											
692		Confirm delivery of all Technical Documentation	1 day	Wed 8/15/12	Thu 9/19/13	688, 681, 681, 690	DTMB QA										
693	1.1I.0	Knowledge Transfer/Transition of Responsibility	335 days	Mon 7/16/12	Wed 12/4/13												
694	1.1I.1	Project Charter	9 days	Mon 7/16/12	Thu 7/26/12												
695		Prepare Project Charter	5 days	Mon 7/16/12	Fri 7/20/12	5											
696		Conduct Internal Review of Project Charter	2 days	Mon 7/23/12	Tue 7/24/12	695											
697		Update Project Charter	2 days	Wed 7/25/12	Thu 7/26/12	696											
698	1.1I.2	Project Scope Statement	9 days	Mon 7/16/12	Thu 7/26/12												
699		Prepare Project Scope Statement	5 days	Mon 7/16/12	Fri 7/20/12	5											
700		Conduct Internal Review of Project Scope	2 days	Mon 7/23/12	Tue 7/24/12	699											
701		Update Project Scope Statement	2 days	Wed 7/25/12	Thu 7/26/12	700											
702	1.1I.3	Project closed, final knowledge transfer	2 days	Tue 12/31/12	Wed 1/24/13												
703		Facilitate knowledge transfer session	1 day	Tue 12/31/12	Tue 1/2/13	655	ACS PM										
704		Facilitate lessons learned session	1 day	Tue 12/31/12	Tue 1/2/13	655	ACS PM										
705		Deliver final version of document, if changed	1 day	Tue 12/31/12	Tue 1/2/13												



ID	WBS Task Name	Duration	Start	Finish	Predecessors	Resource Names	12	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
706	Issues list	1 day	Tue 12/29/13	Tue 12/29/13	655										
707	Functional design	1 day	Tue 12/29/13	Tue 12/29/13	655										
708	User cases	1 day	Tue 12/29/13	Tue 12/29/13	655										
709	Technical design	1 day	Tue 12/29/13	Tue 12/29/13	655										
710	Data models	1 day	Tue 12/29/13	Tue 12/29/13	655										
711	Test plans	1 day	Tue 12/29/13	Tue 12/29/13	655										
712	Test data	1 day	Tue 12/29/13	Tue 12/29/13	655										
713	Test scripts	1 day	Tue 12/29/13	Tue 12/29/13	655										
714	User documentation	1 day	Tue 12/29/13	Tue 12/29/13	655										
715	Usability testing	1 day	Tue 12/29/13	Tue 12/29/13	655										
716	Data conversion information	1 day	Tue 12/29/13	Tue 12/29/13	655										
717	Installation plan	1 day	Tue 12/29/13	Tue 12/29/13	655										
718	Defect tracking log	1 day	Tue 12/29/13	Tue 12/29/13	655										
719	Feature potential enhancements log	1 day	Tue 12/29/13	Tue 12/29/13	655										
720	Security Plan	1 day	Tue 12/29/13	Tue 12/29/13	655										
721	Confirm delivery of all plans and technical documentation	1 day	Wed 12/30/13	Wed 12/30/13	718,719,720,716,720,718	DMIB QA									
722	Warranty	64 days	Mon 12/22/13	Tue 3/4/14											
723	1.1.1 Support application	90 edays	Mon 12/22/13	Sun 3/27/14	655										
724	1.1.2 Maintain and work from defect log	90 edays	Mon 12/22/13	Sun 3/27/14	655										
725	1.1.3 Facilitate knowledge transfer session, 1 week into stand-state	1 day	Tue 12/10/13	Tue 12/10/13	723SS+7 edays	ACS PM									
726	1.1.4 Facilitate knowledge transfer session, 45 days into stand-state	1 day	Fri 1/17/14	Fri 1/17/14	723SS+45 edays	ACS PM									
727	1.1.5 Stage close-out	3 days	Fri 2/28/14	Tue 3/4/14											
728	Prepare Stage exit agenda	1 day	Fri 2/28/14	Fri 2/28/14	728F-1 day										
729	Attend Warranty stage exit meeting	1 day	Mon 3/24/14	Mon 3/24/14	729,721,728,704,725										
730	Warranty stage exit approval	1 day	Tue 3/4/14	Tue 3/4/14	512,729,513,518,728	MDOT									



Appendix H – Data Sheets

- Lane Controller Chassis IPC-6608_DS
- Lane Controller D I-O Card
- Lane Controller Intel CPU
- Lane Controller Passive Back Plane PCA-6108P4-0C2E_DS
- Lane Controller aid Card STTX8650.58
- Lane Controller Serial Expansion Board Control
- Lane Controller Single Board Computer PCA-6011
- Lane Controller Western Digital HD
- Lane Electronic Cabinet IO_Mod_AC_Output
- Lane Electronic Cabinet IO_Mod_DC_Input
- Lane Electronic Cabinet IO_Mod_DC_Output
- Lane Electronic Cabinet DIO_Racks_16_Channel
- Lane Electronic Cabinet Power Supplies
- Loop Detector Oracle S1E S2E Catalog Sheet
- Credit Card Terminal T4220_Datasheet



Appendix I – Escrow Agreement

