

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

**NOTICE OF CONTRACT NO. 071B5500120**  
 between  
**THE STATE OF MICHIGAN**  
 and

NAME & ADDRESS OF CONTRACTOR	PRIMARY CONTACT	EMAIL
Data Recognition Corporation  13490 Bass Lake Road  Maple Grove, MN 55311	Susan Engeleier	sengeleiter@datarecognitioncorp.com
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	(763) 268-2102	0970

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
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CONTRACT ADMINISTRATOR	DTMB	Lance Kingsbury	(517) 284-7017	kingsburyl@michigan.gov

CONTRACT SUMMARY			
<b>DESCRIPTION: Administration, Scoring and Reporting of Statewide Assessments - MDE</b>			
INITIAL TERM	EFFECTIVE DATE	INITIAL EXPIRATION DATE	AVAILABLE OPTIONS
Three Years	July 1, 2015	June 30, 2018	Five, one-year options
PAYMENT TERMS	F.O.B.	SHIPPED TO	
N/A	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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS:			
N/A			
MISCELLANEOUS INFORMATION:			
N/A			
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION:		\$41,274,453.00	

**For the Contractor:**

\_\_\_\_\_  
\_\_\_\_\_,  
**Contract Administrator**  
\_\_\_\_\_

\_\_\_\_\_  
**Date**

**For the State:**

\_\_\_\_\_  
\_\_\_\_\_,  
\_\_\_\_\_  
**State of Michigan**

\_\_\_\_\_  
**Date**



# STATE OF MICHIGAN

Contract No. 071B5500120  
Administration, Scoring and Reporting of Statewide Assessments

## Definitions

**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 within the scope of the Contract, but not specifically provided under any Statement of Work.

**Audit Period** means the seven year period following Contractor's provision of any work under the Contract.

**Bidder(s)** are those companies that submit a proposal in response to the RFP.

**Business Day** means any day other than a Saturday, Sunday or State-recognized legal holiday from 8:00am EST through 5:00pm EST unless otherwise stated.

**Blanket Purchase Order** is an alternate term for Contract and is used in the Plan Sponsors' computer system.

**Days** means calendar days unless otherwise specified.

**Deliverable** means physical goods and/or services required or identified in a Statement of Work.

**DTMB** means the Michigan Department of Technology Management and Budget.

**Environmentally Preferable Products** means 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 which contain recycled content, minimize waste, conserve energy or water, and reduce the amount of toxics either disposed of or consumed.

**Hazardous Material** means 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** means any interruption in any function performed for the benefit of the State.

**Key Personnel** means any personnel identified in **Section 1.031** as Key Personnel.

**New Work** means any Services/Deliverables outside the scope of the Contract and not specifically provided under any Statement of Work, such that once added will result in the need to provide the Contractor with additional consideration. "New Work" does not include Additional Service.

**Ozone-depleting Substance** means 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, hydrochlorofluorocarbons.

**Post-Consumer Waste** means 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** means industrial by-products which would otherwise go to disposal and wastes generated after completion of a manufacturing process, but does not include internally generated scrap commonly returned to industrial or manufacturing processes.



**Recycling** means the series of activities by which materials that are no longer useful to the generator are collected, sorted, processed, and converted into raw materials and used in the production of new products. This definition excludes the use of these materials as a fuel substitute or for energy production.

**Reuse** means using a product or component of municipal solid waste in its original form more than once.

**RFP** means a Request for Proposal designed to solicit proposals for services.

**Services** means any function performed for the benefit of the State.

**SLA** means Service Level Agreement.

**Source Reduction** means 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** means any physical location where the State performs work. State Location may include State-owned, leased, or rented space.

**Subcontractor** means a company selected by the Contractor to perform a portion of the Services, but does not include independent contractors engaged by Contractor solely in a staff augmentation role.

**Unauthorized Removal** means the Contractor's removal of Key Personnel without the prior written consent of the State.

**Waste Prevention** means source reduction and reuse, but not recycling.

**Pollution Prevention** means 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** means 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 the Contract.

## **DEFINITIONS—Division of Accountability Services**

**Accommodation** — Accommodations are practices and procedures in the areas of presentation, response, setting, and timing/scheduling that provides equitable access during instruction and assessment for students with disabilities. Educators and administrators design accommodations in order to compensate for or mitigate a disability the student may have, or to address a physical, mental, or emotional need a student exhibits. Accommodations administered both in regular instruction and during assessments are one way that educators ensure that students have access to education in a way that is equal to their peers. Accommodations are intended to reduce or eliminate the effects of a student's disability; they do not reduce the learning experience.

**Activity-based observation item** — In Michigan, this is a type of MI-Access Supported Independence or Participation performance-based item (SI/P) that takes into account the degree of assistance provided by the test administrator(s) to a student in completing an individual or group activity. The single digit response rating is A, B, C, or 1, 2, 3.



**ADA (Americans with Disabilities Act)** — Wide-ranging legislation intended to make American society more accessible to people with disabilities. It extends protection against discrimination to all State and local government services (including public schools) whether or not they receive Federal funds.

**AERA (American Educational Research Association)** — is the national interdisciplinary research association for scholars who undertake research in education.

**Alternate Achievement Standards** — Explicit definitions of how students are expected to demonstrate attainment of the knowledge and skills covered in the State's extended content standards.

**Alternate Assessment** — An assessment used to measure the learning progress and performance of students with disabilities whose IEP Teams have determined that it is not appropriate for them to participate in general education assessments (i.e., the MEAP or the MME). As allowed by Federal law, these assessments may be based either on grade-level achievement standards or alternate achievement standards.

**Answer Booklet** — A scannable multi-page document in which students record their responses to an assessment.

**Answer Document** — A scannable answer sheet in which students record their responses to an assessment.

**AI (Artificial Intelligence) Scoring** — refers to computer-automated scoring of constructed-response items.

**AIF (Assessment Interoperability Framework)** – The framework being developed by the joint SIF/IMS working group to define how interoperability standards should be applied for an assessment platform in support of the current State standard assessments.

**APA (American Psychological Association)** — The largest scientific and professional organization representing psychology in the United States.

**API (Application Programming Interface)** — A specification intended to be used as an interface by software components to communicate with each other.

**APIP (Accessible Portable Item Protocol) Standard** — A technical standard that focuses on accessibility in assessment items. APIP is an extension of the QTIv2.1 standard, allowing accessibility information to be included in a digital test item definition so that items can be transferred between APIP compliant item banks.

**Assessment** — A tool or instrument that measures what a student knows and can do. This measurement is often expressed as a score on a numerical rating scale, as well as a description of a performance level.

**Assessment Accommodation** — Changes the way a student accesses an assessment without changing the actual standards the student is working toward or the content being assessed. The goal of an assessment accommodation is to minimize the impact of a student's disability on his or her performance on an assessment. Decisions regarding assessment accommodations are to be made on a case-by-case basis and are to be based on relative appropriateness to a disability and the impact it has on the student. Decisions about assessment accommodations should be made well in advance of the actual assessment.

**Assessment Consortium** — A multi-State arrangement collaborating on a Federally sponsored grant to develop a comprehensive assessment system aligned to the State Standards.

**Assessment Coordinator** — is the School or District Coordinator for statewide assessment programs. Currently, there are M-STEP, MI-Access, and MME coordinators for general and alternate assessment programs.

**Assessment Window** — is the span of days over which assessments are administered.



**Benchmarks** — While content standards describe what all students should know and be able to do in certain broad subject areas, benchmarks indicate what students should know and be able to do at various developmental levels (i.e., early elementary, later elementary, middle, and high school) within the content standards (Michigan Curriculum Framework, page 8).

**CEDS (Common Education Data Standards)** – A national collaborative effort to develop voluntary, common data standards for a key set of education data elements to streamline the exchange and comparison of data across institutions and sectors. (<https://ceds.ed.gov>)

**CEPI (Center for Educational Performance Information)** — Collects and reports data about Michigan’s K–12 public schools. Initiatives in data collection and reporting facilitate school districts’ compliance with the Federal No Child Left Behind Act of 2001 and the Michigan Department of Education’s accreditation plan, EducationYes!

**CAT (Computer Adaptive Test)\*** — A computer adaptive test is one in which the next test question is selected (and typically administered) by a computer algorithm based on the student’s performance on previously administered items. In such a way, an assessment can be tailored to the individual student’s response, thereby adding precision to the resulting scores since students only see the test questions most appropriate for them.

**CCR (Change Control Request)** —In Michigan, the process to alter the Specifications or the Statement of Work.

**Concurrent Users** — are the Users who are logged in and using the Online Test Delivery System at any given time.

**Content Area** — is a Course or discipline of study, including reading, mathematics, science, social studies, and writing. (Content areas can also include languages, art, music, theater arts, and other disciplines not typically assessed on Statewide assessments.)

**Core GLCE** — A Grade Level Content Expectation, or GLCE, that measures an essential skill/content area.

**Council of Chief State School Officers (CCSSO).**

**Cut Score** — A specific point on a score scale, such that scores at or above that point are interpreted or acted upon differently from the scores below that point (Standards for Educational and Psychological Testing, 1999).

**Digital Test Item** — An electronic item format allowing items to be transported using a standardized exchange file format or standard, such as QTI or APIP.

**Disability** — The Individuals with Disabilities Education Act (IDEA) has defined a disability as “mental retardation, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance, an orthopedic impairment, autism, traumatic brain injury, another health impairment, a specific learning disability, deaf-blindness, or multiple disabilities.”

**DAS (Division of Accountability Services)** and was formerly known as the Bureau of Assessment and Accountability (MDE) and before that the Office of Educational Assessment and Accountability (OEAA).

**EDT** — refers to Eastern Daylight Time.

**Economically Disadvantaged** — A student from a family with an annual income below a level that is based on low-income thresholds according to family size published by the U.S. Bureau of the Census, adjusted annually for changes in the Consumer Price Index. These students are eligible for free and reduced-price meals.

**EEM (Educational Entity Master)** — This is the single repository for all Statewide school and district information. It is managed by Center for Educational Performance Information (CEPI), which is part of the Department of Technology Management and Budget. EEM data required for assessments (school, district, Intermediate School District) are transferred to the MDE Secure Site. Contractor access to these data will be provided via web services or direct table read from the MDE Secure Site database.



**ELA** — English Language Arts, subjects or content areas that include reading, writing, listening, and speaking based on the current State Standards. ELA aims at developing the student’s comprehension and capacity for use of written and oral language.

**Electronic Document Management Site (Master data repository site\*)** — The electronic repository of materials, processes, data, and services for the Contract. It serves multiple offices, departments, and Contractors and contains such items as schedules, requirements, and print-optimized forms of print-ready materials for Michigan’s assessment and reporting systems.

**ELL English Language Learner (also referred to as English learner)** — The Michigan definition is a student who has a primary or home language other than English who—because of limited proficiency in speaking, reading, writing, and understanding the English language—requires alternative programs or services to equally access the local educational agency’s total academic curriculum. These students are sometimes referred to as students with limited English proficiency (LEP).

**ESEA** — refers to Elementary and Secondary Education Act.

**EST** — refers Eastern Standard Time.

**EGLCEs (Extended Grade Level Content Expectations)** — GLCEs indicate what elementary and middle school students should know and be able to do in specific grades within the content standards. Extended GLCEs are those that have been “extended” (or reduced in depth, breadth, and complexity) to more appropriately reflect what the student population taking an alternate assessment based on alternate achievement standards should know and be able to do given their cognitive functioning level, curriculum, and instruction.

**EHSCEs (Extended High School Content Expectations)** — HSCEs indicate what high school students should know and be able to do in high school within the content standards. Extended HSCEs are those that have been “extended” (or reduced in depth, breadth, and complexity) to more appropriately reflect what the student population taking an alternate assessment based on alternate achievement standards should know and be able to do given their cognitive functioning level, curriculum, and instruction.

**Extended response** — refers to constructed-response items that require AI and/or handscoring. They are used to determine a student’s performance on an assessment task, constructed-response item, or multiple-choice item.

**Field Test** — A test administration used to check the adequacy of testing procedures, generally including test administration, test responding, test scoring, and item test reporting. A field test is more extensive than a pilot test.

**Field-test Item** — A test question (often embedded within the operational items) that is inserted to obtain statistical information about its performance and ability to measure its intended content; this item does not count toward the student score; the statistical data are used in item selection for future tests.

**GLCE (Grade Level Content Expectation)** — What elementary and middle school students should know and be able to do in specific grades within a content standard.

**HSCE (High School Content Expectation)** — What high school students should know and be able to do within a content standard.

**Homeless** — A homeless student is one who lacks a fixed, regular, and adequate nighttime residence. This includes students who live in shelters, abandoned buildings, cars, and public spaces, as well as students whose families share housing with other families because of economic hardship or who live in motels, hotels, trailer parks, or campgrounds.



**Home-schooled** — refers to Students who are home-schooled and take the State assessment in their local school district. Public school districts are required to administer State-level assessments to home-schooled students who wish to be assessed.

**IDEA 1997** — refers to the Federal Individuals with Disabilities Education Act, which describes and regulates educational opportunities for individuals with disabilities. It also requires that students with disabilities be included in Statewide assessments. It was reauthorized in 2004.

**IEP (Individualized Education Program)** — A written Statement for each child with a disability that is developed, reviewed, and revised in a meeting in accordance with the Individuals with Disabilities Education Act regulations.

**Interim Assessment** — Assessments that provide educators with actionable information about student progress at determined intervals throughout the year.

**ISD** — Intermediate School District

**IT** — Information Technology

**IBS (Item Bank System)** — The state’s Item Bank System is a State-developed web-based application that encompasses all of the following functions within a single framework: the Complete Item Development Life Cycle, Test Development Processes, and Test Composition Process. Note: All references in this Contract, whether called IBS or Item Bank System, are to the state’s or MDE IBS.

**LEP (Limited English Proficient)** — The terms “limited English proficient” or “English language learner,” when used with respect to an individual, mean someone who

- is aged 3 through 21;
- is enrolled in or preparing to enroll in an elementary school or secondary school;
- (i) was not born in the United States or whose native language is a language other than English; (ii) (I) is a Native American or Alaska Native, or a native resident of the outlying areas; and (II) comes from an environment where a language other than English has had a significant impact on the individual’s level of English language proficiency; or (iii) is migratory, whose native language is a language other than English, and who comes from an environment where a language other than English is dominant; and
- whose difficulties in speaking, reading, writing, or understanding the English language may be sufficient to deny the individual (i) the ability to meet the State’s proficient level of achievement on State assessments described in section 1111(b)(3); (ii) the ability to successfully achieve in classrooms where the language of instruction is English; or (iii) the opportunity to participate fully in society.

**M-STEP (Michigan Student Test for Educational Progress)** — One of five components of the Michigan Educational Assessment System, the M-STEP is the State’s general education assessment for students in grades 3–11 and is used Statewide to assess student performance in specific content areas.

**MDE (Michigan Department of Education)** — is under the direction of the Superintendent of Public Instruction, this agency carries out the policies of the State Board of Education and implements Federal and State legislative initiatives.

**MDE Secure Site** — this is the entry point, or Portal\*, where end-users access all components (paper-and-pencil and online) of Michigan’s assessment and reporting systems. The Secure Site has a multi-tier security structure that controls user rights based on pre-established permissions. It is used for pre-identifying students for online and/or paper-and-pencil assessments by assessment program, grade level, and content area; for ordering materials and tracking order status; for displaying which students have tested; and for identifying possible administration issues.



**MI-Access** — Michigan’s alternate assessment system, which is composed of three assessment programs (Functional Independence, Supported Independence, and Participation) and is based on Alternate Achievement Standards (AA-AAS). MI-Access is intended for students for whom the general assessment, either with or without assessment accommodations, is not appropriate as determined by a student’s Individualized Education Program (IEP) Team.

**MI-Access Functional Independence (FI) Assessments** — The MI-Access Accessing Print (reading), Expressing Ideas (writing), mathematics, and science assessments for students who have, or function as if they have, mild cognitive impairment.

**MI-Access Participation (P) Assessments** — The MI-Access English language arts, mathematics, and science assessments for students who have, or function as if they have, severe cognitive impairment.

**MI-Access Supported Independence (SI) Assessments** — The MI-Access English language arts, mathematics, and science assessments for students who have, or function as if they have, moderate cognitive impairment.

**Michigan Curriculum Framework (MCF)** — A resource for helping Michigan’s public and private schools design, implement, and assess their core content-area curricula. The MCF includes three components: content standards, benchmarks, and grade level content expectations, which represent rigorous expectations for student performance and describe the knowledge and abilities needed to be successful in today’s society.

**MMC** – refers to the Michigan Merit Curriculum.

**MSDS (Michigan Student Data System)** — Data submitted by school districts, including discrete information about individual students, such as age, gender, ethnicity, and program participation. The data collected via the MSDS are used to meet the reporting requirements of the Federal No Child Left Behind Act of 2001, including the determination of Adequate Yearly Progress (AYP).

**Multiple Choice** — The most common type of selected-response item, consisting of two parts: a stem and various response options.

**NCLB (No Child Left Behind Act of 2001)** — An act that reauthorizes the Elementary and Secondary Education Act, including Title programs I–IX. It is designed, in part, to (1) increase the accountability of States, districts, and schools; (2) expand choices for parents and students, particularly those attending low-performing schools; (3) provide greater flexibility for States and local educational agencies in the use of Federal dollars; and (4) increase emphasis on reading, especially for young children. In addition, it requires States to implement a single accountability system for all public schools and all students, and increases the number of times students—including those with disabilities and limited English proficiency—must be assessed.

**NCME** — refers to National Council on Measurement in Education.

**Nonstandard Accommodation** — Changes the construct being measured by an assessment or assessment item and, thus, results in an invalid test score. This includes any accommodation not deemed “standard” in the Assessment Accommodation Summary Tables approved by the State Board of Education.

**Operational item** — A test question with statistical information that is selected for use on a test that measures student perform on content ; this item does count toward the student score; the resulting statistical data are used in item selection for future tests.

**OSA (Office of Standards and Assessment)** – is an office of the Division of Accountability Services under which standards and assessment functions are consolidated.

**OSPMR (Office of Systems, Psychometrics, and Measurement Research)** — An office of the Division of Accountability Services under which psychometric, accountability, research, and data management functions are consolidated.



**Performance Task** — is a collection of items and activities that require multiple steps and may include components of other items in the task. These activities are meant to measure capacities such as depth of understanding, writing and research skills, and complex analysis, which cannot be adequately assessed with traditional assessment questions.

**Pilot Test** — A test administered to a sample of test takers to try out some aspects of the test or test items, such as instructions, time limits, item response format, or item response options.

**Pilot Item** — is a test question that is newly developed (often used in stand-alone testing) and that do not count toward a student score.

**PNP** — refers to Personal Needs Profile.

**Pre-ID** — refers to pre-identification of which students in each school will take which assessments with which accommodations.

**Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT)** - is a standardized test administered by the College Board and cosponsored by the National Merit Scholarship Corporation (NMSC) in the United States. MDE expects to provide this test to grades 9 and 10, starting in 2016.

**Proficient** — Sometimes expressed by a numerical “cut score” on a Statewide assessment, a student who is proficient in a content area demonstrates knowledge of that content area appropriate to grade-level expectations. Those expectations may vary based on the student’s grade level and instructional setting. See Grade Level Content Expectation (GLCE), High School Content Expectation (HSCE), English Language Learner (ELL) Standards, Extended Grade Level Content Expectations (EGLCEs), Extended High School Content Expectations (EHSCEs), and Extended Benchmarks (EBs).

**Progress** — Annual gains made by the student, as evidenced by the acquisition of what the student knows and can do or by an increase in assessment scores or performance levels.

**QAP** — Quality Assurance Plan.

**QTI (Question and Test Interoperability)** — An information model that describes question (item) and test (assessment) data and their corresponding results reports. The QTI specification enables the exchange of this item, test and results data between authoring tools, item banks, test construction tools, learning systems, and assessment delivery systems.

**SAT** - is a standardized test widely used for college admissions in the United States. MDE expects to provide this test to grade 11 and eligible students in grade 12 to measure student proficiency with the State’s content standards in ELA and mathematics.

**SBE** — State Board of Education.

**Scoring Rubric** — Descriptive scoring schemes that are developed by teachers or other evaluators to guide the analysis of the products or processes of students’ efforts. Scoring rubrics are typically employed when judgment of quality is required and may be used to evaluate a broad range of subjects and activities (Practical Assessment, Research, & Evaluation, 2000).

**SDs or SWDs (Students with Disabilities)** — A student who is determined by an Individualized Education Program (IEP) Team or a hearing officer to have one or more of the impairments that necessitates special education or related services, or both, who is not more than 25 years of age as of September 1 of the school year of enrollment, who has not completed a normal course of study, and who has not graduated from high school. A student who reaches the age of 26 years after September 1 is a “student with a disability” and entitled to continue a special education program or service until the end of that school year.



**Selected Response** — In Michigan, this term is used to describe MI-Access Supported Independence and Participation items that take into account the degree of assistance provided by the test administrator(s) to a student in selecting a response to a picture card stimulus. The single digit response rating is A, B, C, or 1, 2, 3.

**SF (Spiral Fixed-Form)** — refers to Computer-based test containing multiple forms, or versions, of a test booklet where one or more sections vary from one test taker to another.

**Short answer** – The student types or writes in a word or phrase. 2-point constructed-response items.

**SIS (Student Information System)\*** — is a software application that is designed for education establishments to manage student data. In Michigan, MSDS system contains student data that are transferred to the MDE Secure Site system for assessment management purposes.

**Single Source of Truth** – is the authoritative version which should be referenced or copied. Where security and database structure allow, the Single Source of Truth should be referenced directly rather than copied. When copies are required, the copy should be verified against the original, and where differences exist, the copy must be corrected to reflect the original.

**Standard Accommodation** — An assessment provision given so that the effect of a disability is minimized and the student is provided an opportunity to demonstrate the degree of achievement he or she actually possesses. It does not change the construct being measured; therefore, it yields valid assessment scores.

**State Collaboratives on Assessment and Student Standards (SCASS).**

**Summative Assessment** — A test that is used to evaluate student competency. A summative assessment is commonly delivered at the end of the school year during a fixed administration window and is commonly aligned with State standards.

**Technology Enabled (TN)** — Computer-based items that include features, such as reading the item to the test-taker in English or another language, such as Spanish or Arabic.

**Technology Enhanced (TE)** — Computer-based test items that allow students to reorder text, show evidence and use drop-down menus for responses.

**Test Administration\*** — Management of test windows, proctor assignment, class/group assignment for reporting, and student identification methods are components of the Secure Site. This information is provided to administration Contractors via a direct table read or web services interface.

**Test Cycle** — Refers to the period of time, usually a range of dates, for administering an assessment. In Michigan, current assessment cycles are either fall or spring, with a specific date range for each. Interim assessments will have pre- and post- test cycles, which are fall and spring for year-long subjects or courses; September and January or February and May for ½ credit courses.

**Test Delivery\* for Online Assessments** — The overall responsibility of this component is to securely deliver the assessment to the student, securely store the student responses, store other information about how the student responded (i.e., time to answer, time to render for the student, etc.), and deliver the test items in the proper accessible format that the student needs. The Test Delivery System must also include two subcomponents:

- **Student Workstations:** This is a software subcomponent used to interact with the student. It is responsible for delivering the items to the student and gathering the responses and response metadata. It also contains the tools needed by the student to take the test (e.g., calculators, tables, accessibility tooling, etc.).
- **Proctor Workstation:** This is a software subcomponent the proctor uses to manage the test delivery. It allows the proctor to start and stop, or suspend and resume the test for the testing group or individual students. It also allows the proctor to monitor student progress, as well as helping students when they are having issues.



**Test Event** – The administration of an online computer-adaptive test.

**Test Packager\* for Online Assessments** — In year one of the Contract, the Online Contractor will provide the software to convert the IBS test items for use with the online test delivery engine. This software will have the capacity to receive Test Package files via a web service or direct table read interface of the IBS system and, once properly rendered by the Online Contractor, receive the online version of the item from the Test Delivery System for inclusion in the IBS.

**Test Registration\*** — Michigan students are registered for assessments, including assignment of class/group numbers for test administration/proctors, and the same or different class/group numbers for reporting using the pre-identification component of the MDE Secure Site.

**Theta Value** — Estimate of the relationship between a test item and the underlying attribute that is being measured. A distinction is made between the values that are actually obtained in a test setting and a hypothesized “true” underlying value.

**UIC (Unique Identification Code)** — is a State-assigned code that allows the State to track student information without using a student’s name.

**World-Class Instructional Design and Assessment for Michigan (WIDA)** – is a multi-state coalition of state departments of education that acts in collaboration to research, design and implement a standards-based educational system that promotes equitable educational opportunities for English language learners in pre-kindergarten through grade twelve.

**WorkKeys®** — A job skills assessment system that helps employers select, hire, train, develop, and retain a high-performance workforce.

\* Consortium terms for online test components are italicized.



## EXHIBIT A STATEMENT OF WORK CONTRACT ACTIVITIES

This exhibit identifies the anticipated requirements for the Administration, Scoring and Reporting of Online Statewide Assessments and for providing Student Growth Percentile (SGP) services.

### **Background**

Michigan's K-12 public educational system consists of 545 local school districts and 298 public school academies. Additionally, there exists 56 Intermediate School Districts, or regional educational service centers, which aid school districts in specific regions of the state by offering support services and leveraging resources. Altogether, there are 3,536 schools serving over 1.5 million students.

The Michigan Department of Education (MDE) is responsible for development and administration of multiple K–12 student assessment programs, as well as the high-stakes use of the results of those programs for accountability and evaluation purposes. Therefore, the work performed by the Contractor must be of the highest quality, and must conform to the most recent Standards for Educational and Psychological Testing as published by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education.

MDE and the Contractor are responsible for ensuring that all tasks and activities that are carried out as part of the Contract comply with all legislation, regulations, and policies surrounding assessment(s). These include, but are not limited to the following, where applicable:

- The Michigan State School Aid Act, Section 104 or successor legislation.
- The Michigan School Code or successor legislation.
- The Michigan State Board of Education (SBE) policy on learning expectations for Michigan students, or successor policies.
- The Michigan Assessment of Remedial Assistance Programs or successor legislation.
- The Michigan SBE policy to include all students in the Michigan Educational Assessment System, or successor policies.
- The Elementary and Secondary Education Act (ESEA) Flexibility Request approved by the U.S. Department of Education (USED), July 2012.
- The Federal reauthorization of the ESEA, currently known as the No Child Left Behind Act of 2001 (NCLB), or successor legislation.
- The Federal Individuals with Disabilities Education Act (IDEA), or successor legislation.
- The Federal Americans with Disabilities Act (ADA), or successor legislation.
- The Federal Family Educational Rights and Privacy Act (FERPA), or successor legislation.
- The Federal American Recovery and Reinvestment Act (ARRA), its various components, or successor legislation.
- The Federal guidelines and regulations regarding NCLB, IDEA, ADA, or ARRA, including both specifications for assessment programs as well as specifications for accountability using the results from those assessment programs.

This Contract is a result of updates to the State School Aid Act, Sec. 104. This law requires the implementation of a fully operational summative assessment system beginning in the 2015-16 school year, aligned to Michigan's State content standards.

All of the assessment programs developed and administered by MDE are mandated by one or more of the laws and policies listed above. As such, Michigan's assessment systems are subject to federal and State audit, including all Contracts that are required to implement the programs.

Both the NCLB and the Michigan State School Aid Act, Section 104 require content alignment to State standards. The Michigan SBE adopted the current English Language Arts (ELA) and Mathematics standards in June of 2010. Science and Social Studies assessments must align to Michigan's Grade Level Content Expectations (GLCEs) and High School Content Expectations (HSCEs) which were adopted by the Michigan



SBE as Michigan's State standards in 2004. The summative alternate assessments are aligned to Michigan's Extended Grade Level Content Expectations (EGLCEs) and Extended High School Content Expectations (EHSCEs).

Summative assessment results will be used to measure student proficiency and progress over time (or growth) for State and federal reporting purposes. The Michigan State School Aid Act, Section 104c specifically requires student growth measures to be reported where such measures can be calculated.

The interim assessment programs are being developed in response to education reform efforts that measure student academic growth at more frequent intervals and can be used as one measure of educator effectiveness. Appropriations for administering, scoring, and reporting (and maintaining) the interim assessment program were not provided for the 2014-15 school year (FY 15), but may be provided for the 2015-16 school year (FY 16) and/or beyond. The interim assessment program consists of optional, online pre-, mid-, and post-test assessments at grade levels K-8 and in high school courses for which Michigan Merit Curriculum credit is required. The interim assessment program is currently in development phases (including pilot and field-tests) using funds appropriated for that purpose in previous years. If future State appropriation is secured for operational administration, a phase-in plan will be developed to administer the interims operationally as part of this contract.

The Scope section details the summative, alternate summative, and interim assessment programs included in this contract.

During the term of the Contract, new legislation, SBE policy, and/or appropriations funding levels may require that a current program be modified and/or other programs added. The Contractor must be reasonable and flexible in accommodating such changes. All proposed changes must be approved through the change management process (explained further in Section 4.2.3).

Michigan desires to ensure that its assessment solutions are of the highest quality, follow current best practices, are consistent with Statewide assessment related initiatives, and minimize burdens to schools, test administrators, and students. To do so, Michigan actively utilizes a number of nationally recognized sources for guidance, as well as common-sense criteria for reducing burden, assuring timeliness of reports, and maximizing data quality.

### **Scope**

This Contract continues Statewide online assessments beginning with the Fall 2015 administration and continue for three years (2015-16, 2016-17, 2017-18) with five one year options for (2018-2019), (2019-2020), (2020-2021), (2021-2022) and (2022-2023), each at the State's discretion. The summative assessments are to be delivered online. A paper-pencil option, will be provided thru a separate contract for; 1) those students who are unable to take an online assessment due to an Individualized Education Program (IEP), medical condition, or linguistic/cultural status; and 2) those schools who receive an approved waiver from MDE for a test cycle due to not being technology ready.

Based on the need to support educator evaluation, and on consistent public comment regarding the need for interim assessments, interim assessments have been included in this contract. Interim assessments are optional for district adoption, will be administered online only and must be available online for schools at multiple points during the school year so that pre-, mid-, and post- assessments may be administered. Provision of Interim Assessments is pending appropriations from the Michigan legislature. If sufficient funding is not available, that work will not be performed, and no line items from the cost sheet (Exhibit C) related to interim assessments may be used for charging the State for services rendered. Work on interim assessments must be approved by the State before it may commence.

Based on the need to support educators in use of assessment data and the practice of formative assessment, and based on consistent public comment regarding the need for formative assessment support, formative assessment supports have been included in this contract. Provision of Formative Assessment services is pending appropriations from the Michigan legislature. If sufficient funding is not available, that work will not be



performed, and no line items from the cost sheet (Exhibit C) related to formative assessment may be used for charging the State for services rendered. Work on formative assessment must be approved by the State before it may commence.

Please refer to the table below for the assessments included in the scope of this Contract:

**Michigan’s Assessment System**

Assessment	Delivery Mode	Content and Grades
Summative – General	Online	Mathematics: 3-11 ELA: 3-11 Science: 4, 7, and 11 Social Studies: 5, 8, and 11
Summative Alternate – FI	Online	Mathematics: 3-11 Accessing Print: 3-11 Science: 4, 7, and 11 Social Studies: 5,8, and 11
Summative Alternate - P/SI	The assessment is delivered via paper (picture cards).* Responses are captured and scored via online mode.	Mathematics: 3-11 ELA: 3-11 Science: 4, 7, and 11
Interim (If funded))	Online	Mathematics: K – 12 ELA: K – 12 Science: 3 - 12 Social Studies: 3 – 12

\* Materials will be provided through a separate contract.

Population: Functional Independence (FI): Target level of the MI-Access Assessment, generally given to students with mild significant cognitive impairments; Supported Independence (SI): Mid-Range skill level of the MI-Access Assessment, generally given to students with moderate significant cognitive impairments; Participation (P): Basic skill level of the MI-Access assessment, generally given to students with severe cognitive impairments. Participation at any level of the MI-Access Assessment is determined by the student’s IEP.

**1.0 Requirements**

The Contractor’s solution must provide a an online assessment system that can be used to measure career and college readiness for Michigan students as well as provide rich information for districts, schools, educators, parents, and students.

The Contractor’s solution must include online administration of a consortia-developed assessment for one or more components of Michigan’s assessment system, plus online administration, scoring, and reporting of any Michigan-developed portions of the system that are not covered by the consortium based assessment. At Michigan’s option, this may include field testing of Michigan-owned test questions for augmenting and/or replacing consortia content over time as new test questions are developed by Michigan’s existing test development contractor.

Materials created by the Contractor and distributed to the Districts and Schools must meet accessibility standards. These standards will be further defined during requirements gathering. The list of material includes:

- Webpages
- Web Applications
- PDFs
- Videos
- Printed Materials
  - Include a nondiscrimination notice and accommodation information, as defined during requirements gathering



### 1.1.1 Content Alignment

Alignment of Michigan's assessment system to current Michigan content standards and benchmarks is a key factor in the successful implementation of Michigan's assessment system. Staff from the Office of Standards and Assessment routinely review content alignment of all content in our Statewide assessments. This frequently involves collaboration with other offices within MDE, with our contractor for item development, as well as stakeholders from around the education community in Michigan. Michigan's current State standards for assessments covered by this Contract are as follows: (and can be viewed at [http://www.michigan.gov/mde/0,4615,7-140-28753\\_64839\\_65510---,00.html](http://www.michigan.gov/mde/0,4615,7-140-28753_64839_65510---,00.html) )

- A. For General Summative and Interim Assessments:
  1. Mathematics: Grades K-12 – Michigan State Standards for Mathematics.
  2. English language arts: Grades K-12 – Michigan State Standards for English language arts.
  3. Science: Grades 4, 7, and 11 (summative), Grades 3-12 (interim) – Grade Level Content Expectations (GLCEs) and High School Content Expectations (HSCEs).
  4. Social Studies: Grades 5, 8, and 11 (summative), Grades 3-12 (interim) – Grade Level Content Expectations (GLCEs) and High School Content Expectations (HSCEs).
- B. For Alternate Assessments:
  1. Essential Elements for English Language Arts including Michigan's Range of Complexity Grades 3-11..
  2. Essential Elements for Math including Michigan's Range of Complexity Grades 3-11..
  3. Michigan's Extended Benchmarks (EBs) for Science, grades 4, 7 and 11.
  4. Michigan's Extended Grade Level Content Expectations (EGLCEs) for Social Studies Grades 5 and 8.
  5. Michigan's Extended High School Content Expectations (EHSCes) for Social Studies Grade 11.

Due to the high stakes nature of all of our assessment programs, it is essential that the Contractor administers or provides assessment content that is aligned to Michigan's State standards. Because of this, the Contractor must adhere to the following requirements:

- C. For any consortia-based or Michigan-developed content, the Contractor agrees to:
  1. Collaborate with the Office of Standards & Assessment's test development unit to assist in any content alignment review either internally or with educators from Michigan.
  2. Provide read-only access to the online administration engine to allow educators participating in item content or bias/sensitivity/accessibility reviews to observe the full functionality of the items.

### 1.1.2 School Readiness

In fiscal year 2014, the Michigan Legislature provided an additional \$45 million in Technology Readiness Infrastructure Grant (TRIG) funds to assist public school districts, public school academies, and intermediate school districts to develop or improve technology infrastructure in preparation for the planned implementation in 2014-2015 of online assessment delivery. For more information, access: <http://22itrig.org/what-is-22i-trig/>.

Since the inception of TRIG, schools have been purchasing devices based on the requirements developed and posted by the TRIG committee. The requirements identified in this section reflect those same guidelines. For additional information, access: <http://22itrig.org/activities/activity-four/documents/>.

To help determine if schools are technologically ready to perform online testing, the schools and districts in Michigan have submitted information related to their testing devices and network infrastructure into the Michigan-developed MTRAx technology readiness survey.

MTRAx can be found by visiting [mtrax.org](http://mtrax.org).

- A. The Contractor must provide MDE with the testing device and bandwidth requirements so that a proper determination of readiness can be conducted using MTRAx. Advances in technology may require that device and bandwidth requirements be periodically updated over the life of this Contract. These updates would be made by following the Contract change process described in section 4.2.3. The following elements must be supported:
  - Operating System Requirements: The Contractor's solution must operate on the operating systems listed below:



Operating System	Must Support Through and Including	Additional Information
Windows XP (SP3)	Spring 2015 Assessment Cycle	Not supported beyond the spring 2015 assessment cycle.
Windows Vista	4/10/2017	
Windows 7	1/6/2020	
Windows 8	1/9/2023	
MAC OS 10.6.8	Spring 2015 Assessment Cycle	Not supported beyond the spring 2015 assessment cycle.
MAC OS 10.7 – 10.9	Spring 2018 Assessment Cycle	The Contractor will end support based on when Apple ends support.
Chrome		The Contractor must support the current version, as well as the previous four versions.
iOS 7	Spring 2018 Assessment Cycle	
Android 4.x	Spring 2018 Assessment Cycle	Beginning in October of 2015, the Contractor must support secure testing on Android devices (contingent on Google’s timely release of the new OS that supports kiosk mode).
Windows Server 2008	1/13/2020	
Windows Server 2012	1/11/2023	
Linux Ubuntu 12.04.1	March 2017	

1. Maximum Device Requirements:

The Contractor must not require more than the “size” shown in order for schools to operate the system.

- a. Maximum 512 MB Memory.
- b. 10 inch class display.
- c. 1024 horizontal resolution by at least a 768 vertical resolution screen.
- d. Bandwidth: 20 kilobits per second per student.

**B.** Schools are planning to use newly purchased devices for online testing. Based upon purchase recommendations and actual purchases, the Contractor must support use of the following student testing device types in the table below:

Device	Must Support Through and Including	Additional Information
Desktops, Laptops, and Netbooks	Spring 2018 Assessment Cycle	
Chromebooks	Spring 2018 Assessment Cycle	
iPads generation 2+	Spring 2018 Assessment Cycle	
Android Tablets	Spring 2018 Assessment Cycle	Beginning in October of 2015, the Contractor must support secure testing on Android devices (contingent on Google’s timely release of the new OS that supports kiosk mode).
Windows Tablets	Spring 2018 Assessment Cycle	

Advances in technology may require that device requirements be periodically updated over the life of this Contract. These updates would be made by following the Contract change process described in section 4.2.3.



- C. The Contractor must make a documented process (or checklist) available for school or district staff to validate all software necessary for online testing is installed, configured and working correctly.
- D. The Contractors online delivery system must be available to all schools in the State of Michigan to install the software and conduct the readiness check at any time, during normal working hours (EST/EDT), but no less than six weeks prior to test administration.

### 1.1.3 Online Test Delivery System

In addition to being available on the device types listed in Section 1.1.2, "School Readiness", the Online Test Delivery System must meet the following deployment, scalability, and disaster recovery requirements. As advancements in technology become available, the Contractor must make reasonable efforts to make them available to MDE, as part of requirements gathering as described in this Contract.

- A. The Contractor must provide the following testing software deployment options:
  - 1. Manual installation on a single device.
  - 2. Deployment through a network distribution system.
  - 3. Uninstallation is allowed for all permission roles above the student level.
  - 4. No trace of the testing software may remain on the testing device upon removal.
  - 5. Define and justify all components outside those provided within the proposed cost structure needed for installation at the LEAs.
- B. The proposed Online Test Delivery System must be designed with a highly scalable architecture to support the delivery of online tests to over 1.5 million students Statewide. The Contractor's system must be capable of scaling to the extent required for the State of Michigan.
  - 1. The delivery system must support at least 250,000 simultaneous testers.
  - 2. The delivery system must have the ability to scale up to support 750,000 simultaneous users.
  - 3. A test environment, separate from production, must be established and maintained by the Contractor.
- C. Within 10 days of the approval of the Contract, the Contractor must provide a Disaster Recovery Plan, for MDE's review and approval, which addresses the following.
  - 1. Server failure.
  - 2. Loss of internet connectivity at the hosting site.
  - 3. Loss of internet connectivity at the testing site.
  - 4. Data corruption.
  - 5. Testing device crash or reboot during a test administration.
  - 6. Denial of Service Monitoring:
    - a. The Contractor must monitor denial of service attempts or unauthorized intrusions throughout the duration of the Contract.
    - b. The Contractor must provide denial of service and unauthorized intrusion monitoring results upon request by MDE.
    - c. The Contractor must notify MDE of all identified risks related to the possible denial of service, along with an associated avoidance/mitigation plan.
- D. The system must operate efficiently within a student screen resolution of 1024x768 with minimal horizontal scrolling. Larger resolutions must not distort images.
- E. The system must provide an item latency time of two seconds or less for all items that do not include human voice audio (HVA) or video components.
- F. System must have the ability to deliver the test securely to "locked-down" student workstations/devices. The system must "lock down" the student device to disable browser navigation and/or access to any programs, applications, tools, resources, or other functionality outside the intended functionality provided in the test delivery application.
  - 1. System must prevent printing during assessment session (unless Print on Demand is enabled for the student as an accommodation).
  - 2. System must prevent screen captures during assessment session.
  - 3. System must prevent viewing HTML source during assessment session.



4. System must prevent saving to HTML source during assessment session.
  5. System must prevent access to the internet (outside the access deliberately provided by the test delivery application) during assessment session.
- G. System must provide the features that are configurable to MDE specification.

The Contractor's delivery system supports:

1. Keyboard Navigation, as a designated support at the individual student level, so that students unable to use a pointing device can still test online.
  2. Scrolling for passages and items that extend beyond the limits of the testing device display.
  3. Page turning for passages (developmentally appropriate for younger age groups and/or the alternate assessments).
  4. Student login process must be configurable so that it is developmentally appropriate for K-2 students with minimal keyboarding skills.
  5. Developmentally appropriate help screens that are customizable for the State of Michigan.
  6. Students to pause, stop, play, and replay audio for passages and items.
  7. Students to begin playing the audio or video for a passage or item from multiple start points other than the beginning.
  8. The audio volume to be adjusted on the testing device within the testing software and without exiting the test.
  9. Fixed form when it is used for students to review their answers for some sections or sets of questions before moving on to the next section, set of questions or completing the assessment. A summary screen must alert the student of any unanswered items.
10. System must provide frequent auto-saving of student responses during an assessment, including in-progress constructed response items.
- a. During testing, responses are sent to the Contractor's server each time the student clicks the *Next* button to submit an answer or navigates away from an item. If a particular question takes the student longer than 45 seconds to answer, then the partial, incomplete responses are submitted at 45-second intervals until the student completes the item. This auto-save helps safeguard against students losing their work on longer items, such as constructed-response items. The 45-second interval is not currently configurable.
11. System must make a practice environment available at all times that mirrors the actual testing experience for students to use in order to become comfortable with the available tools as well as the interface in general. The practice environment must include training/familiarization with the available supports and tools.
12. System must be configurable by assessment program, subject, and grade level for each of the following:
- a. Rendering Font size.
  - b. Text to Speech (TTS) Voice Settings.
  - c. The availability of student tools/accessibility options.
13. System must save student responses when a test is stopped, paused or suspended. When the test is restarted, previously saved student responses must be retained.
14. System must support MDE business rules regarding student access to, or restriction from, retained responses, depending on the length of pause or suspension.
15. System must provide the following administrative features that are configurable to MDE specifications:
- a. System must allow administrative users to start, stop, pause, resume, and restart student test sessions, requiring a reason to be entered as input into the system. This provides a security tracking method for State and school users.
  - b. System must allow test administrator or assessment coordinator to indicate which students used embedded and non-embedded accommodations or supports, and what those accommodations or supports were.
  - c. System must enable students to be grouped for test administration according to classes, programs, or other demographic groupings. (Group information will be provided by Secure



- Site.)
- d. System does not allow test data to be altered once a test is submitted by a student.
- e. System must allow administrative users to mark content area tests as “Do Not Score” with the following reasons available to select:
  - i. Prohibitive Behavior
  - ii. Non-Standard Accommodation
  - iii. Incorrect Assessment Administered
  - iv. Student Move Out
  - v. Misadministration
  - vi. Other
- 16. The Contractor’s system must provide local caching for both fixed form and Computer Adaptive Tests (CAT).
  - a. The minimum and recommended specifications for the caching device are as follows:

System Requirements		
	Minimum	Recommended
<b>Memory</b>	1 GB RAM	1 GB RAM or greater; 4 GB RAM or greater if VSL is used
<b>Processor</b>	1 GHz	1 GHz or faster; 2 GHz or faster if VSL is used
<b>Disk Space*</b>	10 GB available; 20 GB available if VSL is used	15 GB or more available; 25 GB or more available if VSL is used
<b>Screen Size</b>	9.5 inch	13 inch or larger
<b>Screen Resolution</b>	1024 x 768	1024 x 768 or better
<b>Internet Connectivity</b>	Computers must be able to connect to the Internet via wired or wireless networks	
<b>Input Device Requirements</b>	Keyboard—wired or wireless, Bluetooth, mouse, or touchpad	
* These TSM disk space requirements assume an average fixed-form item size of 2 MB and an average computer adaptive test (CAT) item pool size of 2 GB (shared across all CAT items)		
* Because of the size of video files, Video Sign Language (VSL) can increase storage needs		

- 17. System must support all QTI V2.1-compliant test items, including technology-enhanced interactions, and be able to import and export QTI V2.1-compliant items.
- 18. System must appropriately import and render QTI V2.1-compliant test items from the MDE Item Bank System (IBS) for Michigan developed assessments.
- 19. System must appropriately import and render QTI V2.1-compliant test items from consortia item banking systems for consortia based assessments.
- 20. The system must be able to support custom technology-enhanced interactions not currently defined in QTI interoperability standards.
- 21. The Contractor acknowledges and supports MDE’s IBS as the single “source of truth” for item content/versioning for Michigan developed assessments.



22. System functionality can be granted or restricted to user groups or entities including MDE, State, ISD, district, building, and teacher level. Groups and entities can be defined in a flexible, tiered manner with no preset limit to tiers.
23. The system keeps a log of each transaction that alters the database. Logs are date and time stamped to allow the system to reconstruct activity for any period.
24. Backup and Recovery:
  - a. The system must support recoverability using commonly available and industry standard backup applications and approaches.
  - b. The system must provide point-in-time recovery of data to the last completed transaction.
  - c. The system must allow for continued use of the system during backup.
  - d. The system must provide a complete backup and recovery process for all database tables and system files.
  - e. The backup and archival features of the system proposed can be initiated automatically or by manual request.
  - f. System must use real-time replication so that testing is not interrupted during fail-over.
25. Availability:
  - a. System must provide availability guarantees to support student testing, at the defined scalability level, from 7 a.m. to 5 p.m. EST/EDT Monday thru Friday, during the test window for each test cycle.
  - b. System needs to be available to support an alternate testing time for schools that provide instruction on an alternate schedule (such as night classes). This is not expected to be a high volume offering.
  - c. System availability for student test sessions is able to be configured separately from the general system availability for administrative functions and practice tests.
  - d. System availability for student test sessions can be configured at the building level.
  - e. All scheduled maintenance must occur during the hours of 10 p.m. to 4 a.m. EST/EDT with prior written notification and MDE's approval of all planned downtime.
  - f. The proposed system provides availability guarantees for all system users including proctors, test administrators, and technology coordinators to complete their respective tasks within the system at any time except those designated as a maintenance window described above.
  - g. System must allow MDE to monitor the State's daily snapshot and historical (daily, weekly, and total window) data for the current test administration window regarding operation and usage by providing an MDE dashboard, which displays the number and type of all Michigan users currently active in the system, system uptime, tests delivered, and server/application health and availability.
  - h. System must send automated outage notifications via email to MDE approved users.
  - i. The Contractor's Level 2 support staff must monitor statewide online testing activity during the testing window looking for unusual activity. Any unusual activity must be immediately researched and corrective action taken when deemed necessary. If the Contractor detects unusual testing activity for a school, their customer service team must attempt to reach out to the district/school to see if assistance is needed to resolve technical issues they may be encountering during testing.

#### **1.1.4 System Interface with Secure Site**

The Contractor must interface with the MDE Secure Site system using direct database reads and writes via a VPN connection to a vendor interface portion of the Secure Site database. The Secure Site utilizes a State-created and maintained user authentication system called MEIS.

##### **1.1.4.1 District and School information:**

The Secure Site has all of the District and School information needed by the Contractor for testing. This includes the information about the entities along with the District and School contact information for each assessment. This also includes shipping information for the Districts and Schools.



- A. District and School Pulls
  - 1. The Contractor must interface with the MDE Secure Site system using direct database reads and writes via a VPN connection to a vendor interface portion of the Secure Site database for all data exchanges.
    - a. The Contractor must pull District and School information from the secure site on a date identified in the project schedule.
    - b. The Contractor must pull updates of the District and School information at least daily.
- B. Requirements Gathering
  - 1. The Contractor must participate in Requirements Gathering with MDE staff to determine and document the registration pull method, frequency, and define the specific Quality Assurance Plan (QAP) including UAT process and specifications.
  - 2. Requirements must be reviewed and revised as needed for each assessment cycle.
- C. Quality Assurance Plan
  - 1. The Contractor must conduct quality assurance testing of the district and school information and session pulls for each assessment.
  - 2. Both MDE and the Contractor will analyze for accuracy the results of the initial pull of district and school information and the initial pull of sessions. The Contractor must resolve all quality issues related to their data pull processes per the date in the project schedule.
  - 3. Both MDE and the Contractor will analyze for accuracy the results of the update and new pull of district and school information and the update and new pull of sessions. The Contractor must resolve all quality issues related to their data pull processes per the date in the project schedule.

**1.1.4.2 Registration of Students for Testing:**

A student must be registered in the MDE Secure Site by a District or School to take any of the State assessments during the school year. There are various time frames when the Secure Site will be opened to allow Districts and Schools to register their students for each assessment. Typically the window for registration opens much earlier than the testing window to allow Districts and Schools time to get all of their students registered.

The Contractor will pull student registration information from the MDE Secure Site vendor interface database tables for each assessment to use for online assessments. The student registration data is loaded by the Contractor into the online delivery system for online testing.

The MDE Secure Site also allows the Districts and Schools to put the students into test sessions for the online assessments.

- A. Registration Pulls
  - 1. Initial Pull
    - a. The Contractor must pull the initial list of registered students for an assessment on a pre-established date according to the schedule. The registration information is loaded into the online delivery system.
  - 2. Update and New Enrollee Pulls
    - a. The Contractor must pull the updated list of registered students using an electronic utility that is preset to pull once an hour, once per day, etc. The update pull frequency is defined during requirements gathering. The registration information is loaded into the online delivery system.
      - i. Data pulls must provide for un-registering of students throughout the entire testing window.
    - b. The Contractor must continue to pull updated and newly registered students through the entire testing window.
- B. Online Test Session Pulls
  - 1. Initial Pull
    - a. The Contractor must pull the initial list of test session information for an assessment on a pre-established date according to the schedule.



- 2. Update and New Test Session pulls
  - a. The Contractor must pull the updated list of test session information using an electronic utility that is preset to pull once an hour, once per day, etc.
    - i. Test session data pulls must provide for removal of students from online test sessions throughout the entire testing window.
  - b. The Contractor will continue to pull updated and new test sessions through the entire testing window.

C. Requirements Gathering

- 1. The Contractor must participate in Requirements Gathering with MDE staff to determine and document the registration pull method, frequency, and define the specific UAT process and specifications.
- 2. Requirements must be reviewed and revised as needed for each assessment cycle.

D. Quality Assurance Plan

- 1. The Contractor must conduct quality assurance testing of the student registration and test session pulls for each assessment.
- 2. The results of the initial pull of students registered and the initial pull of sessions are analyzed for accuracy by both MDE and the Contractor.
- 3. The results of the printed barcode labels are analyzed for accuracy by both MDE and the Contractor.
- 4. The results of the update and new pull of students registered and the update and new pull of test sessions are analyzed for accuracy by both MDE and the Contractor.
- 5. The Contractor must resolve all quality issues related to their data pull processes per the date in the project schedule.

**1.1.4.3 Personal Needs Profile**

A District or School Administrative User will update each student's personal needs profile needed for an assessment on the MDE Secure Site. There will be a window for each assessment where the Districts and Schools will enter this information into the Secure Site. Beginning with the Spring 2016 assessment cycle, the Contractor will pull this information from the MDE Secure Site once for an initial pull and then daily for the rest of the testing window.

A. Initial Personal Needs Profile Pull

- 1. Beginning with the Spring 2016 assessment cycle, the Contractor must pull the initial list of student's personal needs profile and updates the online test engine with appropriate information for the student. This will include information that would turn on or off certain tools on the test engine that a student should or should not have available to them. This eliminates the need for a proctor to turn tools on or off at the student's computer station.

B. Additional Personal Needs Profile Pull

- 1. Beginning with the Spring 2016 assessment cycle, the Contractor must pull the additional student's personal needs profile for an assessment on a pre-established frequency.

C. Requirements Gathering

- 1. To prepare for the Spring 2016 assessment cycle, the Contractor must participate in Requirements Gathering with MDE staff to determine and document the registration pull method, frequency, and define the specific UAT process and specifications.
- 2. Requirements must be reviewed and revised as needed for each assessment cycle.

D. Quality Assurance Plan

- 1. The Contractor must conduct quality assurance testing of the MDE approved QAP for initial and additional personal needs profile process for each assessment.
- 2. The results of the initial and additional personal needs process are analyzed for accuracy by both MDE and the Contractor.



#### 1.1.4.5 Single Sign-On

- A. Beginning with the Spring 2016 assessments window, the District or School Administrative User should be able to log into the MDE Secure Site system and link to the Online Test Delivery System from the Secure Site without logging in again.
1. Online Delivery System Single Sign-On:
    - a. The Contractor will work with MDE to define, create and test the ability for Administrative users to log into the MDE Secure Site and be able to make a selection on the MDE secure site that will take the user to the Online Delivery System with the credentials that were entered on the MDE Secure Site.
    - b. The Contractor must pull user credentials from the MDE Secure Site on a pre-set frequency to keep user profiles up to date.
    - c. Students taking an online assessment will ONLY log into the Online Delivery System directly. Students will NOT log in via the Secure Site.
  2. Requirements Gathering
    - a. The Contractor must participate in Requirements Gathering with MDE staff to determine and document the Single Sign-On process and define the specific UAT process and specifications.
    - b. Requirements must be reviewed and revised as needed for each assessment cycle.
  3. Quality Assurance Plan
    - a. The Contractor must conduct quality assurance testing of the Online Delivery System Single Sign-On
    - b. The results of the Single Sign-On are analyzed for accuracy by both MDE and the Contractor.

#### 1.1.4.6 Testing Certification Process

The MDE Secure Site provides a process for schools and districts to certify that the student enrollment is correct, students either not tested or unable to test is correctly reported and that evidence is received confirming that all students (scheduled to test) took the test online or via paper and pencil.

- A. The Contractor must update the MDE Secure Site daily, using direct database write, with the students that have completed their assigned online test(s).
- B. The Contractor must update the MDE Secure Site daily, using direct database write, with the records of scanned student answer documents to be used in the testing certification process. This data must be provided on a pre-established date.
- C. The Contractor must update the MDE Secure Site daily, using direct database write, with online student test session response data for forensic analysis.
- D. The Contractor must be able to pull issues (examples defined below) from the Secure Site that have been entered by Districts and Schools, research the issue, and update the Secure Site with a response.
1. Examples: for online, the district staff checked the list of students that were tested during a session and notice that a student they tested in that session is not listed. The district staff enters an issue into the Secure Site. The Contractor would pull this issue which would identify the missing student, research the issue, and update the issue with the resolution. i.e. – online session was not marked as complete.
- E. Requirements Gathering
1. The Contractor must conduct Requirements Gathering with MDE staff to determine and document the Testing certification processes and define the specific UAT process and specifications.
  2. Requirements must be reviewed and revised as needed for each assessment cycle.
- F. Quality Assurance Plan
1. The Contractor must conduct quality assurance testing per the MDE-approved QAP plan of the testing certification process.



#### 1.1.4.7 Other System Interfaces

- A. The Online Test Delivery System must interface with the Secure Site. The method used to interface with the Secure Site is direct table read and write to the vendor interface database tables.
  - 1. Contractor must push all assessment data (item-level detail, student response data, test session data, response times, raw scores, etc.) to MDE Secure Site vendor interface database tables.
  - 2. The Contractor must pull all data used for scoring from the MDE Secure Site. This includes the assessment test map table, the raw to scale score table, the reporting group table and the point's possible table.
- B. Requirements Gathering
  - 1. The Contractor must conduct Requirements Gathering with MDE staff to determine and document all system interfaces and define the specific UAT process and specifications.
  - 2. Requirements must be reviewed and revised as needed for each assessment cycle.
- C. Quality Assurance Plan
  - 1. The Contractor must conduct quality assurance testing based upon the MDE-approved QAP of the system interfaces.
  - 2. Standard secure data exchange procedures will be used for all data transfers and established interfaces. The Contractor's Software Quality Assurance (SQA) team will inspect all data transfers to ensure accurate and complete information. Each data pull must be analyzed for accuracy.
  - 3. Prior to the implementation of each system or interface of the Michigan Statewide Assessments, the Contractor's SQA analysts must perform a final configuration audit to verify readiness for system launch. The SQA analysts must coordinate and conduct the acceptance testing to ensure that MDE is both satisfied with the development process and confident that readiness testing was sufficiently performed.

#### 1.1.5 Test Items and Maps

##### A. Item Import and Rendering

Once MDE identifies items for an online fixed form test (D, below) or computer adaptive test (E, below), those items will be exported from the IBS and made available to the Contractor. Item import is the process of bringing those items into the Contractor's delivery engine. Rendering is the presentation of those items in the same format that the student will see them. ("Item" should be understood to include the passage/context that may accompany test items.)

For all items exported from the IBS, the IBS is the "source of truth". All versions or presentations of items appearing before students must reflect the IBS item content. Content corrections and changes must not be made elsewhere except upon re-export from the IBS. MDE will provide each item to the Contractor via IBS export that is compliant with the accepted industry interoperability standards, currently QTI v2.1.

- 1. The Contractor must import the items in compliance with the accepted industry interoperability standards, currently QTI v2.1, and render the items for online delivery.
- 2. Contractor must render each item in the test map for online delivery using the IBS export as the source. The Contractor must not change any item content during the rendering process.
  - a. The Contractor understands the need to maintain the integrity of the MDE IBS by recognizing it as the single source of truth regarding all items, stimuli, and test specifications. If an item requires a change in item content, the changes will be made in IBS; the item will then be re-exported to maintain IBS as the source of truth for the item.
- 3. The Contractor must conduct requirements gathering with MDE to define any element of the items required for online delivery that are not addressed by QTI v2.1. The final business requirements are subject to MDE review and approval. This will include custom Technology Enhanced interactions and the rendering of Technology Enhanced items. For Technology Enhanced items, some aspects of rendering and student interaction are not specified in QTI, and the Contractor must present the item and provide interactivity to the student in a manner consistent with the intended student test-taking experience, as defined by MDE staff during requirements gathering and clarified during Rendering Review (B, below). This may include future rounds of business requirements for new item types or interactions not yet defined by QTI.



#### B. Rendering Review and Approval

Rendering review is the UAT process for rendered test items, which includes review of any text, graphic, audio, or video content of the items and any associated passage/context to be presented to students. MDE will confirm that the item as rendered for the student is consistent with the IBS as the “source of truth” and follows MDE style guide for item presentation. This process is necessary to ensure that the test items are presented to the student consistent with the intended presentation.

1. The Contractor must provide MDE access to review and approve the rendered items in a delivery environment that replicates how the student will view/interact with the test items. The Contractor must provide this review access in a “batch” that includes each unique item and sorts the items by MDE IBS number.
2. MDE will conduct rendering review and approval of the rendered items in the Contractor delivery environment (1, above), as tracked in the IBS rendering review workflow.
3. If an error is found in the item content, MDE will revise the item in the IBS and re-export, maintaining the IBS as the “source of truth” for the current item version. It is expected that this will be low incidence due to the IBS item development process.
4. The Contractor must import and render as above the new version of any re-exported items, making them available for a new round of rendering review and approval.
5. The Contractor must make any changes to rendered item presentation or interaction as found necessary by MDE during rendering review, making the updated item available for a new round of rendering review and approval.

#### C. Form and Engine Review and Approval

1. The Contractor will provide MDE access to a test environment, separate from production, which replicates how the student will view/interact with the test. MDE will review the test engine for adequacy in presentation to the student. This is necessary to ensure the test environment is appropriate to the students and the test content displays as expected.
2. The Contractor must build each test form for online fixed form tests using the approved rendered items (B, above) and in the order indicated by the approved test maps (D, below).
3. The Contractor must create UAT simulations for each computer adaptive test event (E, below) using MDE approved specifications and MDE provided strings of item response data to ensure the adaptive engine functions as expected.
4. The Contractor must include test directions in the test environment presented for MDE review. Test directions may include an audio version. MDE will review the test directions for adequacy in presentation to the student. The test environment must be separate from the production environment.
5. The Contractor must demonstrate to MDE that all hardware and software combinations supported for online testing have been tested. See 1.1.2, “School Readiness,” for hardware and software environments for online testing.
6. The Contractor must provide evidence to MDE during the UAT that all fixed forms for all hardware and software supported by the Online Testing System have been validated for each test cycle.

#### D. Fixed Form Test Maps for Michigan Developed Tests

A test map is a table showing the items appearing on a test, including their form number, position number, and metadata. Test maps may include multiple “forms.” Forms are variations of a test that use different items and/or item orders. One test map will include a unique record for each unique item appearing on all the forms for a test. Test cycles include multiple test maps to cover multiple programs, content areas, and grades. MDE will develop and approve test maps for paper and pencil tests and online fixed form tests using the Michigan IBS.

1. The Contractor must access the fixed form test map via direct table read. The Contractor must be able to update previously imported tables if changes arise during the test development and review process.
2. The Contractor must use the test map information from the direct table read to assemble the test forms.
3. The Contractor must provide MDE access to a test environment, separate from production, which replicates the delivery engine and student testing environment for form verification and approval.



This may be included with the rendering review UAT (B, above)

E. CAT Item Pool for Michigan Developed Tests

A CAT item pool is a set of items to be used for a test event. These items are to be made available based on the CAT algorithm, rather than appearing in a fixed order on a test map. MDE will determine and apply the blueprint specifications to the IBS inventory to identify those items available for the CAT for the specified test event. Computer adaptive tests may include both field test (FT) and operational (OP) items.

1. The Contractor must apply MDE test specifications for each test event.
2. The Contractor must conduct requirements gathering with MDE staff to define the CAT technical specifications.
3. Requirements must be reviewed and revised as needed for each assessment cycle.
4. The Contractor must provide MDE access to review and approve the adaptive algorithm determining which items to provide to a student, including a delivery environment that replicates how the student will view/interact with the CAT. (See 1.1.6.B “CAT Distribution,” below.)
5. The Contractor must develop and maintain the capability to identify how the adaptive algorithm determined which item to provide a student based on information generated throughout the test. The Contractor must provide this information to MDE upon request.
6. The Contractor must evaluate the functioning of the adaptive test engine after each test cycle and share the results with MDE to determine if further refinements are needed.
7. The Contractor must conduct a parameter recovery study based on MDE provided item response data and fixed parameters.

F. Rendered Item Export to IBS

1. The Contractor must export all test items that pass rendering review in compliance with the accepted industry interoperability standards, currently QTI v2.1. The Contractor must export the rendered item package for each operational item to MDE for upload into the IBS.
2. The Contractor must re-use the rendered item package if no modifications are made to an item’s delivery elements before it next appears on a test map. MDE will provide the previously exported rendered item package. Items will need to undergo the MDE Rendering Review and Approval process (B, above).

**1.1.6 Distribution of Forms**

This section describes the MDE requirements for distributions of forms in the case of linear tests (fixed forms) as well as requirements describing capabilities necessary in the Contractor proposed CAT algorithm to run concurrently with the proposed online delivery system.

A. Fixed forms (online):

MDE will develop multiple fixed forms per P/C/G for online administration. Typically, there are two to five forms per P/C/G built with approximately 20% common items across forms. The rest of the items are unique to that particular form. Please note, not all linking methods are the same across P/C/G. While some programs utilize common anchor items across all forms, others use chained linking procedures. A properly designed form distribution system is necessary to ensure equity in item exposure. Controlling item exposure, not only in terms of magnitude, but also in whom the items are exposed to, not only serves a security purpose but also is critical in ensuring that the data collected can support crucial psychometric analyses needed to establish reliability and validity of scores and inferences. The process must begin by the Contractor computing State of Michigan population values for all of the variables to be included as sampling constraints. Student demographic information must be used to assign forms by joining MDE Secure Site Pre-ID data with current administration statistics to administer the form that would contribute most to meeting the goal of a balanced and representative sample.



1. Beginning with the Spring 2016 assessment cycle, the Contractor's system must allow for random assignment of forms at time of student login.
2. Beginning with the Spring 2016 assessment cycle, the Contractor's system must leverage real-time administration data, all of the student level demographics listed below, and form usage information. The data needed will be provided via direct table read with the Contractor once the appropriate system connections have been established. The current constraints contain, but are not limited to, the following variables:
  - a. Gender (two categories).
  - b. Ethnicity (seven categories).
  - c. Economically disadvantaged (two categories).
  - d. Students with Disabilities (SWD) (two categories).
  - e. English Learners (EL) (two categories).
3. The Contractor must provide nightly reports to be delivered to MDE specifying for each grade/content area the number and percentage of students assessed with each form.
4. The nightly reports must include the form distribution percentage by student demographic subgroup, specifically those used as form distribution constraints, for each form.
5. Beginning with the Spring 2016 assessment cycle, the Contractor's system must have the ability to actively change the form level weighting and distribution algorithm to achieve balance of form distribution, if requested by MDE based on nightly distribution report.

B. CAT Distribution:

When MDE transitions to Michigan developed adaptive testing (and consortia-based adaptive testing, if applicable), the system must be one based on multi-stage CAT approaches. Assessments will be partitioned into parts/segments that will target specific areas of content. Additionally, field test items will either be embedded or included as segments/parts. Therefore, the item distribution algorithm must allow flexibility, or multiple sets of rules/constraints, so that each segment can potentially have its own selection routine. Different selection rules could then be applied to either consecutive or pre-identified item subsets.

With CAT, the exposure of items, not intact forms, must be compared to population representative samples. MDE intends to use solutions based on multi-stage CAT systems. These approaches must allow the flexibility of multiple stages of the test operating under multiple sets of algorithms. Different selection rules could then be applied to either consecutive or pre-identified item subsets.

This will require a real-time solution with these constraints included in the CAT algorithm. The demographic constraints are the same as those in the fixed form description and are repeated here for clarity. The current constraints contain, but are not limited to, the following variables:

1. Gender (two categories)
2. Ethnicity (seven categories)
3. Economically Disadvantaged (two categories)
4. Students with Disabilities (SWD) (two categories)
5. English Learner (EL) (two categories)

The strength in CAT solutions reside in their efficiency in terms of not only matching content blueprints and demographics, but also in providing maximum test information leading to reduced conditional standard errors of measurement. Therefore, the system must also integrate within the delivery system the ability to estimate student ability (parameterized as  $\theta$ ) and provide item selection criteria that uses IRT parameters (namely difficulty and discrimination parameters) in combination with other blueprint based constraints such as content standards and depth of knowledge coverage to find the item that best matches all constraints. MDE will provide the Contractor with specific algorithm requirements and constraints. The system must be capable of accommodating various algorithms and constraints. This requirement will apply to all partitions/item sets within an assessment.

1. Beginning with the Spring 2016 assessment cycle, the system must be a multi-stage approach and allows for different item selection routines/algorithms to be applied to each section if desired.



2. Beginning with the Spring 2016 assessment cycle, the system will consider the following characteristics of the student population when selecting pilot or field test items:
  - a. Gender (two categories)
  - b. Ethnicity (seven categories)
  - c. Economically disadvantaged (two categories)
  - d. Students with Disabilities (SWD) (two categories)
  - e. English Learners (EL) (two categories)
3. The system must be able to use estimates of student ability, in combination with test blueprints and item parameters, to maximize test information and minimize conditional standard errors of measurement.
4. The system must leverage blueprint minimums and maximum item counts in combination with minimal conditional standard error of estimate for student ability as a basis for further item selection or conclusion of the assessment.

**1.1.7 Accessibility**

Accessibility deals with test interface and administration systems that allow students’ assessment results to not be affected by disability, gender, ethnicity, or English language ability. These options ensure validity of assessments and provide equitable testing opportunities. The allowance for these tools which promote student access, but do not affect the content being assessed are required by the NCLB. As advancements in accessibility features become available, the Contractor must make reasonable efforts to make them available to MDE, as part of requirements gathering as described in this Contract.

**A. Requirements Gathering and UAT**

Requirements gathering and UAT processes are an important part of assessment development and ensure a quality product and testing experience.

1. The Contractor must participate in requirements gathering sessions as they relate to the collection of student level accessibility needs and the delivery of accessibility tools and accommodations.
2. Contractor must provide existing UAT process and specifications for all system, item, and context accessibility tools and accommodations. If the existing process does not meet MDE requirements, then the Contractor must modify the UAT process and/or specifications to meet MDE approval.
3. During the initial requirements gathering and revising process, the Contractor must document MDE’s expectations for UAT of accessibility features. In conjunction with MDE, detailed UAT plans will be developed that: 1) define the roles and responsibilities of the staff involved in the UAT process, 2) provide a plan to test the scenarios identified in the requirements documents, and 3) ensure that all program materials and processes are delivered with complete accuracy.
4. Requirements must be reviewed and revised as needed for each assessment cycle.

**B. General Accessibility Requirements**

1. The system must be in compliance with Section 508 of the Rehabilitation Act (29 U.S.C. 794d); Americans with Disabilities Act (ADA), and with the Web Content Accessibility Guidelines 2.0.

**C. Tool and Accommodation Availability**

Because content delivered in each program, subject area, and grade is different, flexibility in the availability of tools and accommodations is necessary to ensure content validity retention. Without this flexibility you will not be able to control which accommodations are made available to students at specific times of the test. For example, there will be some test items on which students can use a calculator while on other test items calculators are not allowed. These differences, as noted, are due to the particular content standards and knowledge being tested by specific test items. The availability of student level accommodation and tool usage data at the completion of testing provides the needed details for later analyzing the validity and effectiveness of these tools in order to modify the availability of tools and accommodations for future administrations.

1. The Contractor’s System must provide customized availability and identification of defaults for all available embedded accessibility tools and accommodations at the following levels:
  - a. Adaptive test event.
  - b. Fixed form.



- c. Student (beginning with the Spring 2016 assessment cycle)
  - d. Item.
    - 1. Including the ability to apply accessibility features to different parts of an item (context, stem, answer choices)
  - e. Context.
2. The Contractor's System must allow all accessibility tools and accommodations available at the student level to be enabled and disabled by the test administrators.
  3. The Contractor's system must support customized availability of tools and accommodations for both adaptive tests and fixed form tests. The set of tools provided to the student is configurable and can contain many or just a few of those available. Tools can be set so they are available on all items or set so they only appear with certain items. Examples of customization include:
    - i. The Next button (for moving to the next item) can be set so that an answer is required before the button is activated
    - ii. The Back button (for returning to a previous item) can be turned off for a CAT so that a student cannot go back to a previous item
    - iii. The Go-to-Question feature, which allows the student to jump between items in non-sequential order, is turned off during a CAT
    - iv. Passages can be presented in two ways: 1) as scrolling passages with an indication to the student that there is more information to read either by scrolling up or by scrolling down; or 2) as page-turning passages where the student clicks to advance to the next page or to go back to a previous page
    - v. Navigation hints can be provided on an item-by-item basis; for example, page-turning hints can be provided on passages for younger students or on alternate assessments
    - vi. The Pause tool can be set to any time length designated by MDE
    - vii. The question number display can be turned on or off
    - viii. The test name in the upper-left corner of the screen can be configured to meet MDE's needs
    - ix. Font size can be configured by program, content and/or grade level and then consistently displayed for all items and passages associated with that content and/or grade level combination

#### **Item-Level Customization**

The majority of tools and accommodations can be turned on or off at the item and context level, with a few exceptions.

- i. The Pointer tool is the "default" tool that needs to be present at all times in order for the student to select responses.
- ii. Reference Materials (e.g., formula sheet, periodic table, glossary, etc.) are set at the form level rather than the item level for fixed-form testing. For CAT testing, formula sheets can be set at the item level.
- iii. The Flag for Review tool is set at the form level (i.e., appears on fixed-form tests but not CAT tests).
- iv. Color Overlays and Contrasting Text are set at the form or student level.
- v. Masking is set at the student level.

#### **Test Navigation with CAT**

4. In the case of a multiple-item set associated with a single stimulus, such as a reading passage, students may be allowed to skip items within the item set. For example, when presented with a passage and five associated items, the student does not have to answer questions one through five in that order without skipping. They can move between items in non-sequential order within the item set. If a student tries to navigate to the next passage without answering all of the items associated with a passage, then the test engine will prompt the student to answer all items and will not move on to the next passage until all are answered. Beginning with the Spring 2016 assessment window, the Contractor's System must apply the Personal Needs Profile (PNP) for required accessibility tools and accommodations as specified in the MDE Secure Site student data which is obtained via direct table read.



5. As required by NCLB 2001, Sec. 1111(b)(3)(C)(ix), the Contractor must provide or support reasonable accommodations and tools for students with disabilities.
6. As required by NCLB 2001, Sec. 1111(b)(3)(C)(ix) the Contractor must provide or support reasonable accommodations and tools to support students who are English Learners.

#### D. General Accessibility Tools

The embedded online testing tools listed below are required and are industry standards because they do not violate tested constructs, enhance testing fairness and accessibility for all students, and many have been considered universal tools for paper-pencil assessments in Michigan.

1. For CAT Accessibility Tools, the Contractor must make available in their system:
  - a. Line guide
  - b. Spellcheck (must be available as part of the writing tools)
  - c. Highlighter
  - d. Answer Eliminator
  - e. Strikethrough (creates lines through text in item/passage) (beginning with the Spring 2016 assessment cycle)
  - f. Magnifier/Zoom Feature (magnifies all text and graphics without distortion)
  - g. Digital Notepad (item by item, does not allow retention of notes beginning to end of testing)
  - h. Global Notes (global, allows retention of fixed form notes from beginning to end of testing)
  - i. Color Contrast (contrast options must be approved by the American Printing House for the Blind)
  - j. Color Overlay (colors must be approved by the American Printing House for the Blind)
  - k. Masking (beginning with the Spring 2016 assessment cycle)
2. For Fixed Form Testing Accessibility Tools, the Contractor must make available in their system:
  - a. Line guide
  - b. Spellcheck (must be available as part of the writing tools)
  - c. Highlighter
  - d. Answer Eliminator
  - e. Strikethrough (creates lines through text in item/passage) (beginning with the Spring 2016 assessments cycle)
  - f. Magnifier/Zoom Feature (magnifies all text and graphics without distortion)
  - g. Digital Notepad (item by item, does not allow retention of notes beginning to end of testing)
  - h. Global Notes (global, allows retention of fixed form notes from beginning to end of testing)
  - i. Color Contrast (contrast options must be approved by the American Printing House for the Blind)
  - j. Color Overlay (colors must be approved by the American Printing House for the Blind)
  - k. Masking (beginning with the Spring 2016 assessments cycle)

#### E. Measurement Tools

The following tools are related to the subject areas of mathematics and science and are required for Michigan's assessments.

1. For CAT Measurement Tools, the Contractor must make available in their system:
  - a. Protractor
  - b. Ruler (centimeter)
  - c. Ruler (inches)
  - d. Braille ruler (centimeter) (beginning with the Spring 2016 assessment cycle)
  - e. Braille ruler (inches) (beginning with the Spring 2016 assessment cycle)
  - f. Equation builder
2. For Fixed Form Testing Measurement Tools, the Contractor must make available in their system:
  - a. Protractor
  - b. Ruler (centimeter)



- c. Ruler (inches)
- d. Braille ruler (centimeter) (beginning with the Spring 2016 assessment cycle)
- e. Braille ruler (inches) (beginning with the Spring 2016 assessment cycle)
- f. Equation builder

#### F. Calculators

1. For CAT Calculator Tools, the Contractor must make available in their system:
  - a. Basic Calculator
  - b. Graphing Calculator
  - c. Scientific Calculator
2. For Fixed Form Testing Calculator Tools, the Contractor must make available in their system:
  - a. Basic Calculator
  - b. Graphing Calculator
  - c. Scientific Calculator
3. Beginning in October of 2018, all available embedded calculators must be readable by screen readers.

#### G. Language Tools and Accommodations

Many assessment tools are necessary for students who are non-native English speakers and may need linguistic supports that do not negatively impact the tested construct. These help to ensure that content is tested instead of language ability. In some cases, these supports may also provide needed support for native English speakers and are tools the State currently offers to students on Michigan assessments.

1. For CAT Language Tools and Accommodations, the Contractor must make available in their system:
  - a. Dictionary
  - b. Glossary
  - c. Thesaurus
  - d. Glossing – English (Allows students to view English non-construct relevant synonyms for item/passage specific words) (beginning with the Spring 2017 assessment cycle)
  - e. Glossing – Arabic (Allows students to view Arabic non-construct relevant synonyms for item/passage specific words) (beginning with the Spring 2017 assessment cycle)
  - f. Glossing – Spanish, (Allows students to view Spanish non-construct relevant synonyms for item/passage specific words) (beginning with the Spring 2017 assessment cycle)
  - g. Full-text translation – Arabic. (beginning with the Spring 2017 assessment cycle)
  - h. Full-text translation –Spanish
2. For Fixed Form Testing Language Tools and Accommodations, the Contractor will make available in their system:
  - a. Dictionary
  - b. Glossary
  - c. Thesaurus
  - d. Glossing – English (Allows students to view English non-construct relevant synonyms for item/passage specific words) (beginning with the Spring 2017 assessment cycle)
  - e. Glossing – Arabic (Allows students to view Arabic non-construct relevant synonyms for item/passage specific words) (beginning with the Spring 2017 assessment cycle)
  - f. Glossing – Spanish, (Allows students to view Spanish non-construct relevant synonyms for item/passage specific words) (beginning with the Spring 2017 assessment cycle)
  - g. Full-text translation – Arabic. (beginning with the Spring 2017 assessment cycle)
  - h. Full-text translation –Spanish



3. For full-text translations, the Contractor will make available in their system:(stacked translations, side-by-side, etc.).
  - a. Full-text Translation-Spanish
  - b. Full-text translation-Arabic. (beginning with the Spring 2017 assessment cycle)

H. Audio Content Tools

In order to include students who have visual impairments or are English Learners with visual impairments, in testing it is necessary to provide access to print based text via audio supports. These supports can be allowed for particular grades, programs, and subject areas because it does not violate the construct being assessed.

1. For CAT Audio Content Tools, the Contractor will make available in their system:
  - a. Text-to Speech/English
  - b. Human Voice Audio/English
  - c. Text-to-Speech/Spanish (beginning with the Spring 2016 assessment cycle)
  - d. Human Voice Audio/Spanish
  - e. Text-to-Speech/Arabic (will be made available pending market availability)
  - f. Human Voice Audio/Arabic
2. For Fixed Form Audio Content Tools, the Contractor will make available in their system:
  - a. Text-to Speech/English
  - b. Human Voice Audio/English
  - c. Text-to-Speech/Spanish (beginning with the Spring 2016 assessment cycle)
  - d. Human Voice Audio/Spanish
  - e. Text-to-Speech/Arabic (will be made available pending market availability)
  - f. Human Voice Audio/Arabic

I. Human Voice Audio (HVA) and Text-to-Speech (TTS)

The Contractor must adhere to the following requirements when presenting audio versions of test items from the IBS. Audio versions may be required for any online tests (fixed form or CAT) and may be needed in multiple languages (English, Spanish, and Arabic).

1. The text-to-speech voice must be grade-level appropriate and utilize Broadcast Spanish and Standard Arabic.
  - a. The Contractor’s system must provide the ability for stem and answer choice HVA to be played and enabled separately.
2. The system must provide capabilities for HVA to have multiple restart points.
3. The Contractor’s System must utilize alternate text for TTS and HVA audio files imported with the items and passages.

J. American Sign Language and Closed Captioning

For students who are hearing impaired, the only way they can access audio content within ELA assessments is through American Sign Language (ASL) or closed captioning. ASL is the predominant dialect used in most deaf schools and communities. Both ASL and closed captioning are visual modes of communication.

1. For CAT, ASL and closed captioning, the Contractor must make available in their system:
  - a. ASL (human signer video)
  - b. Closed-Captioning (beginning with the Spring 2017 assessment cycle)
2. For Fixed Form Testing, ASL and closed captioning, the Contractor must make available in their system:
  - a. ASL (human signer video)
  - b. Closed-Captioning (beginning with the Spring 2017 assessment cycle)

K. Braille

MDE must provide a braille form of the assessment for students who are visually impaired and require braille as an accommodation.



1. For Braille CAT, the Contractor will make available in their system:
  - a. Contracted braille (beginning with the Spring 2016 assessment cycle)
  - b. Nemeth code (beginning with the Spring 2016 assessment cycle)
  - c. Printable Tactile Graphics (beginning with the Spring 2016 assessment cycle)
2. For Braille Fixed Form Testing, the Contractor must make available in their system:
  - a. Contracted braille (beginning with the Spring 2016 assessment cycle)
  - b. Nemeth code (beginning with the Spring 2016 assessment cycle)
  - c. Printable Tactile Graphics (beginning with the Spring 2016 assessment cycle)

Beginning in the Spring 2016 assessment cycle, braille forms produced must use Unified English Braille (UEB).

L. Companion Resources

In order to measure students’ knowledge in some subject areas and topics, additional resource documents that do not affect the construct being tested should be made available to students. Because content delivered in each program, subject area, and grade is different, flexibility in the availability of these resources is necessary to ensure content validity retention.

- A. For Companion Resources with Fixed Form Testing, the Contractor must make available in their system:
  - a. Periodic Table
  - b. Math Resources (basic formulas)
  - c. Ability to add additional companion resources
- B. Embedded companion resources be customizable at the program, subject, and grade level.

**1.1.8 Test Session Data**

Computer based testing has many advantages and eliminates a large amount of material that could potentially be lost and carries great environmental and financial savings. However, the student record of the testing occasion itself now resides in the capturing of the student test event in a database rather than a data file as well as a physical document. To be fully compliant with statutes and other regulations, an official record of each student taking an assessment must be present and available for audit, challenge, review or storage requirements. Therefore, the session file must retain all necessary data related to time of student login, answer production, accommodation and tool usage, time spent on each item and exiting times. Additionally, any intervention by a proctor or Contractor should be captured in the file.

In addition to compliance purposes, the session file houses data needed to perform forensic analyses designed to provide evidence of potential test fraud or other security violations. Therefore, knowing the answer changing behavior, timing of testing, location, class/teacher and other information will be extremely useful in detection of anomalies and the limitation of false positives.

Upon initiation of Contract, requirements gathering sessions will be conducted to determine the file layout and structure of the data meeting the above requirements. Additionally, the Contractor will work with MDE Psychometricians and the MDE Technical Advisory Committee to establish best analysis practices and establishment of thresholds/flagging criteria for individual and aggregate data. The data should permit anyone viewing it to fully recreate a student’s testing event in adherence to joint AERA/APA/NCME standard 6.15.

A. Test Session Data

1. The Contractor’s solution must detect and collect Telemetry Data:
  - a. The time at which a student initiated an assessment
  - b. Time of any pauses and their duration
  - c. The amount of time a student spent viewing each item
    1. Response latency, including the amount of time between initial item presentation and initial response, latency between choices (in the event of an answer change) and latency between final response and presentation of the next item
  - d. Time at which student finished the assessment



2. The Contractor’s solution must detect and collect Answer Choice Behavior Data:
  - a. All answers entered by a student for a particular item (first response, each change and final answer when they advanced to the next question); this is their actual response not simply a scored response.
  - b. Tracking the movement of the examinee through the test, including “going back,” item skipping and other behaviors. Going back should be treated as an addendum to the student response data (i.e. it adds to the single student session record). It does not overlay or replace the initial student response data.
  
3. The Contractor’s solution must detect and collect Administration Data including:
  - a. The usage of tools and accessibility / accommodations (including non-embedded supports) at the item level.
  - b. Proctor information
  - c. Class/teacher information
  - d. Unique session ID tied to student registration.
  - e. Terminal/computer ID including any and all changes. As was the case with student response data, any terminal/computer changes must be treated as addendums to the student level session record and not overlay or replace the initial terminal/computer ID.
  - f. Device type
  
- B. The Contractor must provide periodic (as defined during requirements) electronic reports, available to starting at the opening of the test window, that include:
  1. Student response changes that exceed MDE-defined thresholds
  2. Aggregate number of flagged students by district, school, class group code, and teacher ID (where applicable).
  3. The Contractor must provide a summary report, consistent with the requirements of 1.1.8.B.b within 15 business days after the completion of the test cycle that is representative of the entire tested population and available by student, class/teacher, school, district, and state levels. The Contractor must be prepared to push the desired daily and summary information to the MDE via direct table write.

**1.1.9 Scoring**

**A. Scoring – Machine**

This section encompasses the scoring of multiple-choice (MC) and Technology Enhanced (TE) items associated with online assessment. The Contractor must be expected to perform all tasks and related subtasks necessary to accomplish machine scoring.

1. Contractor must score all machine scorable items.
2. Contractor must provide a scoring system that has the capability to translate student responses into a score for each item (e.g. 0/1) including capability to polytomously score TE interactions. Polytomously scoring the TE actions is required in order to provide full value to student responses.
3. Fixed Form Tests - Contractor must provide MDE with all (MC, CR, and TE) student score response data (answer choice selection) and raw item score data (correct or incorrect) via direct table read.
4. CAT Engine – Contractor must apply MDE approved adaptive scoring model.
5. QAP
  - a. Contractor must develop requirements for scoring QAP in collaboration with MDE and subject to approval by MDE.
    1. The QAP will document how the Contractor will meet and comply with the quality standards established by MDE, along with MDE’s internal quality procedures. The Contractor must provide the QAP to MDE for review and approval and will also review with MDE staff all processing procedures and rules for the assessments within this program. The QAP will not be considered final until it has been approved by MDE. The QAP will also be updated as project requirements demand throughout the life of the project.



- b. All scoring information must be made available both to MDE, its subcontractors if so requested by MDE, and to independent evaluators or auditors as required.
  - c. Contractor must provide MDE with evidence of continued QA monitoring including results regarding scoring accuracy throughout the Contract period.
  - d. Contractor must provide QA environment (separate from the production environment) that mimics productions, system instructions, and test cases to MDE for MDE to perform UAT on scoring mechanism.
6. User Acceptance Testing
- a. The Contractor must conduct UAT with appropriate MDE staff using a pre-approved test deck. This activity should leverage the QA environment defined earlier in this section.
  - b. The Contractor and MDE effort, based upon the test deck, lasts from a few days to an entire week.

**B. Scoring for Constructed-response**

- 1. The Contractor does not score constructed response (CR) items, but transports the CR student response to the CR scoring contractor.
  - a. The Contractor must work with the CR scoring contractor and MDE to develop requirements, including timeliness and frequency, of when CR will be provided to the scoring contractor.
  - b. The Contractor must conduct UAT with the CR scoring contractor to verify the export fully meets the requirements and that student response data is not missed/lost or compromised in the process.
  - c. The Contract must define Quality Assurance as define in the requirements with the CR scoring contractor and subject to MDE approval.

**1.1.10 Security**

The Online Test Delivery System must maintain the highest level of security in order to safeguard the confidentiality of items, student information, and assessment results. The required security level is comparable to that required by financial institutions to prevent security breaches. The Contractor’s solution must comply with the following:

**A. Security/Access Control:**

- 1. All computer information systems and applications must operate in a secure manner and comply with Exhibit D (General Security Requirements). Contractor must uphold all of the requirements for handling, storage, and processing of all records and services provided under the Contract to ensure that no leakage or inappropriate disclosure of confidential or sensitive information occurs.
- 2. System ensures that the integrity and confidentiality of data is protected by safeguards to prevent release of information without proper consent. If the Contractor staff member accidentally or purposefully releases restricted (e.g., sensitive/confidential) data, the Contractor must assume full responsibility for any resulting penalties and processes required under the statutes. Contractor must report such instances as outlined in DTMB’s Policy 1340.00.06 - Storage of Sensitive Information on Mobile Devices (Exhibit G)
- 3. System protects the privacy of student data according to FERPA regulations.
- 4. System provides secure unique identifiers for all users.
- 5. System checks each user’s access privileges at login, and automatically disables or enables client functions (in real time) based upon the user’s profile (Role-based security).
- 6. System provides federated identity management capability.

**B. Security/Exposure Control:**

- 1. System limits student functionality to the testing environment only.
  - a. Interfaces with secure software necessary to enhance the testing experience may be allowed, if approved in writing by MDE.

**C. Security/Password Control:**

- 1. All data transmissions/interfaces through Local area Network (LAN) or wireless connections, data at rest, and storage of data must meet DTMB’s encryption standards as outlined in DTMB Technical Standard 1340.00.07 (Electronic Data Encryption, see Exhibit E) and DTMB Authoritative Policy



1340 (Information Technology Information Security, see Exhibit F). Per DTMB's Standard 1340.00.07, the State's requirements for encrypting transmitted data are:

- a. Centrally managed digital certificates by DTMB
  - b. Approved data encryption (LAN or wireless connection) that meets DTMB Technical Standard
  - c. Message data integrity from source to host will be verified by making sure the message hasn't been modified since it left the storage source by adding an encrypted digest to the message, using either the MD5 or the SHA-1 algorithms.
2. System must allow users to enter passwords in only non-display fields.
  3. System must encrypt passwords when they are routed over the network.
  4. System must store passwords in encrypted State.
  5. System must provide a method of secure login for all users and comprehensive security for all system components.
  6. System must support secure socket delivery such as SSL using industry standard encryption levels.
  7. Telecommunication lines must comply with DTMB Network and Infrastructure Standard 1345.00 (see Exhibit H).
  8. Data storage on equipment and portable media must meet DTMB Technical Standard 1340.00.06 (Storage of Sensitive Information on Mobile Devices and Portable Media, see Exhibit G).

D. Security/Activity Logging:

1. System must maintain an audit trail of all security maintenance performed by date, time, user ID, device, and location, with easy access to information.

E. Collection of Test Administration Security Compliance Agreements (Online and Paper/Pencil):

All individuals with any access to secure materials must sign a Security Compliance Agreement developed by MDE. The Security Agreement must be maintained at districts/schools for one year and must be presented on demand to monitors, observers, or investigators.

1. Contractor must provide security agreements for all staff.

F. Assessment Monitoring and Investigations

MDE defines three types of monitoring and one type of investigation.

1. Critical Incident Special Security Monitoring: A Critical Incident is defined as a serious security breach in which immediate monitoring is required. The Contractor must provide special security monitors at MDE's request. The Contractor should expect one critical incident per test cycle and the need to provide five monitors per day for six days duration.

The Contractor must:

- a. Provide Special Security Monitors within 24 hours upon the request of MDE, to accompany MDE staff and assist in securing compliance at a specific school(s).
  - b. Prepare its Special Security Monitors at MDE's direction to do such things as deliver test materials to the assessment room, monitor test administration by school staff, and return test materials to a secure location.
2. Targeted Monitoring: Targeted Monitoring is defined as monitoring a specific school for reasons such as irregularities in previous testing administrations. Targeted Monitors are appointed by MDE, not the Contractor. The Contractor is responsible for Targeted Monitor reimbursement. The Contractor must:
    - a. Reimburse each Targeted Monitor at the rate of \$250/day plus travel expenses.
    - b. Expect 40 targeted monitor visits per school year.
  3. Random Monitoring: Random Monitoring is defined as monitoring a school picked at random by MDE. Random Monitors are appointed and reimbursed by the Contractor. The Contractor should expect 40 random monitor visits school year.
  4. Targeted Investigation: A Targeted Investigation is defined as an investigation of a school based



on specific documented or alleged irregularities in previous testing administrations. These investigations may occur prior to, during, or following a testing window. Targeted Investigators are appointed by MDE, not the Contractor. The Contractor is responsible for Targeted Investigator reimbursement.

To ensure the highest level of assessment security and integrity, and that the assessment system is working as expected. The Contractor must:

- a. Reimburse each Targeted Investigator at the rate of \$500/day plus travel expenses.
- b. Have two investigators per investigation, lasting two days, on average. The Contractor should expect no more than 10 targeted investigations per school year.

G. Document Retention and Storage

- 1. In preparation for each test cycle, the Contractor and MDE will define during requirements gathering, identify/update retention requirements for electronic documents that includes the following.
  - a. MDE must have access to all stored documents and files at any point during the Contract or within agreed-upon retention guidelines established during requirements gathering.
  - b. Electronic Files:
    - 1. The Contractor must retain all student testing data in a highly secure location with off-site backup for the life of the Contract.
    - 2. The Contractor must have full archives of student testing data that must be made available to MDE via an open published API.
    - 3. The Contractor must not delete any student testing data without written permission from the MDE Project Manager.

**1.1.11 Print Materials**

The materials section of this document is to provide students with a standardized and efficient medium to record their responses to the test questions. The Contractor is not responsible for printing or shipping materials.

A. Ancillary and Supporting Test Materials

A test administration manual and a security compliance form are developed for use with all assessments. Test Administration Directions are produced for each assessment, content area, and grade level (if applicable). These items are produced by MDE with source material provided by the Contractor.

- 1. Measuring tools, such as rulers required for one or more test items, are specified on test maps drawn from IBS and produced according to item specifications and stated quantities.
- 2. Online Administration Test Administration Manuals (TAM)
  - a. The Contractor must create Manuals and secure approval by MDE for the roles of Technology Coordinators, District and Building Coordinators, and Test Administrators. Each manual must describe in detail all specific duties required for each role for a complete and successful test administration. Manuals should be produced in Microsoft Word© or a mutually agreeable format to enable editing between MDE and the Contractor.
  - b. The Test Administration Manual must provide customizable, general information for each test cycle, including directions for Call Center hours, contact numbers, ordering and return of materials, etc.
  - c. The manuals and directions must be made available to Michigan educators in online format.
  - d. Manuals for Online Testing must be prepared for posting as a Print Optimized Files (POF).
  - e. Each assessment will require role specific Test Administration Manuals for Technical Directors, District Assessment Coordinators, Building Test Coordinators, and Test Administrators. Test administration requirements and details must be described for before, during, and after testing as appropriate for each role.
  - f. Manuals must provide all details, including calendar and timelines, necessary for a successful online or paper administration and include sample documents such as screen shots where appropriate, security forms, and other documents required and necessary for test administration.
  - g. All Test Manuals must include a Security Compliance Form developed by MDE. The form



- can be duplicated as necessary for all personnel that have access to secure test materials. The form is dated and must remain on file at the district or school for one year.
- h. Test Directions to be shared/read by Test Administrators to students as necessary to facilitate a successful test administration must be developed for each assessment.
  - i. During requirements gathering, determine if test directions included in TAM or handled separately.
  - j. The Contractor must provide all manuals to MDE for approval at least three weeks in advance of the anticipated release date. Manuals must be made available to Test Administrators no later than six weeks in advance of the specific assessment.

**1.1.12 Reserved**

**1.1.13 Technical Report**

MDE requires the annual production of a technical report that documents the development and psychometric characteristics for each of the Michigan assessments. Those reports must be comprehensive, providing reviewers with all the information necessary to evaluate the technical merits of the Michigan assessments and clearly written so that the report is readily accessible to reviewers at the U.S. Department of Education, other oversight bodies, and Michigan stakeholders.

Following each test administration cycle, MDE creates an operational technical report for each assessment program documenting all phases of the test development, scoring, and reporting process and providing evidence for the reliability and validity of the assessments, as well as providing all of the supporting analysis results as appendices. The development of these technical reports provides validation of the assessment’s reliability and validity as is required by NCLB. Additionally, the State strives to ensure that all documentation complies with requirements set forth in Chapter 7 of The Standards for Educational and Psychological Testing (AERA/APA/NCME, 2014).

While the vast majority of technical analyses and psychometric processes will reside within the MDE, most of the processes employed to develop, administer and score the assessments are the result of collaborative efforts between all contractors and the MDE. The proper documentation of all processes serves as crucial validation evidence to support the purpose of the assessment program as well as the inferences made from the assessment scores. Therefore, the Contractor must schedule and document needs analysis and requirements gathering sessions around the specific documentation and other information they must provide to the MDE Psychometric Lead(s) to allow for timely and accurate release of the Technical Reports.

The following section is a high-level list of sections of the technical report and relevant features the Contractor will be responsible for providing. The list should not be considered exhaustive; as alluded to previously, there will be specific requirements gathering conducted to determine in greater detail the technical report responsibilities for each Contractor and the MDE.

For items developed by MDE, the Contractor must contribute to at least the following technical report sessions that will be authored collaboratively between MDE Psychometric, Development and Administration staff and the Contractor:

**A. Test Development**

- 1. Provide documentation as to the specific processes employed to import items in their engine according to MDE specifications (e.g. fixed form test maps, eligible pools for adaptive testing, blueprint based bundles, etc.).
  - a. Provide documentation describing the quality control process used to ensure the import was successful. This must include rendering review, match to test map or pool characteristics, and the resolution processes used when discrepancies are found.
- 2. Provide documentation and evidence of functionality and appropriateness for student based tools and other assistive technologies employed by the engine.
  - a. This must include, but is not limited to: highlighting, magnification, text to speech technology, translations, test navigation, underline, bold, protractors, calculators, timing indicators, rulers, and virtual scratch pads or drawing tools.

**B. Test Administration**



1. Provide documentation of the process used to ensure tests were delivered as expected.
  - a. Addresses how the sampling plan was carried out, how tests (or items) were packaged for delivery to the students and how the system was able to deliver the forms or appropriate set of items as intended by blueprint or algorithm based restraints.
  - b. Provide full technical documentation of the algorithm used to determine item selection including, but not limited to:
    1. Blueprint and content based constraints applied and quality control steps used to ensure adherence.
    2. Student ability based item selection criteria and rules
    3. Stopping/termination rules (content based, student based or a combination of constraints)
  - c. Navigability
    1. Documentation of business rules specified by MDE and how the system applied those rules.
    2. Documentation of the appropriateness of the administration experience for all students.
    3. Quality control procedures used to ensure users experienced the assessment as designed when they navigate throughout the assessment space.
2. Test security
  - a. Full documentation of the procedures employed by the Contractor to ensure security of test items:
    1. Exposure control
    2. Proctoring/monitoring
    3. Secure browsers/LCS/data storage and security
    4. Secure and unique log-ins
    5. Student stopping and continuation rules
  - b. Full documentation of procedures employed to analyze assessment data for possible irregularities post-assessment:
    1. Answer changing behavior
    2. Proximity analysis
    3. Telemetry data
    4. Time stamping
    5. Unusual response strings
    6. Item parameter drift
  - c. Technical documentation regarding security of the actual electronic data including the items, the student responses, personally identifiable information and the below information:
    1. Location of where the data resides.
    2. Personnel who has access to the data.
    3. Verification of the security precautions to ensure the data is secure and not vulnerable to breach.
  - d. Thorough explanation of test session data collected and provided to MDE for audit purposes. This documentation should be sufficient enough to allow authorized personnel the ability to recreate a student assessment experience item by item when combined with the telemetry data.

**C. Test Scoring and Reporting**

The Contractor must:

1. Provide documentation of the process used to link student response data to scoring tables for score reporting (fixed form only).
2. Provide full description of all scoring algorithms and constraints used to convert student response strings to student ability estimates and subsequent transformation to the reporting metric (adaptive).
3. Provide documentation of quality control processes used to ensure student scoring algorithms are applied without error. One example is the parameter recovery studies prescribed by MDE.

**1.1.14 Student Growth Percentiles (SGP)**

From Fall 2007 through Fall 2013, MDE has reported student progress on a metric called “Performance Level



Change” (or PLC) which tracks students’ performance longitudinally using categorical change (or transition tables). This “growth model” as approved by the United States Department of Education (USED) and can be found at: <http://www2.ed.gov/admins/lead/account/growthmo:del/mi/migmp.doc>

As MDE transitions from a fall to a spring assessment calendar and the instruments used to measure achievement to Michigan standards also change, it has been determined that the MDE must also change growth methodologies to allow for valid inferences based on the intended uses of the model. A change in assessment design and administration practices results in a change to the construct being measured. Therefore, the growth methodology must be robust in the application across multiple assessment scales and not have a reliance on the same scale over time or a vertical scale across grades. The methodology must also be flexible in terms of providing information regarding growth relative to students of similar backgrounds and prior achievement but also provide a basis of which to set standards, criteria, around adequate growth for use in accountability calculations and evaluations. Additionally, the explanation should be intuitive and understandable by the end user (e.g. teachers, parents, students) without advanced technical knowledge.

MDE has determined that the appropriate methodology to meet all of our goals is open-source R package based on the student growth percentiles methodology as proposed and implemented by Betebenner (2008, 2009).

### **SGP Definition**

- A. The Contractor must implement a SGP approach such that the calculation of an SGP is based upon the estimation of the conditional density associated with a student's current score using the student's prior scores as conditioning variables. Given the conditional density of current scale scores, the SGP is defined as the percentile of that score in that conditional density and reflects the likelihood of that scale score, given prior achievement. In the absence of prior achievement data, estimation will be conditioned on demographic variables.
  1. Estimation of the conditional density and reference percentile curves must be performed using quantile regression techniques. The conditional quantile functions must be parameterized as a linear combination of B-spline cubic basis functions as opposed to a simple linear parameterization. This approach is necessary to accommodate the inherent heteroskedasticity, skewness, and non-linearity of the conditional densities. As a result the data fit is excellent.
- B. The Contractor methodology to be implemented must be open-source software for replication and validation. The approach must incorporate the SGP package as implemented in R ([cran.r-project.org/web/packages/SGP/SGP.pdf](http://cran.r-project.org/web/packages/SGP/SGP.pdf)) and created by Damian Betebenner. (See references at the end of this section).
  1. If necessary, the Contractor must provide a license to the software code for MDE for the sole purpose of operating the model in Michigan. This procedure is computationally intensive with data sets as large as MDE’s. SGP will be calculated once annually for each of the following assessments at the individual student and aggregate levels:
  2. Summative (required general assessment and Functional Independent (FI) alternate assessments for accountability purposes):
    - a. English Language Arts (ELA) for students in grades 4-11, from the prior grade
    - b. Mathematics for students in grades 4-11, from the prior grade
    - c. Science assessed once in each grade span, (elementary, middle school, and high school) for middle school and high school students from the prior grade span
    - d. Social studies assessed once in each grade span, (elementary, middle school, and high school) for middle and high school students from the prior grade span
  3. Interim assessments (optional assessments):
    - a. ELA for students in grades K-8, from Pre- to Post test administered in the same school year
    - b. Mathematics for students in grades K-8 from Pre- to Post test administered in the same school year
    - c. Science for students in grades 3-8 from Pre- to Post test administered in the same school year



- d. Social studies for students in grades 3-8 from Pre- to Post test administered in the same school year
  - e. High School course based assessments in ELA, mathematics, science, and social studies; from pre- to post test in the same school year
  4. WIDA ACCESS for ELLs and Alternate ACCESS for ELLs
    - a. Listening, Reading, Writing, and Speaking for students identified as English Learners (EL) in grades 1-12 (ACCESS) and 2-12 (Alternate ACCESS), from the prior grade.
- C. The Contractor must interface with MDE using direct table read/data exchange to extract source student data from at least the three previous cycles for the purpose of calculating the SGP for the assessments identified in 2 above, and to populate the tables with the SGP for reporting purposes, on a timely basis.
1. Within 10 days of the approval of the Contract, the Contractor will collaborate with MDE project management staff to schedule requirements gathering meetings with subject matter experts from all relevant parties, for the purpose of implementing the SGP methodology as specified by MDE.
  2. The Contractor must keep detailed notes from all requirements gathering sessions, provide draft notes from all sessions to MDE for review, incorporate MDE feedback, and submit final meeting minutes to the designated electronic depository.
  3. Upon MDE approval of the requirements, the Contractor must establish the Direct Table Read/Data Exchange with MDE.
- D. The Contractor must be prepared to provide full technical documentation of the work performed, and provide MDE with the R code, technical documentation and support such that MDE will have full access to all requirements, process, code, and other material necessary to:
1. Bring those operations in-house, and/or
  2. Permit independent verifications to be conducted, should MDE choose to exercise either or both of these options.
  3. Technical documentation includes, but is not limited to: the processes developed to obtain and link past performance data to current data, calculations used in production of estimates, implementation of any performance standards and growth standards arising from the current standard setting contract and the application of any external benchmarks deemed appropriate by MDE. The quality control processes used by the Contractor prior to score release should be clearly communicated and included in the technical documentation. Pricing for the SGP analyses must include, at a minimum:
    - a. A fixed cost for purchase or rental of adequate hardware (e.g. a super computer, analysis server space from private Contractors, etc.) and setting up software needed to accomplish the analyses according to specifications, and
    - b. Unit costs to perform each analysis

### SGP References

- Betebenner, D. W. (2008). Toward a normative understanding of student growth. In K. E. Ryan & L. A. Shepard (Eds.), *The future of test-based educational accountability* (pp. 155-170). New York: Taylor & Francis.
- Betebenner, D. W. (2009). Norm- and criterion-referenced student growth. *Educational Measurement: Issues and Practice*, 28(4), 42-51.
- Betebenner, D.W. (2011). A Technical Overview of the Student Growth Percentile Methodology: Student Growth Percentiles and Percentile Growth Projections/Trajectories. ([http://www.nj.gov/education/njsmart/performance/SGP\\_Technical\\_Overview.pdf](http://www.nj.gov/education/njsmart/performance/SGP_Technical_Overview.pdf))
- Betebenner, D.W. (2011). An Overview of Student Growth Percentiles. (<http://oea.dpi.wi.gov/files/oea/pdf/betebenner11.pdf>)
- Betebenner, D.W. and Linn, R. L. (2010). *Growth in Student Achievement: Issues of Measurement, Longitudinal Data Analysis, and Accountability*. (<http://www.k12center.org/rsc/pdf/BetebennerandLinnPresenterSession1.pdf>)



### 1.1.15 Reserved

### 1.1.16 Reserved

## 1.2 Training of Technology Coordinators, District and Building Level Coordinators and All Test Administrators

The Contractor will be required to work closely with MDE to develop standardized training presentations for Michigan Interim and Summative assessment programs (Grades K-12) for online administrations. Training materials must provide both a general overview, and role specific details necessary to facilitate a successful test administration for the positions of Technology Coordinator, District and Building Test Coordinators, and Test Administrators including Proctors as outlined in the Test Administration Manuals.

### A. Video Presentation

1. The Contractor must develop and produce video presentations, webcasts and/or webinars for online test administration training to provide
  - a. Presentation trainings must include a video overview that describes general information about each assessment for Technology Coordinators (online only), District and Building Test Coordinators, and Test Administrators and Proctors.
  - b. Presentation to also include video training for the specific roles of Technology Coordinator (online only), District and Building Test Coordinator, and Test Administrator and Proctor.

### B. Webinar Production

1. Contractor must provide training videos or webinars to be recorded for future viewing and subsequent workshops with Michigan Assessment Coordinators and Test Administrators.

### C. Presentation Modes

1. All video content and presentation modes must be pre-approved by MDE no less than six weeks in advance of each assessment.

### D. Video Training

1. The Contractor must provide supporting training materials for testing personnel approved by MDE such as (not all inclusive) test administration manuals for inclusion in training packets as necessary and requested by MDE.

### E. Video Presentations for Technology Coordinators

1. The Contractor must create video presentations to provide Technology Coordinator training with a general overview of each assessment.
2. The Contractor must create video presentations to provide Technology Coordinator training for job specific tasks required for a successful test implementation for each Michigan Assessment.
3. The Contractor must describe the process required for District Coordinators to access video training.
4. The Contractor must host video trainings for Technology Coordinators or provide the training in a format approved by MDE.
5. The Contractor must address the reality that the role of the Technology Coordinator may not always be a full time position and may be held by designated personnel as an extra duty.

### F. Video Presentations for District Coordinators

1. The Contractor must create video presentations for training to District Coordinators a general overview of each assessment for online assessments.
2. The Contractor must create video presentations to provide training to District Coordinators for job specific tasks for online assessments.
3. The Contractor must describe the process required for District Coordinators to access video training.
4. The Contractor must host video trainings for District Coordinators or provide the training in a format approved by MDE.

### G. Video Presentations for Building Test Coordinators

1. The Contractor must provide a general overview of each assessment to Building Test Coordinators for online assessments.
2. The Contractor must provide job specific training to Building Test Coordinators for each assessment for online assessments.



3. The Contractor must define the process required for Building Test Coordinators to access training.
  4. The Contractor must host video trainings for Building Test Coordinators or provide the training in a format approved by MDE.
- H. Video Presentations for Test Administrators
1. The Contractor must provide Test Administrators (including Proctors) training with a general overview of each assessment for online assessments.
  2. The Contractor must provide Test Administrators (including Proctors) with job specific training for online assessments.
  3. The Contractor must define the process required for Test Administrators (including Proctors) to access training.
  4. The Contractor must host video trainings for Test Administrators (including Proctors) or provide the training in a format approved by MDE.
- I. Webcasts
1. The Contractor must produce (and record) live webinars or webcasts to train Technology Coordinators (online only), District and Building Test Coordinators, and Test Administrators and Proctors in their role specific tasks for planning and administering each Michigan online assessment.
  2. Initial training webinars must be recorded for future viewing and subsequent workshops with Michigan Assessment Coordinators and Test Administrators.
  3. All content and presentation modes must be pre-approved by MDE no less than eight weeks in advance of anticipated release and presentations will be ready for use no less than six weeks in advance of each assessment.
  4. The Contractor must provide training materials for inclusion in training packets, including test administration manuals and other examples of test administration documents as necessary and requested by MDE.
  5. All training materials remain the exclusive property of MDE and must be created in a format that can be edited by MDE.
- J. Quick Start Guides:
- Quick Start Guides or Checklists must be produced by the Contractor for the roles of Technology Director (online only), District Assessment Coordinators, Building Assessment Coordinator, and Test Administrator for Online assessments.
1. Quick Start Checklists must be produced by the Contractor for the roles of Technology Director (online only), District Assessment Coordinators, Building Assessment Coordinator, and Test Administrator for Online assessments.
  2. The Quick Start Checklist for each role must be no longer than two pages. Quick Start Guides should be produced in Microsoft Word© or a mutually agreeable format to enable editing between MDE and the Contractor.
  3. The Contractor must ensure the Quick Start Checklist will be available for use in the initial training webinars and must be provided to MDE for approval two weeks in advance of the first training event.
- K. Training for Online Tools
- Training for online tools is a short practice test produced for students at each grade level and each content level to provide students the opportunity to become familiar with online tools used in the assessments and to be introduced to how the tools are used with sample problem types.
1. The Contractor must provide an online training tool (OTT) for all grades, all content areas, and each assessment to provide students an opportunity to practice using all available tools and all item types (for example, matching, fill in the blank, etc.). Samples of the various types of accommodations and tools available must be provided at the same time as the basic OTT.
  2. The Contractor must provide MDE access to the training for online tools at all times (either in a QA or production environment).
  3. The Contractor's online training tools must contain grade level appropriate directions approved by MDE and be student facing. Grades K-2 will require audio for all students and all other grades must have audio available for students who require audio support.
  4. The Contractor must provide students access to training for online tools as frequently as necessary



- for them to be comfortable with the tools to be used for their online assessment.
5. The Contractor must provide access to online training tools no less than six weeks in advance of the associated assessment and they must remain accessible to students throughout the year. The training for online tools must be provided to MDE for approval no later than three weeks in advance of its first use.
  6. The training for online tools will be reviewed by both MDE and the Contractor no later than 12 weeks before the next assessment cycle and revised as required.
  7. The Contractor must provide training for online tools for students who are receiving designated support tools (tools that may be available for designated students rather than all students).
  8. The Contractor’s online calculator must be available for use no less than 12 weeks prior to the assessment date.
  9. Training for online tools Video Tutorials: A video tutorial is a companion to the training for online tools. The tutorial must be provided so it can be either facilitated by a teacher, or is student facing.
  10. The Contractor’s online training tools tutorial must be designed to guide students in the first or subsequent practice of all online tools developed for the assessment.
  11. The Contractor’s tutorial must guide students in the first or subsequent use of the training for online tools developed for their assessment.
  12. Requirements Gathering
    - a. The Contractor must participate with MDE in requirements for training as contained in this section.
    - b. Requirements must be reviewed and revised as needed for each assessment cycle.

**1.3 Program Development/Assistance**

There are many stakeholders involved with various facets of implementing programs described within this Contract. At times, there are requests for research, training or special reporting related to federal or State mandates. Together with its contractors, MDE expects to be able to handle most of these requests.

In addition, staff may need to attend specific training sessions to maintain their expertise in the programs identified in this Statement of Work. Staff may also be required to provide training to large groups of stakeholders regarding one or more of the administration and reporting activities. Upon written approval of the MDE Director, the Contractor must contract with and compensate individuals and organizations selected by the MDE Director to cover the aforementioned needs within this section. Line items are included in the price sheet related to this section.

**2.0 Acceptance**

**2.1 Acceptance, Inspection, and Testing**

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

- The Contractor must submit all deliverables to the MDE Project Manager and the MDE Authorized Approver(s). These individuals will be identified in a document created by MDE.
- The MDE PM and Authorized Approvers will provide approval as is or submit in writing (email or other agreed to format) things to be changed.
- The Contractor must update and resubmit. This is repeated, as necessary, until the deliverable is correct and approved.

**2.2 Reserved**

**3.0 Staffing**

**3.1 Contractor Representative**

The Contractor must appoint two individuals (a primary and backup) specifically assigned to State of Michigan accounts, that will respond to State inquiries regarding the Contract activities, answering questions related to ordering and delivery, etc. (the “Contractor Representative”).



- **Primary—Mr. Kyle Fagen**, DRC’s Director, State Assessment Programs and Michigan Project Manager
- **Backup—Mr. Doug Russell**, DRC’s Senior Vice President, Education Program Management

The Contractor must notify the Contract Administrator at least 10 business days before removing or assigning a new Contractor Representative.

**3.2 Reserved**

**3.3 Technical Support/Call Center**

The Contractor is responsible for providing call center services to handle phone calls and emails regarding Michigan online assessments. The toll-free phone number for the field is provided by MDE, which routes calls to the appropriate call center number provided by the contractor.

- A. The Contractor is responsible for hosting a call center for the duration of the Contract.
  - 1. The Call Center(s) must be staffed by persons dedicated to call center responsibilities and specifically trained to support Michigan online assessments.
    - a. Within 20 days of the approval of the Contract, the Contractor must provide a support plan, for MDE’s review and approval, which documents how calls will be answered, how to respond to questions they cannot answer, and an organizational chart identifying all staff and roles within the call center team.
    - b. Calls must answered with “Michigan call center” followed by the agent’s name.
    - c. Training will be provided to the call center agents by MDE staff and/or Michigan’s subcontractor(s), as determined by MDE.
  - 2. The Call Center(s) must provide the following support.
    - a. Call Center agents must respond to routine questions regarding the eDirect, Insight, and Test Site Manager (TSM) components of Michigan’s online assessment system.
      - 1. Repetitive questions must be communicated to MDE for providing an answer, which must then be added to the approved answers list.
    - b. Highly technical, new or unique questions that cannot be immediately answered must be forwarded to a designated contractor or MDE staff member for response.
      - 1. Repetitive questions should be submitted to MDE contact for an answer to be added to the approved answers.
  - 3. The call center agents have the ability to interface with the Educational Entity Master (EEM) at [www.michigan.gov/eem](http://www.michigan.gov/eem) to obtain assessment coordinator and school information when needed.
- B. Contractor staff must be available from 8 a.m. to 5 p.m. EDT/EST on Monday through Friday (excluding State holidays, but including summer vacation days) throughout the entire duration of the Contract to ensure consistent availability to the field. A listing of State holidays can be found at <http://www.michigan.gov/som/0,1607,7-192-29938-90605--,00.html>
  - 1. During test administration, Contractor staffing must be available beginning at 7 a.m. EDT/EST to ensure a timely response to callers prior to an assessment. The Assessment Coordinators will use the Call Center number to ask questions.
  - 2. The Contractor staffing of this Call Center can be variable, but must be staffed at adequate levels, subject to the following:
    - a. Callers must not be put on hold for long periods (four minute maximum).
      - 1. Transferring the caller to voicemail does not satisfy the four minute maximum.
    - b. Callers must be given an option to leave a voicemail in place of being put on hold.
    - c. Voicemails must be returned within three business hours.
    - d. Callers should not receive a busy signal at any time.
- C. Based on an average estimate of 600 calls per month, with a peak of approximately 6,000 per month during assessment administration, the Contractor must:
  - 1. Provide call center software to log call details including the caller name, district and school name, date and time of the call, nature of the call, call center agents name and the response that was



- given to the caller. All software used in the call center for the purpose of answering questions, logging calls, monitoring calls, etc. should be documented and provided to MDE.
2. Within 20 days of the approval of the Contract, provide to MDE a written procedure for call monitoring and escalation.
  3. Within 20 days of the approval of the Contract, provide to MDE a written procedure for ensuring consistent responses to the same issues.
    - a. Agents must only give out information that has been previously provided by MDE. MDE may provide this information via manuals, emails, the call center's knowledge base or through other communications from MDE.
    - b. For questions that do not have an answer in writing, the call center manager should contact MDE. The answer provided must then be documented in the call center knowledge base for future use.
  4. Within 20 days of the approval of the Contract, provide a written emergency plan for approval by MDE to ensure that calls from the field do not go unanswered during an outage or other emergency situation.
- D. The Contractor must provide the following reports as part of the quality assurance plan to ensure that quality customer service is being provided to the field.
1. Contractors provide Call Center Detail Reports on a monthly basis and weekly during assessment administration, providing:
    - a. Summary of call issues.
    - b. Details of each call may be requested of the Contractor by MDE to investigate or used to determine problems in the field that can be resolved through additional communications or other means.
  2. The Contractor must provide weekly Call Center reports including:
    - a. Volume of calls by day and hour.
    - b. Average time on hold by day and hour.
    - c. Minimum and maximum hold time by day and hour.
    - d. Number of dropped calls by day and hour.
    - e. Average time calls on hold before calls were dropped by day and hour.
    - f. Response time calculations must not count transferring the caller to voicemail as a response.
    - g. Provide a live dashboard of call center statistics
      - i. Must include, at a minimum; available agents, busy active calls, current queue, longest active wait time, abandon calls and inbound calls.
  3. Additional information may also be required of the Contractor for the monthly Call Center report upon request of the PM based upon experience with the performance of the Call Center and/or unanticipated types or volumes of support calls.
  4. Contractor must provide MDE with all approved responses that are being used by the Call Center agents prior to a new test cycle and also upon request, so that MDE can monitor changes that may need to be made to responses and situations.

### 3.4 Work Hours

The Contractor must provide Contract Activities during the State's normal working hours Monday – Friday 7:00 a.m. to 5:00 p.m. EST, and possible night and weekend hours depending on the requirements of the project. This allows, as necessary, for the personnel to interact most effectively without delays caused by schedules that do not largely coincide.

### 3.5 Key Personnel

The Contractor's specific individuals to fulfill key roles of the Contract ("**Key Personnel**") are listed below. These Key Personnel are specifically assigned to the State account, and are knowledgeable on the contractual requirements.



DRC's Key Personnel	
Key Role	DRC Name and Title
Day-to-Day Project Manager	Mr. Kyle Fagen, Director, State Assessment Programs
IT Lead for Online Delivery	Mr. Chris Young, Technical Manager, Information Systems
Lead for Item Import and Rendering	Mr. Jared Hollermann, Senior Test Development Technology Specialist
Psychometric Lead	Dr. Marc Julian, Senior Director, Psychometric Services
Call Center Manager	Mr. Niall Finn, Senior Director of Customer Service

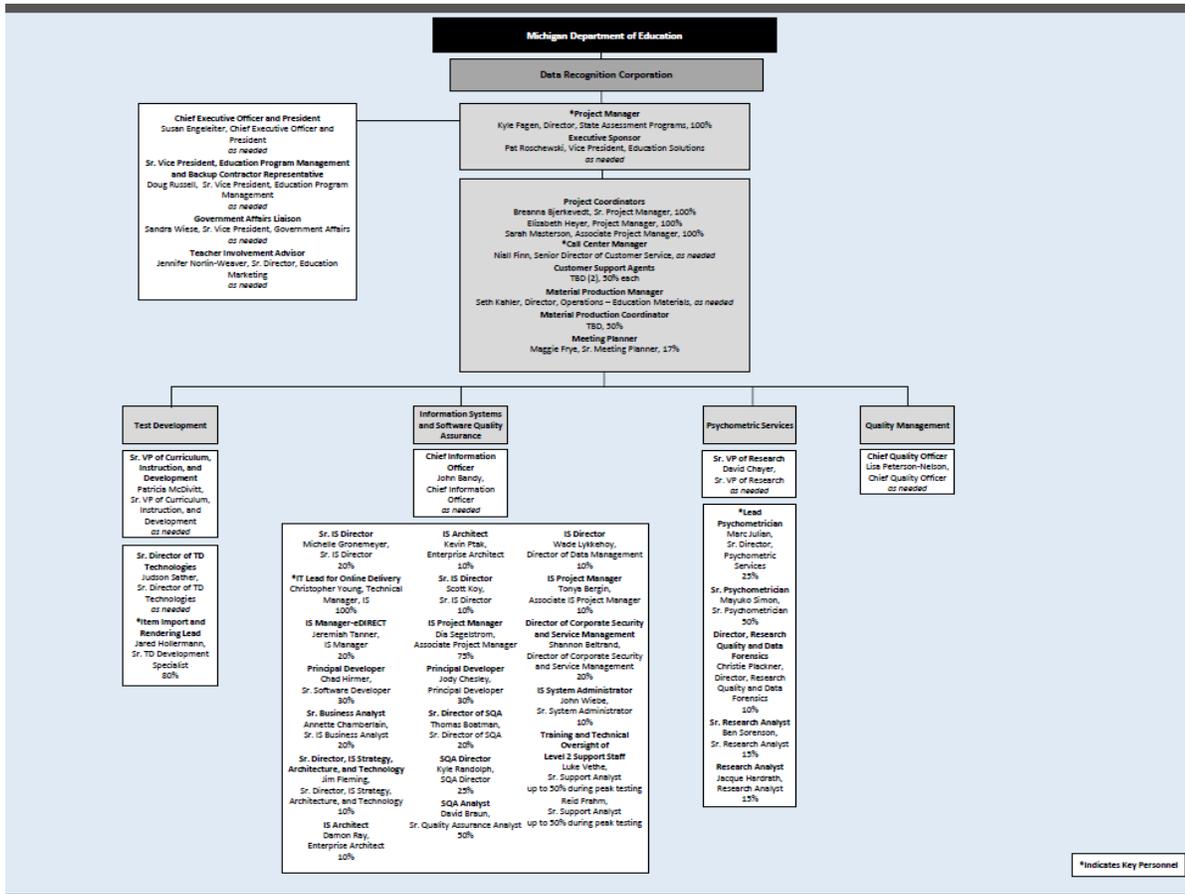
The State has the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor must notify the State of the proposed assignment, introduce the individual to the State's PM, and provide the State with a resume and any other information about the individual reasonably requested by the State. The State reserves the right to interview the individual before granting written approval. In the event the State finds a proposed individual unacceptable, the State will provide a written explanation including reasonable detail outlining the reasons for the rejection. The State may require a 30-calendar day training period for replacement personnel.

Contractor will not remove any Key Personnel from their assigned roles on this Contract without the prior written consent of the State. The Contractor's removal of Key Personnel without the prior written consent of the State is an unauthorized removal ("**Unauthorized Removal**"). An Unauthorized Removal does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation, or for cause termination of the Key Personnel's employment. Any Unauthorized Removal may be considered by the State to be a material breach of this Contract, in respect of which the State may elect to terminate this Contract for cause under Termination for Cause in the Standard Terms.

The Contractor must identify the Key Personnel, indicate where they will be physically located, describe the functions they will perform, and provide current chronological résumés.



### 3.6 Organizational Chart



### 3.7 Disclosure of Subcontractors

The Contractor’s subcontractors are:

- **Assessment and Evaluation Services** for independent psychometric review.
  - Legal Business Name: John M Keene ETAL PTRS (DBA: Assessment and Evaluation Services)
  - Address: 29743 High Eschelon, Fair Oaks Ranch, TX 78015
  - Telephone: 210-863-5863 (John Keene) and 216-799-9168 (Thomas Hirsch)

### 4.0 Project Management

The State of Michigan’s Project Management Methodology (PMM) is consistent with Information Technology (IT) industry standard best practices and relies on the Project Management Book of Knowledge (PMBOK). The PMBOK is authored and updated by the Project Management Institute (PMI).

#### 4.1 Project Plan

The Preliminary Project Plan, including the Project Schedule, is a “first pass” of the recommended plan, including schedule, for this effort based upon Scope and Requirements. Alignment with these standards defines components of a well-organized project. The plan sets the framework for project management.

- The Preliminary Project Plan includes the following:
  - MS Project Schedule (Appendix B), which includes, but is not limited to:
    - Internal milestones
    - All tasks necessary to complete the work and deliverables described in Exhibit A, Statement of Work
    - Task durations for all tasks



- d. Task dependencies that illustrate the relationship of various tasks and deliverables
  - e. Deliverable target dates and critical paths
  - f. Include tasks and associated durations for the State's review of project deliverables
  - g. Identification of roles likely to participate in the tasks and deliverables
2. Project approach / Statement of Work
    - a. Statement describing the project objectives
    - b. Scope Statement with a description of the expected deliverables
  3. Assumptions and exclusions
  4. Critical success factors
  5. Initial communication plan
  6. Anticipated hardware, materials, and supplies to be provided by the State in meeting the target dates identified in the Preliminary Project Plan (Appendix C).

## 4.2 Project Control

The Contractor must carry out this project under the direction and control of MDE.

PMBOK requires project control to ensure that project work is indeed going according to plan. If it isn't, and changes need to be made and those requests for changes get fed into the Project Change Management process (see 4.2.3).

- A. Within 10 business days of the start of the project, the Contractor must submit an updated project plan to the MDE Project Manager(s) for final approval.
  1. The Contractor's project organizational structure.
  2. The Contractor's staffing table with names and titles 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.
  3. The project work breakdown structure (WBS) showing sub-projects, activities and tasks, and resources required and allocated to each.
- B. Contractor must manage the project in accordance with this Contract.
  1. Contractor must use an automated tool for planning, monitoring, and tracking the Contract's progress and the level of effort of any Contractor or their subcontractor personnel spent performing Services under the Contract. The tool must have the capability to produce:
    - a. Staffing tables with names of personnel assigned to Contract tasks.
    - b. Project schedule showing tasks, subtasks, deliverables, and the resources required and allocated to each (including detailed plans for all Services to be performed within the next 120 calendar days, updated weekly or biweekly as directed by the State PM).
    - c. Updates must include actual time spent on each task and a revised estimate to complete.
    - d. Graphs showing critical events, dependencies and decision points during the course of the Contract.

### 4.2.1 Project Issues Management

An issue is an identified event that if not addressed, may affect schedule, scope, quality, or budget. Issue management is the process to define, communicate, control and learn from issues, so as to minimize adverse impact to the project.

The State will escalate issues for resolution as follows:

- Level 1 — Business leads / Subject matter experts
- Level 2 — Project Managers / Project Leadership Team
- Level 3 — Executive Team

Once an issue has been identified by the Contractor, the Contractor must follow these steps:

- A. Immediately communicate the issue in writing to the MDE Project Manager and other appropriate MDE staff.



- B. The Contractor must log the issue into an issue tracking system which contains the following minimum elements:
  1. Description of issue
  2. Status
  3. Date reported
  4. Resolution deadline
  5. Date resolved
  6. Project impact (e.g., schedule, resources)
  7. Priority
  8. Assigned to
  9. Related risk
  10. Notes
- C. Identify what needs to be done and resources needed to correct the issue.
- D. Receive approval from the MDE Project Manager for appropriate action.
- E. Keep MDE Project Manager and appropriate MDE staff informed on status of issue. Certain critical issues may require updates more frequently than the weekly status and that need will be communicated by the MDE Project Manager.
- F. As part of the Project Status Report, provide a listing of all issues with their current status, deadlines to correct, and actual dates of completion.
- G. Issue closed and so reported would be removed from the issues listing and moved to an archive listing.

#### **4.2.2 Project Risk Management**

A risk is an unknown circumstance or event that, if it occurs, may have a positive or negative impact on the project. If the unknown becomes known or the event occurs, a risk may escalate to become an issue. Risk management is the process to define, communicate, control and learn from issues so as to minimize adverse impact to the project.

Because the assessments within this Contract are large-scale and high-stakes, quality and deadlines are of utmost importance. Therefore, the risk assessment will be reviewed, at minimum, during the Kick-Off meeting for each assessment cycle and reviewed monthly thereafter. It will include, but is not limited to, the following:

- A. Establishing a risk management plan 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.
- B. Reviewing the project plan and timelines to ensure resources are, or will be, available.
- C. Identify deadlines for items and assessment material designs to allow sufficient time to produce.
- D. Qualitative review and approval of assessment materials by MDE staff designated by the PM; at a minimum of the beginning, middle, and end of production.
- E. Approval for actual quantities to produce must be given in writing by the PM, or designee.
- F. Accurate tracking of delivery, retrieval, logging, scanning, and storage of all assessment materials.
- G. Identify data management and backup procedures.
- H. Perform school readiness analysis on the equipment to be used.

The Contractor must submit an updated risk management plan and risk register to the State for approval within 20 business days from the start of the project. The Contractor must communicate the status of risks to the State's Project Manager weekly, as required or agreed, and the status must contain the following minimum elements:

- Risk
- Status
- Date documented
- Controlled (indicates item managed to minimize risk)
- Impact
- Description
- Trigger event
- Mitigation



- Likely activities impacted
- Owner

#### 4.2.3 Project Change Management

Change management is defined as the process to communicate, assess, monitor, and control changes to system resources and processes. The State employs change management at the project level and in its administration of the Contracts.

The Contractor must employ change management procedures to handle requests that impact schedule or resources and such things as “out-of-scope” requests or enhancements. Change requests must be submitted to the Project Manager and must be approved by the State in writing before they are implemented. DTMB Procurement will issue an addendum to the Contract, via a Contract Change Notice, if the Change request is approved.

#### 4.3 Meetings

The Contractor must attend the following meetings:

##### 4.3.1 Kickoff Meeting

###### A. Pre-Planning

1. MDE will suggest date(s) for the Kickoff that needs to occur within 30 days of the start of the project.
2. The Contractor will work closely with MDE to prepare a preliminary agenda and schedule(s) that will be sent to MDE for review and approval no later than 14 days in advance of the Kick-Off Meeting.
3. The kickoff will include:
  - a. A review of key dates, review of the preliminary project schedule and identification of deliverables/tasks needing revision.
  - b. A Q&A regarding scope to ensure Contractor’s questions are answered or added to an issue log for timely resolution. Topics could include:
    1. assessment tracking
    2. tested roster
    3. data and table structure
    4. test maps production schedule
    5. IBS export
    6. Item rendering
    7. reporting requirements
    8. system interfaces
  - c. A Q&A regarding capability of the Contractor’s system to ensure MDE’s questions are answered or added to an issue log for timely resolution.
  - d. A review and, as needed, of the risk register.

###### B. Kickoff Conduct

1. The face-to-face meeting will take place in Lansing for no more than two days.
2. The kickoff will include MDE, Contractor and any subcontractors.
3. The Contractor must provide minutes including action items within three business days after the meeting to all scheduled to attend.
4. The Contractor must handle all logistics as described below.

##### 4.3.2 Management Meetings

- A. These meetings are not the same as the Performance Review (Status) Meeting or the Executive Management Meetings.
- B. These meetings, one every three months, can rotate between MDE’s office in Lansing, MI, and the Contractor’s primary facility. Web conferencing or teleconferencing can also be used.
- C. During these meetings, MDE staff will meet with Contractor’s key staff and others as required, to review risks and issues for the coming quarter, and both in process and future deliverables/tasks.
- D. MDE reserves the right to require other Contractor staff, identified as key, for specific activities to attend



one or more of these meetings. MDE will provide written notification (to the Contractor's Project Manager) requiring the attendance of any such individual in reasonable time for the request to be accommodated.

#### **4.3.3 Executive Meetings**

- A. MDE's and the Contractor's senior officers must meet at least twice a year to review overall Contract performance.
  - 1. These are high-level meetings to review project goals, assess foreseeable risks, address major issues, and discuss financial matters.
  - 2. The frequency of these meetings may be increased at the discretion of MDE's PM.
- B. These are all in-person meetings.
- C. The meetings can rotate between the Contractor's primary facility and MDE's office in Lansing, MI.
- D. The first meeting must be held within 60 calendar days of start of the project.

#### **4.3.4 Project Status Meetings**

The Contractor must attend weekly meetings to review the Contractor's performance under the Contract. This may be adjusted to biweekly at the discretion of the MDE Project Manager. The meetings must be held in Lansing, Michigan, or by teleconference, as mutually agreed by the State and the Contractor. The State will bear no cost for the time and travel of the Contractor for attendance at the meeting. One business day prior to the Project Status Meeting, the Contractor must provide a Status Report with content as defined in section 4.4, as requested by the MDE Project Manager.

#### **4.3.5 Technical Advisory Committee (TAC) Meetings**

- A. The TAC is a panel of nationally recognized assessment experts who provide advice to MDE on complex assessment-related issues. The TAC meetings are conducted and coordinated by MDE.
- B. They are typically convened four times per year and last up to two days each.
- C. Since most of the meetings tend to address assessment administration topics, by invitation, MDE may request the presence of two representatives from the Contractor's staff. Therefore, for budget purposes the Contractor should plan on sending two staff four times per year, payable only in cases in which the staff is in attendance.

#### **4.3.6 General Meeting Support**

- A. In consultation with MDE, identify meeting titles, dates, times, and attendees.
- B. Locate, reserve, and pay for a facility on the date(s) identified. The facility must have:
  - 1. Seating capacity for the expected attendees.
  - 2. Microphones to ensure able to clearly hear all participants.
  - 3. A large display screen that can easily be seen by all on-site attendees.
  - 4. ADA compliance.
  - 5. Unless specifically indicated to the contrary, all meetings will be held in Lansing, Michigan.
  - 6. Communications ability should any participants do so remotely.
- D. Arrange and pay for overnight accommodations for multi-day meetings for any attendee traveling between 50 and 150 miles to the meeting.
- E. Arrange and pay for overnight accommodations for the night before, the night(s) during, and the night following any meeting for any attendee traveling more than 150 miles to the meeting.
- F. Provide transportation for any attendee traveling out of the State.
- G. Must have written approval from MDE's director before transportation arrangements are made.
- H. Provide refreshments (water, coffee, tea, juice, soft drinks, and healthy snacks) for all attendees.
- I. Provide lunches to all attendees for meetings lasting more than four hours and beginning at or before 12 noon local time.
- J. Prepare an agenda including approximate times/duration for each topic for the meeting.
- K. Send out and track invitations to each meeting.
  - 1. Send copies of agenda with invitations.
  - 2. Provide copies of notes from any related previous meetings.
- L. Set up and provide a sign-in sheet with the title and date of each meeting.



1. Ensure that all attendees sign in, including Contractor's staff, MDE staff, and committee members.
  2. Set up a separate sign-in sheet for each date of a multi-day meeting. For example, if one meeting lasts two days then there must be a separate sign-in sheet for each day.
  3. The original sign-in sheets must be given to MDE within five business days following the meeting.
  4. The Contractor must retain a copy of the sign-in sheets for up to two years following the end of the term of the Contract.
- M. Prepare and maintain accurate minutes of each meeting.
1. Send MDE a copy of the minutes within three business days following the meeting.
  2. Publish final minutes and any stakeholder comments to a password-protected shared data source.
- The project may have other meetings as defined in the approved communication plan (a component of the Project Plan). The State may also request other meetings, as it deems appropriate.

#### 4.4 Reporting

The Contractor must submit to the MDE Project Manager the following written reports:

- A. Weekly project status report including accomplishments this week, plans for the coming two weeks, staff changes or unavailability.
- B. Weekly update of the project schedule highlighting all late items.
- C. Weekly issues log including issues closed in the prior week.
- D. Monthly risk log.
- E. And other reports in the approved communication plan.

#### 5.0 Ordering

##### 5.1 Authorizing Document

The appropriate authorizing document for the Contract will be a Purchase Order.

#### 6.0 Invoice and Payment

##### 6.1 Invoice Requirements

All invoices submitted to the State must include: (a) date; (b) purchase order; (c) quantity; (d) description of the Contract Activities; (e) unit price; (f) shipping cost (if any); and (g) total price. Overtime, holiday pay, and travel expenses will not be paid.

Invoices must only be submitted after the deliverable has been approved by MDE as defined in Section 2.1 (above).

#### 7.0 Liquidated Damages

1. Liquidated Damages shall apply on all scheduled testing days and shall be subject to any limitations of Liability.
  - a. **Tests, Reports, and Data.** It is understood and agreed by the Contractor that time is of the essence in the delivery of tests, reports, and data of the content and quality specified in this Contract, and its proposal document. In the event these specified tests, reports, and data are not available by the dates specified in this Contract or as reflected in schedules, the 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 23 of Standard Terms and Conditions, the State is entitled to collect liquidated damages as shown below when Contractor fails to remedy the late or improper completion of the Work in Exhibit A which includes, but is not limited to: Reports; except if the delivery is delayed by an act, negligence, or default on the part of the State of Michigan, public enemy, war, embargo, fire, or explosion not caused by the negligence or intentional act of the Contractor or Contractor's supplier(s), or by riot, sabotage, or labor trouble that results from a cause or causes entirely beyond the control or fault of the Contractor or the Contractor's supplier(s), a reasonable extension of time as the MDE deems appropriate may be granted. Upon receipt of a written request and justification for any extension from the Contractor, the MDE may extend the time for performance of the Contract or delivery of goods therein specified, at the MDE's sole discretion, for good cause shown.



- b. **Issue:** The availability of the testing window is delayed per Section 1.1.2.G.24.  
Remedy: \$37,500.00 for more than 10 minutes up to 60 minutes; \$75,000.00 for a delay of one to two hours; \$200,000.00 for two to four hours; and for delays of four hours to a complete full class day, an additional \$100,000.00 which will increase by \$50,000.00 for each consecutive day this occurs. The State is entitled to collect liquidated damages in the amount of \$75,000.00 per day for each day the Contractor fails to remedy the late or improper completion of all other Work in Exhibit A, which includes, but not limited to the delivery of data and reports.
- c. **Unauthorized Removal of Key Personnel.** It is acknowledged that an Unauthorized Removal of Key Personnel 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 of Key Personnel. 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 23, the State may assess liquidated damages against Contractor as specified below.
1. 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 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.
  2. If Contractor fails to assign a replacement to shadow the removed Key Personnel for at least 30 calendar days, in addition to the \$25,000.00 credit specified above, Contractor will credit the State \$833.33 per calendar day for each day of the 30 calendar-day shadow period that the replacement Key Personnel does not shadow the removed Key Personnel, up to \$25,000.00 maximum per individual. The total Unauthorized Removal Credits that may be assessed per Unauthorized Removal and failure to provide 30 calendar days of shadowing will not exceed \$50,000.00 per individual.



# STATE OF MICHIGAN

## STANDARD CONTRACT TERMS

This STANDARD CONTRACT (“Contract”) is agreed to between the State of Michigan (the “State”) and Data Recognition Corporation (“Contractor”). This Contract is effective on July 1, 2015 (“Effective Date”), and unless terminated, expires on June 30, 2018.

This Contract may be renewed for up to five additional one year period(s). Renewal must be by written agreement of the parties.

The parties agree as follows:

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

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

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

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

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

<b>If to State:</b> Lance Kingsbury 525 West Allegan Lansing, MI 48933 KingsburyL@michigan.gov (517) 284-7017.	<b>If to Contractor:</b> Susan Engeleiter Chief Executive Officer and President Data Recognition Corporation 13490 Bass Lake Road Maple Grove, MN 55311 sengeleiter@datarecognitioncorp.com (763) 268-2102 (phone)
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3. **Contract Administrator.** The Contract Administrator for each party is the only person authorized to modify any terms and conditions of this Contract (each a “**Contract Administrator**”):

<b>If to State:</b> Lance Kingsbury 525 West Allegan Lansing, MI 48933 KingsburyL@michigan.gov (517) 284-7017.	<b>If to Contractor:</b> Susan Engeleiter Chief Executive Officer and President Data Recognition Corporation 13490 Bass Lake Road Maple Grove, MN 55311 sengeleiter@datarecognitioncorp.com (763) 268-2102 (phone)
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4. **Program Manager.** The Program Manager for each party will monitor and coordinate the day-to-day activities of the Contract (each a “**Program Manager**”):

<b>If to State:</b> Mr. Andrew J. Middlestead Director, Office of Standards & Assessment Bureau of Assessment & Accountability P.O. Box 30008 Lansing, MI 48909  (517) 335-0568 (phone) (517) 335-1186 (fax) middlesteda@michigan.gov	<b>If to Contractor:</b> Kyle Fagen Data Recognition Corporation 13490 Bass Lake Road Maple Grove, MN 55311
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5. **Performance Guarantee.** Contractor must at all times have financial resources sufficient, in the opinion of the State, to ensure performance of the Contract and must provide proof upon request. The State may require a performance bond (as specified in Exhibit A) if, in the opinion of the State, it will ensure performance of the Contract.
6. **Insurance Requirements.** Contractor must maintain the insurances identified below and is responsible for all deductibles. All required insurance must: (a) protect the State from claims that may arise out of, are alleged to arise out of, or result from Contractor's or a subcontractor's performance; (b) be primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State; and (c) be provided by an company with an A.M. Best rating of "A" or better and a financial size of VII or better.

Insurance Type	Additional Requirements
<b>Commercial General Liability Insurance</b>	
<u>Minimal Limits:</u> \$1,000,000 Each Occurrence Limit \$1,000,000 Personal & Advertising Injury Limit \$2,000,000 General Aggregate Limit \$2,000,000 Products/Completed Operations  <u>Deductible Maximum:</u> \$50,000 Each Occurrence	Contractor must have their policy: (1) endorsed to add “the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents” as additional insureds using endorsement CG 20 10 11 85, or both CG 2010 07 04 and CG 2037 07 04; (2) include a waiver of subrogation; and (3) for a claims-made policy, provide three years of tail coverage.
<b>Umbrella or Excess Liability Insurance</b>	
<u>Minimal Limits:</u> \$10,000,000 General Aggregate	Contractor must have their policy: (1) endorsed to add “the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents” as additional insureds, and (2) include a waiver of subrogation.



<b>Workers' Compensation Insurance</b>	
<u>Minimal Limits:</u> Coverage according to applicable laws governing work activities.	Waiver of subrogation, except where waiver is prohibited by law.
<b>Employers Liability Insurance</b>	
<u>Minimal Limits:</u> \$100,000 Each Accident \$100,000 Each Employee by Disease \$500,000 Aggregate Disease.	
<b>Cyber Liability Insurance</b>	
<u>Minimal Limits:</u> \$1,000,000 Each Occurrence \$1,000,000 Annual Aggregate	Contractor must have their policy: (1) endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds; and (2) cover information security and privacy liability, privacy notification costs, regulatory defense and penalties, and website media content liability.
<b>Hired and Non-Owned Motor Vehicle Insurance</b>	
<u>Minimal Limits:</u> \$1,000,000 Per Accident	Contractor must have their policy: (1) endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds, and (2) include a waiver of subrogation.
<b>Professional Liability (Errors and Omissions) Insurance</b>	
<u>Minimal Limits:</u> \$3,000,000 Each Occurrence \$3,000,000 Annual Aggregate  <u>Deductible Maximum:</u> \$50,000 Per Loss	

If Contractor's policy contains limits higher than the minimum limits, the State is entitled to coverage to the extent of the higher limits. The minimum limits are not intended, and may not be construed to limit any liability or indemnity of Contractor to any indemnified party or other persons.

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

- 7. **Reserved**
- 8. **Reserved**
- 9. **Independent Contractor.** Contractor is an independent contractor and assumes all rights, obligations and liabilities set forth in this Contract. Contractor, its employees, and agents will not be considered employees of the State. No partnership or joint venture relationship is created by virtue of this Contract. Contractor, and not the State, is responsible for the payment of wages, benefits and taxes of Contractor's employees



and any subcontractors. Prior performance does not modify Contractor's status as an independent contractor.

10. **Subcontracting.** Contractor may not delegate any of its obligations under the Contract without the prior written approval of the State. Contractor must notify the State at least 90 calendar days before the proposed delegation, and provide the State any information it requests to determine whether the delegation is in its best interest. If approved, Contractor must: (a) be the sole point of contact regarding all contractual matters, including payment and charges for all Contract Activities; (b) make all payments to the subcontractor; and (c) incorporate the terms and conditions contained in this Contract in any subcontract with a subcontractor. Contractor remains responsible for the completion of the Contract Activities, compliance with the terms of this Contract, and the acts and omissions of the subcontractor. The State, in its sole discretion, may require the replacement of any subcontractor.
11. **Staffing.** The State's Contract Administrator may require Contractor to remove or reassign personnel by providing a notice to Contractor.
12. **Background Checks.** Upon request, Contractor must perform background checks on all employees and subcontractors and its employees prior to their assignment. The scope is at the discretion of the State and documentation must be provided as requested. Contractor is responsible for all costs associated with the requested background checks. The State, in its sole discretion, may also perform background checks.
13. **Assignment.** Contractor may not assign this Contract to any other party without the prior approval of the State. Upon notice to Contractor, the State, in its sole discretion, may assign in whole or in part, its rights or responsibilities under this Contract to any other party. If the State determines that a novation of the Contract to a third party is necessary, Contractor will agree to the novation, provide all necessary documentation and signatures, and continue to perform, with the third party, its obligations under the Contract.
14. **Change of Control.** Contractor will notify, at least 90 calendar days before the effective date, the State of a change in Contractor's organizational structure or ownership. For purposes of this Contract, a change in control means any of the following: (a) a sale of more than 50% of Contractor's stock; (b) a sale of substantially all of Contractor's assets; (c) a change in a majority of Contractor's board members; (d) consummation of a merger or consolidation of Contractor with any other entity; (e) a change in ownership through a transaction or series of transactions; (f) or the board (or the stockholders) approves a plan of complete liquidation. A change of control does not include any consolidation or merger effected exclusively to change the domicile of Contractor, or any transaction or series of transactions principally for bona fide equity financing purposes.

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

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

Within 10 business days from the date of Contractor's receipt of notification of acceptance with deficiencies or rejection of any Contract Activities, Contractor must cure, at no additional cost, the deficiency and deliver unequivocally acceptable Contract Activities to the State. If acceptance with deficiencies or rejection of the



Contract Activities impacts the content or delivery of other non-completed Contract Activities, the parties' respective Program Managers must determine an agreed to number of days for re-submission that minimizes the overall impact to the Contract. However, nothing herein affects, alters, or relieves Contractor of its obligations to correct deficiencies in accordance with the time response standards set forth in this Contract.

If Contractor is unable or refuses to correct the deficiency within the time response standards set forth in this Contract, the State may cancel the order in whole or in part. The State, or a third party identified by the State, may perform the Contract Activities and recover the difference between the cost to cure and the Contract price plus an additional 10% administrative fee.

17. **Delivery.** Contractor must deliver all Contract Activities F.O.B. destination, within the State premises with transportation and handling charges paid by Contractor, unless otherwise specified in Exhibit A. All containers and packaging becomes the State's exclusive property upon acceptance.
18. **Risk of Loss and Title.** Until final acceptance, title and risk of loss or damage to Contract Activities remains with Contractor. Contractor is responsible for filing, processing, and collecting all damage claims. The State will record and report to Contractor any evidence of visible damage. If the State rejects the Contract Activities, Contractor must remove them from the premises within 10 calendar days after notification of rejection. The risk of loss of rejected or non-conforming Contract Activities remains with Contractor. Rejected Contract Activities not removed by Contractor within 10 calendar days will be deemed abandoned by Contractor, and the State will have the right to dispose of it as its own property. Contractor must reimburse the State for costs and expenses incurred in storing or effecting removal or disposition of rejected Contract Activities.
19. **Warranty Period.** The warranty period, if applicable, for Contract Activities is a fixed period commencing on the date specified in Exhibit A. If the Contract Activities do not function as warranted during the warranty period the State may return such non-conforming Contract Activities to the Contractor for a full refund.
20. **Terms of Payment.** Invoices must conform to the requirements communicated from time-to-time by the State. All undisputed amounts are payable within 45 days of the State's receipt. Contractor may only charge for Contract Activities performed as specified in Exhibit A. Invoices must include an itemized statement of all charges. The State is exempt from State sales tax for direct purchases and may be exempt from federal excise tax, if Contract Activities purchased under the Contract are for the State's exclusive use. Prices are exclusive of all taxes, and Contractor is solely responsible for payment of any applicable taxes.

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

The State will only disburse payments under this Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/cpexpress> to receive electronic fund transfer payments. If Contractor does not register, the State is not liable for failure to provide payment. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract.

21. **Liquidated Damages.** Liquidated damages, if applicable, will be assessed as described in Exhibit A..



22. **Stop Work Order.** The State may suspend any or all activities under the Contract at any time. The State will provide Contractor a written stop work order detailing the suspension. Contractor must comply with the stop work order upon receipt. Within 90 calendar days, or any longer period agreed to by Contractor, the State will either: (a) issue a notice authorizing Contractor to resume work, or (b) terminate the Contract or purchase order. The State will not pay for Contract Activities, Contractor's lost profits, or any additional compensation during a stop work period.
23. **Termination for Cause.** The State may terminate this Contract for cause, in whole or in part, if Contractor, as determined by the State: (a) endangers the value, integrity, or security of any location, data, or personnel; (b) becomes insolvent, petitions for bankruptcy court proceedings, or has an involuntary bankruptcy proceeding filed against it by any creditor; (c) engages in any conduct that may expose the State to liability; (d) breaches any of its material duties or obligations; or (e) fails to cure a breach within the time stated in a notice of breach. Any reference to specific breaches being material breaches within this Contract will not be construed to mean that other breaches are not material.

If the State terminates this Contract under this Section, the State will issue a termination notice specifying whether Contractor must: (a) cease performance immediately, or (b) continue to perform for a specified period.

If it is later determined that Contractor was not in breach of the Contract, the termination will be deemed to have been a Termination for Convenience, effective as of the same date, and the rights and obligations of the parties will be limited to those provided in Section 24, Termination for Convenience.

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

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



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

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

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

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

27. **Infringement Remedies.** If, in either party's opinion, any piece of equipment, software, commodity, or service supplied by Contractor or its subcontractors, or its operation, use or reproduction, is likely to become the subject of a copyright, patent, trademark, or trade secret infringement claim, Contractor must, at its expense: (a) procure for the State the right to continue using the equipment, software, commodity, or service, or if this option is not reasonably available to Contractor, (b) replace or modify the same so that it becomes non-infringing; or (c) accept its return by the State with appropriate credits to the State against Contractor's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.
28. **Limitation of Liability.** The State is not liable for consequential, incidental, indirect, or special damages, regardless of the nature of the action.
29. **Disclosure of Litigation, or Other Proceeding.** Contractor must notify the State within 14 calendar days of receiving notice of any litigation, investigation, arbitration, or other proceeding (collectively, "**Proceeding**") involving Contractor, a subcontractor, or an officer or director of Contractor or subcontractor, that arises during the term of the Contract, including: (a) a criminal Proceeding; (b) a parole or probation Proceeding; (c) a Proceeding under the Sarbanes-Oxley Act; (d) a civil Proceeding involving: (1) a claim that might reasonably be expected to adversely affect Contractor's viability or financial stability; or (2) a governmental or public entity's claim or written allegation of fraud; or (e) a Proceeding involving any license that Contractor is required to possess in order to perform under this Contract.
30. **State Data.** All data and information provided to Contractor by or on behalf of the State, and all data and information derived therefrom, is the exclusive property of the State ("**State Data**"); this definition is to be construed as broadly as possible. Upon request, Contractor must provide to the State, or a third party designated by the State, all State Data within 10 calendar days of the request and in the format requested by the State. Contractor will assume all costs incurred in compiling and supplying State Data. No State Data may be used for any marketing purposes.



- a. Ownership. The State's data ("**State Data**," which will be treated by Contractor as Confidential Information) includes: (a) the State's data collected, used, processed, stored, or generated as the result of the Contract Activities; (b) personally identifiable information ("**PII**") collected, used, processed, stored, or generated as the result of the Contract Activities, including, without limitation, any information that identifies an individual, such as an individual's social security number or other government-issued identification number, date of birth, address, telephone number, biometric data, mother's maiden name, email address, credit card information, or an individual's name in combination with any other of the elements here listed; and, (c) personal health information ("**PHI**") collected, used, processed, stored, or generated as the result of the Contract Activities, which is defined under the Health Insurance Portability and Accountability Act (HIPAA) and its related rules and regulations. State Data is and will remain the sole and exclusive property of the State and all right, title, and interest in the same is reserved by the State. This Section survives the termination of this Contract.
- b. Contractor Use of State Data. Contractor is provided a limited license to State Data for the sole and exclusive purpose of providing the Contract Activities, including a license to collect, process, store, generate, and display State Data only to the extent necessary in the provision of the Contract Activities. Contractor must: (a) keep and maintain State Data in strict confidence, using such degree of care as is appropriate and consistent with its obligations as further described in this Contract and applicable law to avoid unauthorized access, use, disclosure, or loss; (b) use and disclose State Data solely and exclusively for the purpose of providing the Contract Activities, such use and disclosure being in accordance with this Contract, any applicable Statement of Work, and applicable law; and (c) not use, sell, rent, transfer, distribute, or otherwise disclose or make available State Data for Contractor's own purposes or for the benefit of anyone other than the State without the State's prior written consent. This Section survives the termination of this Contract.
- c. Extraction of State Data. Contractor must, within one business day of the State's request, provide the State, without charge and without any conditions or contingencies whatsoever (including but not limited to the payment of any fees due to Contractor), an extract of the State Data in the format specified by the State.
- d. Backup and Recovery of State Data. Unless otherwise specified in Exhibit A, Contractor is responsible for maintaining a backup of State Data and for an orderly and timely recovery of such data. Unless otherwise described in Exhibit A, Contractor must maintain a contemporaneous backup of State Data that can be recovered within two hours at any point in time.
- e. Loss of Data. In the event of any act, error or omission, negligence, misconduct, or breach that compromises or is suspected to compromise the security, confidentiality, or integrity of State Data or the physical, technical, administrative, or organizational safeguards put in place by Contractor that relate to the protection of the security, confidentiality, or integrity of State Data, Contractor must, as applicable: (a) notify the State as soon as practicable but no later than 24 hours of becoming aware of such occurrence; (b) cooperate with the State in investigating the occurrence, including making available all relevant records, logs, files, data reporting, and other materials required to comply with applicable law or as otherwise required by the State; (c) in the case of PII or PHI, at the State's sole election, (i) notify the affected individuals who comprise the PII or PHI as soon as practicable but no later than is required to comply with applicable law, or, in the absence of any legally required notification period, within five calendar days of the occurrence; or (ii) reimburse the State for any costs in notifying the affected individuals; (d) in the case of PII, provide third-party credit and identity monitoring services to each of the affected individuals who comprise the PII for the period required to comply with applicable law, or, in the absence of any legally required monitoring services, for no less than 24 months following the date of notification to such individuals; (e) perform or take any other actions required to comply with applicable law as a result of the occurrence; (f) without limiting Contractor's obligations of indemnification as further described in this Contract, indemnify, defend, and hold harmless the State for any and all claims, including



reasonable attorneys' fees, costs, and expenses incidental thereto, which may be suffered by, accrued against, charged to, or recoverable from the State in connection with the occurrence; (g) be responsible for recreating lost State Data in the manner and on the schedule set by the State without charge to the State; and, (h) provide to the State a detailed plan within 10 calendar days of the occurrence describing the measures Contractor will undertake to prevent a future occurrence. Notification to affected individuals, as described above, must comply with applicable law, be written in plain language, and contain, at a minimum: name and contact information of Contractor's representative; a description of the nature of the loss; a list of the types of data involved; the known or approximate date of the loss; how such loss may affect the affected individual; what steps Contractor has taken to protect the affected individual; what steps the affected individual can take to protect himself or herself; contact information for major credit card reporting agencies; and, information regarding the credit and identity monitoring services to be provided by Contractor. This Section survives the termination of this Contract.

31. **Non-Disclosure of Confidential Information.** The parties acknowledge that each party may be exposed to or acquire communication or data of the other party that is confidential, privileged communication not intended to be disclosed to third parties. The provisions of this Section survive the termination of this Contract.
- a. Meaning of Confidential Information. For the purposes of this Contract, the term "**Confidential Information**" means all information and documentation of a party that: (a) has been marked "confidential" or with words of similar meaning, at the time of disclosure by such party; (b) if disclosed orally or not marked "confidential" or with words of similar meaning, was subsequently summarized in writing by the disclosing party and marked "confidential" or with words of similar meaning; and, (c) should reasonably be recognized as confidential information of the disclosing party. The term "Confidential Information" does not include any information or documentation that was: (a) subject to disclosure under the Michigan Freedom of Information Act (FOIA); (b) already in the possession of the receiving party without an obligation of confidentiality; (c) developed independently by the receiving party, as demonstrated by the receiving party, without violating the disclosing party's proprietary rights; (d) obtained from a source other than the disclosing party without an obligation of confidentiality; or, (e) publicly available when received, or thereafter became publicly available (other than through any unauthorized disclosure by, through, or on behalf of, the receiving party). For purposes of this Contract, in all cases and for all matters, State Data is deemed to be Confidential Information.
  - b. Obligation of Confidentiality. The parties agree to hold all Confidential Information in strict confidence and not to copy, reproduce, sell, transfer, or otherwise dispose of, give or disclose such Confidential Information to third parties other than employees, agents, or subcontractors of a party who have a need to know in connection with this Contract or to use such Confidential Information for any purposes whatsoever other than the performance of this Contract. The parties agree to advise and require their respective employees, agents, and subcontractors of their obligations to keep all Confidential Information confidential. Disclosure to a subcontractor is permissible where: (a) use of a subcontractor is authorized under this Contract; (b) the disclosure is necessary or otherwise naturally occurs in connection with work that is within the subcontractor's responsibilities; and (c) Contractor obligates the subcontractor in a written contract to maintain the State's Confidential Information in confidence. At the State's request, any employee of Contractor or any subcontractor may be required to execute a separate agreement to be bound by the provisions of this Section.
  - c. Cooperation to Prevent Disclosure of Confidential Information. Each party must use its best efforts to assist the other party in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the foregoing, each party must advise the other party immediately in the event either party learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Contract and each party will cooperate with the other party in seeking injunctive or other equitable relief against any such person.



- d. Remedies for Breach of Obligation of Confidentiality. Each party acknowledges that breach of its obligation of confidentiality may give rise to irreparable injury to the other party, which damage may be inadequately compensable in the form of monetary damages. Accordingly, a party may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies which may be available, to include, in the case of the State, at the sole election of the State, the immediate termination, without liability to the State, of this Contract or any Statement of Work corresponding to the breach or threatened breach.
- e. Surrender of Confidential Information upon Termination. Upon termination of this Contract or a Statement of Work, in whole or in part, each party must, within five calendar days from the date of termination, return to the other party any and all Confidential Information received from the other party, or created or received by a party on behalf of the other party, which are in such party's possession, custody, or control; provided, however, that Contractor must return State Data to the State following the timeframe and procedure described further in this Contract. Should Contractor or the State determine that the return of any non-State Data Confidential Information is not feasible, such party must destroy the non-State Data Confidential Information and must certify the same in writing within five calendar days from the date of termination to the other party.

### 32. Data Privacy and Information Security.

- a. Undertaking by Contractor. Without limiting Contractor's obligation of confidentiality as further described, Contractor is responsible for establishing and maintaining a data privacy and information security program, including physical, technical, administrative, and organizational safeguards, that is designed to: (a) ensure the security and confidentiality of the State Data; (b) protect against any anticipated threats or hazards to the security or integrity of the State Data; (c) protect against unauthorized disclosure, access to, or use of the State Data; (d) ensure the proper disposal of State Data; and (e) ensure that all employees, agents, and subcontractors of Contractor, if any, comply with all of the foregoing. In no case will the safeguards of Contractor's data privacy and information security program be less stringent than the safeguards used by the State, and Contractor must at all times comply with all applicable State IT policies and standards, which are available to Contractor upon request.
- b. Audit by Contractor. No less than annually, Contractor must conduct a comprehensive independent third-party audit of its data privacy and information security program and provide such audit findings to the State.
- c. Right of Audit by the State. Without limiting any other audit rights of the State, the State has the right to review Contractor's data privacy and information security program prior to the commencement of Contract Activities and from time to time during the term of this Contract. During the providing of the Contract Activities, on an ongoing basis from time to time and without notice, the State, at its own expense, is entitled to perform, or to have performed, an on-site audit of Contractor's data privacy and information security program. In lieu of an on-site audit, upon request by the State, Contractor agrees to complete, within 45 calendar days of receipt, an audit questionnaire provided by the State regarding Contractor's data privacy and information security program.
- d. Audit Findings. Contractor must implement any required safeguards as identified by the State or by any audit of Contractor's data privacy and information security program.
- e. State's Right to Termination for Deficiencies. The State reserves the right, at its sole election, to immediately terminate this Contract or a Statement of Work without limitation and without liability if the State determines that Contractor fails or has failed to meet its obligations under this Section.

33. Reserved

34. Reserved



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

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

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

36. **Warranties and Representations.** Contractor represents and warrants: (a) Contractor is the owner or licensee of any Contract Activities that it licenses, sells, or develops, and Contractor has the rights necessary to convey title, ownership rights, or licensed use; (b) all Contract Activities are delivered free from any security interest, lien, or encumbrance and will continue in that respect; (c) the Contract Activities will not infringe the patent, trademark, copyright, trade secret, or other proprietary rights of any third party; (d) Contractor must assign or otherwise transfer to the State or its designee any manufacturer's warranty for the Contract Activities; (e) the Contract Activities are merchantable and fit for the specific purposes identified in the Contract; (f) the Contract signatory has the authority to enter into this Contract; (g) all information furnished by Contractor in connection with the Contract fairly and accurately represents Contractor's business, properties, finances, and operations as of the dates covered by the information, and Contractor will inform the State of any material adverse changes; and (h) all information furnished and representations made in connection with the award of this Contract is true, accurate, and complete, and contains no false statements or omits any fact that would make the information misleading. A breach of this Section is considered a material breach of this Contract, which entitles the State to terminate this Contract under Section 23, Termination for Cause.
37. **Conflicts and Ethics.** Contractor will uphold high ethical standards and is prohibited from: (a) holding or acquiring an interest that would conflict with this Contract; (b) doing anything that creates an appearance of impropriety with respect to the award or performance of the Contract; (c) attempting to influence or appearing to influence any State employee by the direct or indirect offer of anything of value; or (d) paying or agreeing to pay any person, other than employees and consultants working for Contractor, any consideration contingent upon the award of the Contract. Contractor must immediately notify the State of any violation or potential violation of these standards. This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any subcontractor that performs Contract Activities in connection with this Contract.
38. **Compliance with Laws.** Contractor must comply with all federal, state and local laws, rules and regulations.
39. **Prevailing Wage.** This Contract and any subcontract is subject to the Prevailing Wage Act, 1965 PA 166. Contractor must comply with the state prevailing wage law and its requirements.
40. **Nondiscrimination.** Under the Elliott-Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, *et seq.*, and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, *et seq.*, Contractor and its subcontractors agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status, or mental or physical disability. Breach of this covenant is a material breach of this Contract.



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

Litigation to resolve the dispute will not be instituted until after the dispute has been elevated to the parties' senior executive and either concludes that resolution is unlikely, or fails to respond within 15 business days. The parties are not prohibited from instituting formal proceedings: (a) to avoid the expiration of statute of limitations period; (b) to preserve a superior position with respect to creditors; or (c) where a party makes a determination that a temporary restraining order or other injunctive relief is the only adequate remedy. This Section does not limit the State's right to terminate the Contract.
46. **Media Releases.** News releases (including promotional literature and commercial advertisements) pertaining to the Contract or project to which it relates must not be made without prior written State approval, and then only in accordance with the explicit written instructions of the State.
47. **Website Incorporation.** The State is not bound by any content on Contractor's website unless expressly incorporated directly into this Contract.
48. **Order of Precedence.** In the event of a conflict between the terms and conditions of the Contract, the exhibits, a purchase order, or an amendment, the order of precedence is: (a) the purchase order; (b) the amendment; (c) Exhibit A; (d) any other exhibits; and (e) the Contract.
49. **Severability.** If any part of this Contract is held invalid or unenforceable, by any court of competent jurisdiction, that part will be deemed deleted from this Contract and the severed part will be replaced by agreed upon language that achieves the same or similar objectives. The remaining Contract will continue in full force and effect.
50. **Waiver.** Failure to enforce any provision of this Contract will not constitute a waiver.
51. **Survival.** The provisions of this Contract that impose continuing obligations, including warranties and representations, termination, transition, insurance coverage, indemnification, and confidentiality, will survive the expiration or termination of this Contract.
52. **Entire Contract and Modification.** This Contract is the entire agreement and replaces all previous agreements between the parties for the Contract Activities. This Contract may not be amended except by signed agreement between the parties (a "**Contract Change Notice**").



Exhibit C - Pricing

Description	Unit Type	DRC									3 Yr Contract		
		Contracted			Contracted			Contracted					
		Year 2015-2016	Year 2016-2017	Year 2017-2018	Quantity	Rate Per Unit	Amount	Quantity	Rate Per Unit	Amount		Quantity	Rate Per Unit
<b>General Administration</b>													
Administration Briefings (Per Meeting) (Do Not Include Staff Travel)	Meeting	3	\$3,938.67	\$11,816.00	3	\$4,070.33	\$12,211.00	3	\$4,242.67	\$12,728.00			\$36,755.00
Meetings	Meeting	11	\$14,616.64	\$160,783.00	11	\$15,105.00	\$166,155.00	11	\$15,744.91	\$173,194.00			\$500,132.00
Staff Participation in In-Person Meetings			\$0.00	\$0.00		\$0.00	\$0.00		\$0.00	\$0.00			\$0.00
Meeting Facilities Setup	Meeting/day	11	\$1,936.27	\$21,299.00	11	\$2,000.91	\$22,010.00	11	\$2,085.73	\$22,943.00			\$66,252.00
Contractor Travel (State Rates)	Prsn/mtg	40	\$600.00	\$24,000.00	40	\$600.00	\$24,000.00	40	\$600.00	\$24,000.00			\$72,000.00
Food and Lodging	Prsn/day	56	\$170.00	\$9,520.00	56	\$170.00	\$9,520.00	56	\$170.00	\$9,520.00			\$28,560.00
Contractor travel costs to attend the MME Test Administration training sessions	Annual	1	\$0.00	\$0.00	1	\$0.00	\$0.00	1	\$0.00	\$0.00			\$0.00
Call Center	Annual	1	\$159,333.00	\$159,333.00	1	\$159,333.00	\$159,333.00	1	\$159,333.00	\$159,333.00			\$477,999.00
Program/Development assistance and MDE Staff Improvement (Pre-approved actual cost)	Actual Cost	500,000	\$1.00	\$500,000.00	500,000	\$1.00	\$500,000.00	500,000	\$1.00	\$500,000.00			\$1,500,000.00
Student Growth Percentile	Annual	1	\$174,746.00	\$174,746.00	1	\$120,390.00	\$120,390.00	1	\$125,490.00	\$125,490.00			\$420,626.00
TAC Member Honorarium	Member	24	\$3,000.00	\$72,000.00	24	\$3,000.00	\$72,000.00	24	\$3,000.00	\$72,000.00			\$216,000.00
Electronic Document Management Site (Sharepoint)	Annual	1	\$5,938.00	\$5,938.00	1	\$6,136.00	\$6,136.00	1	\$6,396.00	\$6,396.00			\$18,470.00
<b>General Administration Subtotal</b>				<b>\$1,139,435.00</b>			<b>\$1,091,755.00</b>			<b>\$1,105,604.00</b>			<b>\$3,336,794.00</b>



<b>Test Preparation</b>											
Sampling Plan Distribution	Assessment/Grade	5	\$9,980.20	\$49,901.00	5	\$10,313.60	\$51,568.00	5	\$10,750.60	\$53,753.00	\$155,222.00
Distribution of Fixed-forms	Assessment/Grade	5	\$8,116.20	\$40,581.00	5	\$7,103.20	\$35,516.00	5	\$7,404.20	\$37,021.00	\$113,118.00
<b>Test Preparation Subtotal</b>				<b>\$90,482.00</b>			<b>\$87,084.00</b>			<b>\$90,774.00</b>	<b>\$268,340.00</b>
<b>Online Summative Test Administration and Scoring</b>											
Online test administration covers all deliverables of 1.0 not explicitly referenced elsewhere in Attachment A.											
Supported Independence (SI) and Participation (P) Online Answer Document	Per Student/content/ per test administered	20,000	\$5.79	\$115,821.00	20,000	\$5.98	\$119,691.00	20,000	\$6.24	\$124,762.00	\$360,274.00
Summative Michigan/Consortia Computer Adaptive Setup Costs	Grade/content	18	\$79,893.11	\$1,438,076.00	18	\$42,275.94	\$760,967.00	18	\$28,441.78	\$511,952.00	\$2,710,995.00
Summative Michigan/Consortia Fixed Form Setup Costs	Grade/content	6	\$79,591.67	\$477,550.00	6	\$77,850.33	\$467,102.00	6	\$79,242.67	\$475,456.00	\$1,420,108.00
For this section (lines 27-35) apply the average rate for grades 3-12 from Table A.1 below, in order to establish a comparative cost structure. <b>Table A.1 must be completed in its entirety.</b>											
Consortia Summative											\$0.00
Fixed Form	Per Student/content/per test administered	-	\$0.73	\$0.00	-	\$0.73	\$0.00	-	\$0.73	\$0.00	\$0.00



CAT	Per Student/content/per test administered	1,620,000	\$0.26	\$421,833.37	1,771,200	\$0.26	\$461,204.48	1,900,800	\$0.26	\$494,951.15	\$1,377,989.00
Michigan Summative											\$0.00
Fixed Form	Per Student/content/per test administered	540,000	\$0.73	\$392,108.27	590,400	\$0.73	\$428,705.04	633,600	\$0.73	\$460,073.70	\$1,280,887.00
CAT	Per Student/content/per test administered	-	\$0.26	\$0.00		\$0.26	\$0.00		\$0.26	\$0.00	\$0.00
<b>Online Summative Test Admin. and Scoring Subtotal</b>				<b>\$2,845,388.63</b>			<b>\$2,237,669.52</b>			<b>\$2,067,194.85</b>	<b>\$7,150,253.00</b>
<b>Interim Test Administration and Scoring</b>											
Interim test administration covers all deliverables of 1.0 not explicitly referenced elsewhere in Attachment A.											
Interim Michigan/Consortia Computer Adaptive Setup Costs	Grade/content	26	\$17,865.31	\$464,498.00	26	\$17,573.92	\$456,922.00	26	\$17,878.65	\$464,845.00	\$1,386,265.00
Interim Michigan/Consortia Fixed Form Setup Costs	Grade/content	26	\$22,736.42	\$591,147.00	26	\$22,547.62	\$586,238.00	26	\$23,063.04	\$599,639.00	\$1,777,024.00
For this section (lines 50-58) apply the average rate for grades K-12 from Table A.1 below, in order to establish a comparative cost structure. <b>Table A.1 must be completed in its entirety.</b>											



Consortium Interim											\$0.00
Fixed Form	Per Student/content/per test administered		\$0.16			\$0.16			\$0.16		\$0.00
CAT	Per Student/content/per test administered	1,200,000	\$0.22	\$265,935.50	1,800,000	\$0.22	\$398,903.25	1,800,000	\$0.22	\$398,903.25	\$1,063,742.00
Michigan Interim											\$0.00
Fixed Form	Per Student/content/per test administered	1,560,000	\$0.16	\$243,973.50	2,340,000	\$0.16	\$365,960.25	2,340,000	\$0.16	\$365,960.25	\$975,894.00
CAT	Per Student/content/per test administered		\$0.22			\$0.22			\$0.22		\$0.00
<b>Interim Test Admin. and Scoring Subtotal</b>				<b>\$1,565,554.00</b>			<b>\$1,808,023.50</b>			<b>\$1,829,347.50</b>	<b>\$5,202,925.00</b>
<b><u>Consortia Participation Fees</u></b>											
Summative	Student	840,000	\$6.20	\$5,208,000.00	840,000	\$6.20	\$5,208,000.00	840,000	\$6.20	\$5,208,000.00	\$15,624,000.00
Interim (\$2.00 for Digital Libraries, \$1.35 for Interim Assessment)	Student	847,500	\$3.35	\$2,839,125.00	847,500	\$3.35	\$2,839,125.00	847,500	\$3.35	\$2,839,125.00	\$8,517,375.00
<b>Consortium Participation Fees Subtotal</b>				<b>\$8,047,125.00</b>			<b>\$8,047,125.00</b>			<b>\$8,047,125.00</b>	<b>\$24,141,375.00</b>
<b><u>Monitoring, Security, and Forensics</u></b>											



Critical Incident Special Security Monitoring	Per Incident	1	\$37,304.00	\$37,304.00	1	\$38,413.00	\$38,413.00	1		\$39,900.00	\$115,617.00
Targeted Monitoring	Per Visit	40	\$510.95	\$20,438.00	40	\$522.93	\$20,917.00	40		\$21,594.00	\$62,949.00
Random Monitoring	Per Visit	40	\$623.58	\$24,943.00	40	\$640.55	\$25,622.00	40		\$26,547.00	\$77,112.00
Targeted Investigation	Per Investigation	10	\$4,187.90	\$41,879.00	10	\$4,295.50	\$42,955.00	10		\$44,441.00	\$129,275.00
<b>Monitoring, Security, and Forensics Subtotal</b>				<b>\$124,564.00</b>			<b>\$127,907.00</b>			<b>\$132,482.00</b>	<b>\$384,953.00</b>
<b>Technical Report:</b>											
Technical Report	Assessment	3	\$24,271.33	\$72,814.00	3	\$23,665.00	\$70,995.00	3		\$74,003.00	\$217,812.00
<b>Technical Report Subtotal</b>				<b>\$72,814.00</b>			<b>\$70,995.00</b>			<b>\$74,003.00</b>	<b>\$217,812.00</b>
<b>Michigan/ConsortiaTotal</b>				<b>\$13,885,362.63</b>			<b>\$13,470,559.02</b>			<b>\$13,346,530.35</b>	<b>\$40,702,452.00</b>



TABLE A.1		Grades	K-2	3-5	6-8	9-12
<b>Summative Test Administration</b>						
Pricing is based upon per student cost for grades administered to. Setup costs for each grade/content for Consortium/Michigan assessments are priced separately in the pricing schedule.						
<b>Commercial Off the Shelf</b>	Per Student/content/ per test administered		N/A	N/A	N/A	N/A
<b>Fixed Form-Consortia</b>	Per Student/content/ per test administered		N/A	0.72612642	0.72612642	0.72612642
<b>CAT-Consortia</b>	Per Student/content/ per test administered		N/A	0.26039097	0.26039097	0.26039097
<b>Fixed Form-Michigan</b>	Per Student/content/ per test administered		N/A	0.72612642	0.72612642	0.72612642
<b>CAT-Michigan</b>	Per Student/content/ per test administered		N/A	0.26039097	0.26039097	0.26039097
<b>Interim Test Administration Pre/Post</b>						
Pricing is based upon per student cost for grades administered to. Setup costs for each grade/content for Consortium/Michigan assessments are priced separately in the pricing schedule.						
<b>Commercial Off the Shelf</b>	Per Student/content/ per test administered		N/A	N/A	N/A	N/A
<b>Fixed Form-Consortia</b>	Per Student/content/ per test administered		0.15639327	0.15639327	0.15639327	0.15639327
<b>CAT-Consortia</b>	Per Student/content/ per test administered		0.22161292	0.22161292	0.22161292	0.22161292
<b>Fixed Form-Michigan</b>	Per Student/content/ per test administered		0.15639327	0.15639327	0.15639327	0.15639327
<b>CAT-Michigan</b>	Per Student/content/ per test administered		0.22161292	0.22161292	0.22161292	0.22161292



## Exhibit D

### General Security Requirements

On award of the Contract, the Contractor must comply with State and federal statutory and regulatory requirements, and rules; National Institute of Standards and Technology (NIST) publications; Control Objectives for Information and Related Technology (COBIT); all other industry specific standards; national security best practices and all requirements herein.

The Contractor must perform annual testing of all security control requirements to determine they are working as intended. Annual certification must be provided in writing to the CCI or designee in the form of a Service Organization Controls (SOC) 2, Type II review or similar audit report upon award.

### A. Governing Security Standards and Publications

The State of Michigan information is a valuable asset that must be protected from unauthorized disclosure, modification, use, or destruction. Prudent steps must be taken to ensure that its integrity, confidentiality, and availability are not compromised.

The Contractor must collect, process, store, and transfer State personal, confidential, or sensitive data in accordance with the Contract, State of Michigan policies, and the laws of the State of Michigan and the United States, including, but is not limited to the following:

- The Michigan Identity Theft Protection Act, MCL 445.61 et seq;
- The Michigan Social Security Number Privacy Act, MCL 445.82 et seq.
- Family Educational Rights and Privacy Act (FERPA)

### State of Michigan Policies

- The Contractor must comply with the State of Michigan information technology standards <http://www.michigan.gov/dmb/0,1607,7-150-56355-107739--,00.html>.

### B. Security Risk Assessment

The Contractor must conduct assessments of risks and identify the damage that could result from unauthorized access, use, disclosure, disruption, modification, or destruction of information and information systems that support the operations and assets of the State. Security controls should be implemented based on the potential risks. The Contractor must ensure that reassessments occur whenever there are significant modifications to the information system and that risk assessment information is updated.

### C. System Security Plan

The Contractor must develop and implement a security plan that provides an overview of the security requirements for the information system. If a security plan does not exist, the Contractor must provide a description of the security controls planned for meeting those requirements. The security plan must be reviewed periodically and revised to address system/organizational changes or problems.

### D. Network Security

The Contractor is responsible for the security of and access to State data, consistent with legislative or administrative restrictions. Unsecured operating practices, which expose other connected networks to malicious security violations, are not acceptable. The Contractor must coordinate with DTMB to enter the proper pointers into the State of Michigan infrastructure.

### E. Data Security

The Contractor has the responsibility to protect the confidentiality, integrity, and availability of State of Michigan data that is generated, accessed, modified, transmitted, stored, disposed, or used by the system, irrespective of the medium on which the data resides and regardless of format (such as in electronic, paper or other physical form).

The Contractor must:

1. Process the personal data in accordance with the personal data protection laws of the State of Michigan and the United States.
2. Have in place appropriate technical and organizational internal and security controls to protect the personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorized disclosure or



access, and which provide a level of security appropriate to the risk represented by the processing and the nature of the data to be protected. Technical and organizational security controls must be implemented that are appropriate to the risks, such as against accidental or unlawful destruction or accidental loss, alteration, unauthorized disclosure or access, presented by the processing.

3. Provide secure and acceptable methods of transmitting personal, confidential or sensitive information over telecommunication devices such as data encryption (128 bit minimum), Secure Socket Layer (SSL), dedicated leased line or Virtual Private Network (VPN).
4. Supply the State with information associated with security audits performed in the last three years upon award.
5. Have in place procedures so that any third party it authorizes to have access to the personal data, including processors, will respect and maintain the confidentiality, integrity, and availability of the data upon award.
6. Process the personal, confidential, and sensitive data only for purposes described in the Contract.
7. Identify to the State a contact point within its organization authorized to respond to enquiries concerning processing of the personal, confidential or sensitive data, and will cooperate in good faith with the Department.
8. Not disclose or transfer the personal, confidential, or sensitive data to a third party unless it is approved under this Contract.
9. Not use data transferred by the State as a result of this Contract for marketing purposes.

#### **F. Media Protection**

The Contractor must implement measures to provide physical and environmental protection and accountability for tapes, diskettes, printouts, and other media containing State personal, confidential, and sensitive information to prevent the loss of confidentiality, integrity, or availability of information including data or software, when stored outside the system. This can include storage of information before it is input to the system and after it is output.

The Contractor must ensure that only authorized users have access to information in printed form or on digital media removed from the information system, physically control and securely store information media, both paper and digital, restrict the pickup, receipt, transfer, and delivery of such media to authorized personnel.

#### **G. Media Destruction and Disposal**

The Contractor must sanitize or destroy information system digital media containing personal, confidential, or sensitive information before its disposal or release for reuse to prevent unauthorized individuals from gaining access to and using information contained on the media.

Personal, confidential, or sensitive information must be destroyed by burning, mulching, pulverizing, or shredding. If shredded, strips should not be more than 5/16-inch, microfilm should be shredded to affect a 1/35-inch by 3/8-inch strip, and pulping should reduce material to particles of one inch or smaller.

Disk or tape media must be destroyed by overwriting all data tracks a minimum of three times or running a magnetic strip over and under entire area of disk at least three times. If the CD, DVD, or tape cannot be overwritten it must be destroyed in an obvious manner to prevent use in any disk drive unit and discarded. Hand tearing, recycling, or burying information in a landfill are unacceptable methods of disposal. Electronic data residing on any computer systems must be purged based on retention periods required by the State.

#### **H. Access Control**

The Contractor must limit information system access to authorized users, processes acting on behalf of authorized users, or devices (including other information systems) and to the types of transactions and functions that authorized users are permitted to exercise. Access must be immediately removed when a staff changes job duties or leaves the employment.

#### **Authentication Process**

Authentication is the process of verifying the identity of a user. Authentication is performed by having the user enter a user name and password in order to access the system.

To help protect information from unauthorized access or disclosure, users must be identified and authenticated



per the table below prior to accessing confidential or sensitive information, initiating transactions, or activating services.

Publicly available information such as the mother’s maiden name, birth date, and address as the sole authenticator is not a secure means of authentication and should not be used.

Automatic user logons are prohibited. Device-to-device logons must be secured (preferably using client certificates or password via tunneled session). For certain implementations, source restrictions (sign-on can occur only from a specific device) provide a compensating control, in addition to the ID and password.

Authentication information (e.g., a password or PIN) must never be disclosed to another user or shared among users.

The authentication process is limited to three unsuccessful attempts and must be reinstated by the authorized personnel (preferably the System security Administrator). User accounts should be systematically disabled after 90 days of inactivity and must be deleted after one year of inactivity.

**Password Requirements**

The purpose of a password is to authenticate a user accessing the system and restrict use of a userID only to the assigned user. To the extent that the functionality is supported within the technology or product, the controls listed must be implemented.

These following controls or content rules apply at any point where a new password value is to be chosen or assigned. These rules must be enforced automatically as part of a new password content checking process:

Password Property	Value
Minimum Length	Eight characters with a combination of alpha, numeric, and special characters
Composition	<ul style="list-style-type: none"> <li>• At least two numeric characters (0 through 9), neither of which may be at the beginning or the end of the password</li> <li>• A combination of two upper (A through Z) and lower case (a through z) letters</li> <li>• Special characters (!, @, #, \$, %, ^, &amp;, *, (, ), +, =, /, &lt;, &gt;, ?,., :, ;, \)</li> <li>• UserID in password is not allowed</li> </ul>
Expiration Requirement (Maximum Password Age):	30 days
Revocation	<p>Passwords should be revoked after three failed attempts (the State strongly supports password revocation after three failed attempts if system allows). Passwords should be systematically disabled after 90 days of inactivity to reduce the risk of compromise through guessing, password cracking or other attack and penetration methods.</p>
Temporary passwords	<ul style="list-style-type: none"> <li>• Must be randomly chosen or generated</li> <li>• System must force the user to change the temporary password at initial login</li> </ul>
Change process	<p>System must force user to:</p> <ul style="list-style-type: none"> <li>• Confirm their current password/PIN,</li> <li>• Reenter current password/PIN</li> <li>• Create a new password/PIN</li> <li>• Reenter new password/PIN</li> </ul> <p>System must prevent users from being able to consecutively change their password value in a single day (The goal is to prevent recycling through password history records to reuse an earlier-used password value)</p>
Login process	Password/PIN must not appear on the screen during the login process (The exception to this is during selection of a machine-generated password).
Encryption of passwords/PINs	Passwords must be stored and transmitted with a minimum of 128-bit encryption. Passwords must be masked when entered on any screen



Compromise of password/PIN	Must be changed immediately
Forgotten password/PIN	Must be reset by authorized person (system Security Administrator)
Current user password/PIN	Must not be maintained or displayed in any readable format on the system
Audit logs	Maintain a record of when a password was changed, deleted, or revoked. The audit trail shall capture all unsuccessful login and authorization attempts for a one year period.
Password history	Keep a password history and perform a check against the history to verify the password has not been used for a minimum of one year
Privileged account access (e.g. supervisor or root)	Security administrator must change the password for that account immediately when user changes responsibilities



		<i>State of Michigan Department of Technology, Management &amp; Budget</i>	<b>TECHNICAL STANDARD</b>
<b>Subject:</b>	Electronic Data Encryption (former Ad Guide 1315.10)	Standard Number	
<b>Authoritative Policy:</b>	<a href="#">1340 IT Information Security Policy</a>	1340.00.07	
<b>Associated Procedures:</b>	n/a		
<b>Distribution:</b>	Statewide		

**Purpose:** Encryption is used to provide a high level of security to the state’s electronic data by translating data into secret code. This policy identifies the requirements for encryption methods when data is transmitted in-flight or when data is stored in permanent or removable electronic media.

**Contact/Owner:** DTMB CyberSecurity and Infrastructure Protection (CIP)  
Michigan Cyber Security (MCS)

**Scope:** Executive Branch Departments, Agencies, Boards or Commissions, private partners, and contractors. Any electronic device that has been authorized to access state of Michigan (SOM) sensitive information must protect the confidentiality of such data. In order to maintain a high level of security of the state’s information technology managed resources and data this standard defines a requirement to use a method of encryption both when data is in transit across internal or external networks and when stored in permanent or removable media.

**Standard:** Encryption must be utilized when moving or storing protected information including citizen privacy information or personally identifying information (PII) such as social security numbers, regulated health information, financial data including credit card numbers or Federal Tax Information (FTI). Through encryption methods the objective is to minimize the likelihood that sensitive or confidential SOM information is inadvertently disclosed or accessed during the transmission or storage of sensitive and/or confidential data.

1. Asymmetric Keys:
  - Keys: RSA or DSA
  - Size: 2048bit through 4096bit
2. Symmetric Keys:
  - Keys: AES or TDEA (3DES)
  - Size: Minimum 128bit, 192bit or 256bit for highly sensitive data
3. Hash Algorithm
  - SHA-1 through SHA-512

Issued: 4/28/2012  
 Revised: 10/30/2013  
 Reviewed:

Next Review Date: (1 yr) 10/30/2014



State of Michigan  
Department of Technology,  
Management & Budget

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STANDARD**

4. SOM requirements for data storage encryption:
  - Whenever supported by the underlying product suites, Transparent Data Encryption (TDE) should be used. TDE is based on a dual encryption method that uses a secondary encryption key that is stored in a file external to the encrypted database file.
5. All SOM resources must utilize centrally managed digital certificates.
6. DTMB reviews this standard yearly.
7. Passwords which are used to generate keys, must be unique during initial implementation or regenerating new keys when they expire or are revoked.

Any employee found to have violated this standard might be subject to disciplinary action, up to and including termination of employment and/or criminal prosecution where the act constitutes a violation of law.

Any 3<sup>rd</sup> party found to have violated this standard might be subject to action, up to and including criminal prosecution where the act constitutes a violation of law. A breach of contract and fiduciary liability may also apply.

**Exceptions:** Exceptions to this standard must follow the [1305.00.02 Technical Policy and Product Exception Standard](#).

**Approving Authority:**

John Nixon, CPA  
Director

Revised: 10/30/2013

Issued: 4/28/2012  
Revised: 10/30/2013  
Reviewed:

Next Review Date: (1 yr) 10/30/2014



State of Michigan  
Administrative Guide to State Government

**POLICY 1340.00 Information Technology Information Security**

Issued: April 12, 2007  
Revised: March 21, 2012

**SUBJECT:** Policy for Information Technology (IT) Information Security.

**APPLICATION:** This policy is intended for statewide compliance and applies to all Executive Branch Departments, Agencies, Trusted Partners, Boards or Commissions using state of Michigan (SOM) information networks and IT resources.

**PURPOSE:** This policy establishes the SOM executive management strategic view of how information security shall be implemented to protect the SOM information from unauthorized access, use, disclosure, modification, destruction, or denial and to ensure confidentiality, integrity and availability of SOM information.

**CONTACT AGENCY:** Department of Technology, Management and Budget (DTMB)  
Michigan Cyber Security

**TELEPHONE:** 517-241-4090

**FAX:** 517-241-2013

**SUMMARY:** All SOM employees, trusted partners, or any entity authorized to access the SOM information is obligated to protect the confidentiality, integrity and availability of the information as set forth in this and all SOM enterprise IT policies.

Information is not limited to data contained in computer systems but is inclusive regardless of where it resides within the agency, what form it takes, (*i.e.*, electronic, printed, etc.), what technology was used to handle it, or what purpose(s) it serves. This policy is based on three basic components of information Security for the purpose of this policy:

- **Confidentiality** – Limiting information access and disclosure to authorized users – “the right people” – and preventing access by or disclosure to unauthorized users – “the wrong people.” Confidentiality is defined as protecting information from unauthorized disclosure or interception and assuring that information is shared only among authorized persons and organizations.
- **Integrity** – The trustworthiness of information resources. It includes the concept of “data integrity” – namely, that data have not been changed inappropriately, whether by accident or deliberate activity. It also includes the need to verify that the person or entity has entered the right information – that is, that the information reflects the actual circumstances and that under the same circumstances would generate identical data. Integrity is defined as guarding against improper information modification and/or destruction, ensuring information has not been altered by unauthorized people and the assurance that the information can be relied upon to be sufficiently accurate for its purpose.
- **Availability** – The availability of information resources. An information system that is not available when you need it is at least as bad as none at all. It may be much worse, depending on how reliant the organization has become on a functioning computer and communications infrastructure. Availability is defined as ensuring timely and reliable



access to and use of information and assuring that the systems responsible for delivering, storing and processing information are accessible when needed, by those who need them.

Based on these three components of information security, any data that is originated, entered, processed, transmitted, stored or disposed of on behalf of the SOM is considered to be SOM information.

**POLICY:**

- Agency information is considered a SOM asset and must be appropriately evaluated and protected against all forms of unauthorized access, use, disclosure, modification, destruction, or denial.
- Each agency Director is required to determine the proper levels of protection for their agency information and to implement the necessary safeguards.

**Agency Director:**

- As a Data Owner, the Director within their area of responsibility shall ensure:
  - Due diligence of confidentiality, integrity and availability of data.
  - Data management in compliance with Federal and state laws and regulations, and SOM policies.
  - Information security controls are implemented to protect the SOM information and that these controls are sufficient to ensure the confidentiality, integrity, availability of SOM information.
  - Information security controls are applied in a manner consistent with the value of the information.
  - Data business owner identification. Although it is not recommended to have multiple owners for the same data, this sometimes occurs. Where there is more than one owner, Data Owners must designate a Business Owner who will have authority to make decisions on behalf of all the owners of this data.
  - SOM agency information is identified and classified based on sensitivity, criticality and risk in compliance to Federal and state laws and regulations, includes a review at least once a year of the on-going need to continue protection, updates when the environment changes.
  - A system is established to identify baseline security controls to protect SOM information. Once it is identified and classified, ensure it is exposed only to those who have a need to know the information and a duty to protect it.
  - SOM agency information is safeguarded with the proper controls in accordance with its classification label.
  - Data, which is shared or transferred between agencies, is protected by the receiving agency with at least the same level of security used by the sending agency. The receiving agency assumes the responsibility of data owner for such data when it is transferred.
  - Anyone requiring access to confidential or restricted information that is owned by another agency must obtain permission from the Business Owner.
  - Controls are established to provide SOM oversight of trusted partners who handle SOM information on behalf of the SOM.
  - SOM agency information is disposed of and sanitized in compliance with SOM policies.
  - A formal internal process is established for reporting and responding to security breaches/incidents where there is reasonable belief that an unauthorized person may have acquired personal identifying information.



- o A system is established to review technical controls and recommendations identified by the SOM data custodians.
- o Internal agency security policies and procedures are implemented, maintained and enforced that compliment and comply with this policy.
- o All SOM employees and trusted partners handle information for which they are responsible in compliance with this policy and all SOM IT policies.
- o SOM employees and trusted partners are trained to ensure they are aware of their role in protecting SOM information and data as set forth in this policy.
- o Employees are advised of the necessity of complying with DTMB policies and laws pertaining to the protection of SOM information, because non-compliance may leave the state liable and employees vulnerable to prosecution and civil suite, as well as disciplinary action.

DTMB Director:

- As a Data Custodian, the Director shall ensure:
  - o Agencies are advised as to the best operational and technical controls necessary to protect their data in accordance with its classification label.
  - o Agency-prescribed security controls and safeguards are implemented and monitored for compliance.

Terms and Definitions:

Agency	The principal department of state government as created by Executive Organization Act, P.A. 380 of 1965.
Availability	Ensuring timely and reliable access to and use of information and assuring that the systems responsible for delivering, storing and processing information are accessible when needed, by those who need them.
Business Owner	Responsible for administration of systems is usually the owner of the primary business functions served by the application, the application's largest stakeholder.
Confidentiality	Protecting information from unauthorized disclosure or interception and assuring that information is shared only among authorized persons and organizations.
Data Custodian	An individual or organization that has responsibility delegated by a data owner for maintenance and technological management of data and systems.
Data/Information	SOM agency information. No distinctions between the words data and information are made for purposes of this policy.
Data Owner	An individual or organization – usually a member of senior management of an organization – who is ultimately responsible for ensuring the protection and use of data.
Due Care	Shows that an organization has taken responsibility for the activities that take place within the organization and has taken the necessary steps to help protect the SOM, its resources and employees from possible risk.
Due Diligence	The practice of implementing controls and safeguards that make sure the protection mechanisms are continually maintained and operational.



Information Technology (IT) Resources	Includes, but is not limited to: computers, servers, storage peripherals, telecommunications equipment, network equipment and wiring, network-attached printers and fax machines.
Integrity	Guarding against improper information modification and/or destruction, ensuring information has not been altered by unauthorized people and the assurance that the information can be relied upon to be sufficiently accurate for its purpose.
Technical Policy(ies)	High-level executive management statements used to set directions in an organization that documents information values, protection responsibilities and management commitment for protecting its computing and information assets. Policies are strategic in nature.
Technical Standards	Published documents that contain technical specifications or other precise criteria designed to be used consistently as a rule, guideline or definition. They are also a collage of best practices and business cases specific to address an organization's technological needs. Standards are tactical in nature and derive their authority from a policy.
Technical Procedures	A series of prescribed steps followed in a definite order which ensure adherence to the standards and compliance as set forth in the Policy to which the Procedure applies. Procedures are operational in nature and derive their guidance from a standard and authority from a policy.
Trusted Partner/ Business Partner	A person ( <i>i.e.</i> , vendor, contractor, 3rd party, etc.) or entity that has contracted with the SOM to perform a certain service or provide a certain product in exchange for valuable consideration, monetary, or goods and services.

Authority:

- This policy obtains its authority from:
  - Administrative Guide [Policy 1305 Enterprise Information Technology](#).
  - The [Administrative Guide to State Government](#).
  - DTMB [IT Technical Policies, Standards and Procedures](#), which can be found on the DTMB Intranet.

Enforcement:

- All enforcement for this policy shall be in compliance with the standards and procedures of Administrative Guide [Policy 1305 Enterprise Information Technology](#).

Developing Standards and Procedures for this Policy:

- All requirements for developing standards and procedures for this policy shall be in compliance with Administrative Guide [Policy 1305 Enterprise Information Technology](#).

Exceptions:

- All exception requests to this policy must be processed in compliance with Administrative Guide [Policy 1305 Enterprise Information Technology](#).



Effective Date:

- This policy will be effective upon signature of the Administrative Guide approval memo by the DTMB Director.

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	<i>State of Michigan Department of Technology, Management &amp; Budget</i>	<b>TECHNICAL STANDARD</b>
<b>Subject:</b>	<b>Storage of Sensitive Information on Mobile Devices and Portable Media (former Ad Guide 1315.00)</b>	<b>Standard Number</b>
<b>Authoritative Policy:</b>	<a href="#">1340 IT Information Security Policy</a>	<b>1340.00.06</b>
<b>Procedure Number:</b>	<u>TBD</u>	
<b>Distribution:</b>	Statewide	

**Purpose:** To establish a statewide standard for the protection of State of Michigan (SOM) sensitive information and data stored on mobile devices and portable media.

The public rightly assumes and should be assured that the data in the possession of Michigan state government is secure and protected from unauthorized disclosure or misuse.

Any user who has been authorized to access SOM sensitive information has an obligation to safeguard and protect the confidentiality of such data. The objective of this standard is to minimize the likelihood that sensitive or confidential SOM information is inadvertently disclosed.

**Contact/Owner:** DTMB CyberSecurity and Infrastructure Protection (CIP)

**Scope:** Executive Branch Departments and Sub-units, private partners and contractors.

**Standard:** Storage of sensitive information on mobile devices or portable media is permitted only if all of the following requirements have been satisfied:

1. Use is restricted to individuals whose job duties require it.
2. Granted for a finite duration as needed to fulfill the specific functions required to perform a specific job.
3. Approval has been obtained by both the employee's department head (or their designee) and the system/data owner. For non-SOM employees, "department" is defined as the SOM Agency contracting with the 3<sup>rd</sup> party.
4. Sensitive data has been encrypted. Encryption must comply with the DTMB Standard 1340.00.07 as published. **Unencrypted storage of sensitive information on mobile devices and portable media is prohibited.** Please note that SOM Administrative Guide Procedure 1350.90 for data sanitation and media disposal will need to be followed.

ANY instance of SOM sensitive information (including that stored on a mobile device or portable media – encrypted or unencrypted) being lost, stolen, or where there is reasonable belief that an unauthorized person may have acquired the data, **must be reported immediately** to your appropriate Agency management and the Department of Technology, Management and Budget's Customer Service Center at (517) 241-9700 or (800) 968-2644.

Any employee found to have violated this standard may be subject to disciplinary action, up to and including termination of employment and/or criminal prosecution where the act constitutes a violation of law.



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Any third party found to have violated this standard may be subject to action, up to and including criminal prosecution where the act constitutes a violation of law. A breach of contract and fiduciary liability may also apply.

**Definitions:**

**Data/System Owner**

Senior management of the Agency that is ultimately responsible of ensuring the protection and appropriate use of their business' data.

**Encryption**

The translation of data into a secret code. Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key that enables you to decrypt it.

**Mobile Devices**

Any mobile device (State-owned or privately-owned) capable of storing data. Examples include, but are not limited to: laptops, tablet PCs, Blackberrys, cell phones, PDAs, iPods, and players.

For the purpose of this standard, all non-state-owned computing or data storage equipment (e.g., PC, server, Network Attached Storage (NAS), and Storage Area Network (SAN)) are considered mobile devices.

**Portable Media**

Any portable media (State-owned or privately-owned) capable of storing data. Examples include, but are not limited to: external hard drives, USB thumb drives, flash drives, memory sticks and cards, CDs, DVDs, and floppy disks.

**Sensitive Information and Data**

Those data elements that are governed or restricted in some manner by a federal or state statute, rule, policy or requirement. At a minimum, sensitive information that all agencies must encrypt includes (but is not limited to):

1. Name and social security number pair.
2. Name and credit card number pair.
3. Personal health records as identified by HIPAA.

In addition to above, agencies may assign data classifications to their data elements. Encryption would be required for all Agency-specific information labeled sensitive.

**Approving authority:**

John Nixon, CPA (signed by Director Nixon)

Date: (revision 4/28/12)



State of Michigan  
Administrative Guide to State Government

**POLICY 1345 Information Technology Network and Infrastructure**

Issued: June 4, 2009  
Revised: October 2, 2014

**SUBJECT:** Policy for Information Technology (IT) Network Infrastructure.

**APPLICATION:** This policy is intended for statewide compliance and applies to all Executive Branch Departments, Agencies, Trusted Partners, Boards or Commissions using state of Michigan (SOM) information networks and IT resources.

**PURPOSE:** This policy establishes the responsibilities of Agency Directors, the Department of Technology, Management and Budget (DTMB) and the DTMB Director as they apply to the utilization of SOM information networks and IT resources.

**CONTACT AGENCY:** Department of Technology, Management and Budget (DTMB)  
Customer Service, Deputy Director

**TELEPHONE:** 517-373-6760

**FAX:** 517-373-7268

**SUMMARY:** The SOM network encompasses all aspects of wired and wireless components associated with the network and any hardware and any data it carries.

The state data, voice and video communication network is intended for conducting state business and exchanging information among state agencies, state employees, citizens and other stakeholders. The state data, voice and video communication network was designed to be compatible with, and have a secure, controlled connection to, our business partners. While this design offers significant new opportunities for customer and business partner interactions, it also brings the need to ensure network security.

This policy addresses the following needs:

- The need to align SOM technical infrastructure to support agency business processes, while meeting the SOM mission and strategic goals.
- The need to protect SOM's sensitive information on an ever-evolving network.
- The need to enable information sharing across traditional barriers. This enhances Michigan's ability to deliver effective and timely services, promotes interoperability, supports departments and agencies in their efforts to improve government functions, and promotes migration to enterprise solutions with reduced complexity and support costs.
- The need to provide enterprise solutions designed to provide information, tools and high-level reference architectures on how to protect data, while building a data-defensible technical architecture.

**POLICY:**

- It is solely the responsibility of DTMB to design and implement a technical infrastructure necessary to deliver IT services aligned with agency business requirements.



Agency Director:

- As a SOM Network and IT Customer, the Director within their area of responsibility shall ensure:
  - Financial support is provided by the agency for the research and implementation of strategic technological solutions.
  - No IT infrastructure is purchased or developed by agencies.
  - All purchases of products for IT needs are done so in compliance with Administrative Guide [Policy 1365 IT Product Standards Adoption, Acquisition, Development and Implementation](#).
  - Internal agency policies and procedures are implemented, maintained and enforced that complement and comply with this policy.
  - Implementing internal policies that are more stringent than those developed by DTMB is done so in conjunction with DTMB.
  - Compliance with this policy.

DTMB Director:

- As a SOM Network and IT Owner, the Director shall ensure that a mechanism is either implemented or in place to:
  - Provide a secure network infrastructure for conducting state business and exchanging information among state agencies, state employees, citizens and business partners.
  - Provide support for design, development, implementation and maintenance of server-based infrastructure related to all agency applications.
  - Support application infrastructure for central and remote locations.
  - Establish enterprise-level storage backup and enterprise database management services.
  - Incorporate enterprise architectures solutions into an enterprise customer support help desk to provide a single point of contact for the initiation of service calls and services.
  - Ensure the alignment of technology choices with agency business needs and information technology enterprise strategic planning.
  - Maintain a current and comprehensive knowledge base of IT developments, trends and best practices. This mechanism should provide the Chief Information Officer (CIO) with insights on how new technologies can be most effectively introduced into the current SOM environment.
  - Ensure installation, configuration, inventory and monitoring of established solutions.

Terms and Definitions:

Agency	The principal department of state government as created by Executive Organization Act, P.A. 380 of 1965.
Business Partner/ Trusted Partner	A person (i.e., vendor, contractor, 3rd party, etc.) or entity that has contracted with the SOM to perform a certain service or provide a certain product in exchange for valuable consideration, monetary, or goods and services.
Data Custodian	An individual or organization delegated by a data owner that has responsibility for maintenance and technological management of data and systems.
Data Owner	An individual or organization – usually a member of senior management of an organization – who is ultimately responsible for ensuring the protection and use of data.



Information Technology (IT) Resources	Includes, but is not limited to: computers, servers, storage peripherals, telecommunications equipment, network equipment and wiring, network-attached printers and fax machines.
Integrity	Guarding against improper information modification and/or destruction, ensuring information has not been altered by unauthorized people and the assurance that the information can be relied upon to be sufficiently accurate for its purpose.
SOM Network and IT Customer	Same as Data Owner.
SOM Network and IT Owner	Same as Data Custodian.

Authority:

- This policy obtains its authority from:
  - Administrative Guide [Policy 1305 Enterprise Information Technology](#).
  - The [Administrative Guide to State Government](#).
  - DTMB [IT Technical Policies, Standards and Procedures](#), which can be found on the DTMB Intranet.

Enforcement:

- All enforcement for this policy shall be in compliance with the standards and procedures of Administrative Guide [Policy 1305 Enterprise Information Technology](#).

Developing Standards and Procedures for this Policy:

- All requirements for developing standards and procedures for this policy shall be in compliance with Administrative Guide [Policy 1305 Enterprise Information Technology](#).

Exceptions:

- All exception requests to this policy must be processed in compliance with Administrative Guide [Policy 1305 Enterprise Information Technology](#).

Effective Date:

- This policy will be effective upon signature of the Administrative Guide approval memo by the DTMB Director.

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Task Name	Resource Names	% Complete	Duration	Start	Finish
<b>Michigan Interim Assessments Fall 2015 - Spring 2016</b>		<b>0%</b>	<b>388 days</b>	<b>Tue 2/10/15</b>	<b>Tue 8/23/16</b>
<b>PROJECT ADMINISTRATION</b>		<b>0%</b>	<b>388 days</b>	<b>Tue 2/10/15</b>	<b>Tue 8/23/16</b>
<b>Planning for Kickoff and Test Cycle</b>		<b>0%</b>	<b>22 days</b>	<b>Wed 3/4/15</b>	<b>Thu 4/2/15</b>
Organize and Plan Kick-Off Meeting	DRC	0%	20 days	Wed 3/4/15	Tue 3/31/15
Provide Preliminary Agenda	DRC	0%	1 day	Wed 3/11/15	Wed 3/11/15
Provide Preliminary Schedule	DRC	0%	1 day	Wed 3/11/15	Wed 3/11/15
Provide Supporting Materials for Kick-Off Meeting	DRC	0%	1 day	Wed 3/25/15	Wed 3/25/15
Kick-Off Meeting	MDE,DRC	0%	2 days	Wed 4/1/15	Thu 4/2/15
<b>Meetings and Status</b>		<b>0%</b>	<b>365 days</b>	<b>Mon 3/16/15</b>	<b>Tue 8/23/16</b>
Management Meeting 1 (every 3 months)	MDE,DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
Executive Management Meetings (Twice Per Year)	MDE,DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
TAC Meeting (4 times per year)	MDE,DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
Provide Project Status Report (Weekly)	DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
<b>Administration Plan and Project Schedule</b>		<b>0%</b>	<b>10 days</b>	<b>Fri 4/3/15</b>	<b>Thu 4/16/15</b>
Update and Approve Overall Administration Plan	DRC,MDE	0%	10 days	Fri 4/3/15	Thu 4/16/15
Finalize and Approve Administration Project Schedule	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
Update and Approve Escalation Procedures	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
Update and Approve Change of Scope Requests and CCR procedures	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
<b>Electronic Document Management Site</b>		<b>0%</b>	<b>15 days</b>	<b>Fri 4/3/15</b>	<b>Thu 4/23/15</b>
Update and Approve Electronic Document Management Site Requirements	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
Confirm Permissions and Folder Structures based on Approved Requirements	MDE,DRC	0%	5 days	Fri 4/17/15	Thu 4/23/15
<b>Call Center(s)</b>		<b>0%</b>	<b>340 days</b>	<b>Mon 3/2/15</b>	<b>Tue 7/5/16</b>
Update and Approve Call Center Requirements	MDE,DRC	0%	10 days	Mon 3/2/15	Fri 3/13/15
Call Center Available (Year1)	DRC	0%	330 days	Mon 3/16/15	Tue 7/5/16
Provide Call Center Detail Reports (Monthly or Weekly During Administrations)	DRC	0%	330 days	Mon 3/16/15	Tue 7/5/16
Provide Monthly Call Center Report	DRC	0%	330 days	Mon 3/16/15	Tue 7/5/16
<b>Distribution of Forms</b>		<b>0%</b>	<b>55 days</b>	<b>Mon 6/1/15</b>	<b>Mon 8/17/15</b>
Update and Approve Form Distribution Requirements	MDE,DRC	0%	10 days	Mon 6/1/15	Fri 6/12/15
Complete UAT Testing for Form Distribution	MDE,DRC	0%	5 days	Tue 8/11/15	Mon 8/17/15
<b>School Readiness</b>		<b>0%</b>	<b>16 days</b>	<b>Fri 4/17/15</b>	<b>Fri 5/8/15</b>
Provide Updated Device, Bandwidth, Checklist, and Deployment Option Requirements	DRC	0%	1 day	Fri 4/17/15	Fri 4/17/15
Provide Updated Disaster Recovery Plan	DRC	0%	1 day	Fri 4/17/15	Fri 4/17/15
Determine School Technology Readiness	MDE	0%	15 days	Mon 4/20/15	Fri 5/8/15
<b>Content Alignment</b>		<b>0%</b>	<b>60 days</b>	<b>Fri 4/3/15</b>	<b>Fri 6/26/15</b>
Content Alignment Review	DRC,MDE	0%	60 days	Fri 4/3/15	Fri 6/26/15
<b>Training for Online Tools</b>		<b>0%</b>	<b>66 days</b>	<b>Wed 4/29/15</b>	<b>Fri 7/31/15</b>
Update and Approve Training for Online Tools Requirements	DRC,MDE	0%	10 days	Wed 4/29/15	Tue 5/12/15
Complete UAT Testing for Training for Online Tools	DRC,MDE	0%	5 days	Thu 6/11/15	Wed 6/17/15
Training for Online Tools Available	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
<b>Video Tutorial</b>		<b>0%</b>	<b>61 days</b>	<b>Wed 5/13/15</b>	<b>Fri 8/7/15</b>
Update and Approve Video Tutorial Requirements	DRC,MDE	0%	10 days	Wed 5/13/15	Wed 5/27/15
Complete UAT Testing for Video Tutorial	DRC,MDE	0%	5 days	Thu 6/25/15	Wed 7/1/15
Video Tutorial Available	DRC	0%	1 day	Fri 8/7/15	Fri 8/7/15
<b>Test Form Development - Fixed Form (Interim Assessments)</b>		<b>0%</b>	<b>106 days</b>	<b>Wed 4/1/15</b>	<b>Fri 8/28/15</b>



Update and Approve Test Form Development Requirements - Fixed Form	MDE,DRC	0%	10 days	Fri 4/17/15	Thu 4/30/15
Establish System Interface - Item Transfers	MDE,DRC	0%	10 days	Fri 5/1/15	Thu 5/14/15
Test Map Development and Approval	MDE	0%	35 days	Wed 4/1/15	Tue 5/19/15
Test Maps Available - Direct Table Read	MDE	0%	1 day	Wed 5/20/15	Wed 5/20/15
Complete UAT Testing for QIT Transfers and Direct Table Reads	MDE,DRC	0%	5 days	Thu 5/21/15	Thu 5/28/15
Provide Item Exports (via QTI)	MDE	0%	5 days	Wed 5/13/15	Tue 5/19/15
Complete Item Imports (via QTI)	DRC	0%	5 days	Thu 5/14/15	Wed 5/20/15
Develop Forms for Item Rendering Review	DRC	0%	10 days	Tue 5/19/15	Tue 6/2/15
Item Rendering Review - Quality Assurance	MDE	0%	35 days	Fri 5/22/15	Mon 7/13/15
Develop Test Forms for Form Rendering Review	DRC	0%	15 days	Mon 6/29/15	Mon 7/20/15
Online Test Form Rendering Review - Quality Assurance	MDE	0%	20 days	Tue 7/7/15	Mon 8/3/15
Provide Test Forms in Production for UAT Testing	DRC	0%	5 days	Tue 8/4/15	Mon 8/10/15
Complete UAT Testing for Online Test Forms	MDE,DRC	0%	8 days	Tue 8/11/15	Thu 8/20/15
Export Approved Item Rendering Packages	DRC	0%	1 day	Fri 8/28/15	Fri 8/28/15
<b>Test Form Development - CAT Form (Consortia-Developed Items)</b>		<b>0%</b>	<b>106 days</b>	<b>Wed 4/1/15</b>	<b>Fri 8/28/15</b>
Update and Approve Test Form Development Requirements - CAT Specifications	MDE,DRC	0%	10 days	Fri 4/17/15	Thu 4/30/15
Establish System Interface - Item Transfers	MDE,DRC	0%	15 days	Fri 5/1/15	Thu 5/21/15
Blue Print Specifications Development and Approval	MDE	0%	35 days	Wed 4/1/15	Tue 5/19/15
Complete UAT Testing for QIT Transfers and Adaptive Algorithm	MDE,DRC	0%	5 days	Thu 5/21/15	Thu 5/28/15
Provide Item Exports (via QTI)	MDE	0%	5 days	Wed 5/13/15	Tue 5/19/15
Complete Import Items (via QTI)	DRC	0%	5 days	Thu 5/14/15	Wed 5/20/15
Develop Forms for Item Rendering Review	DRC	0%	10 days	Tue 5/19/15	Tue 6/2/15
Item Rendering Review - Quality Assurance	MDE	0%	35 days	Fri 5/22/15	Mon 7/13/15
Create UAT Simulations and Provide Required Data	DRC	0%	35 days	Fri 5/22/15	Mon 7/13/15
Complete UAT Testing for CAT Forms	MDE,DRC	0%	8 days	Tue 8/11/15	Thu 8/20/15
Export Approved Item Rendering Packages	DRC	0%	1 day	Fri 8/28/15	Fri 8/28/15
<b>Pre-Identification of Students</b>		<b>0%</b>	<b>244 days</b>	<b>Wed 5/6/15</b>	<b>Mon 4/25/16</b>
Update and Approve Pre-ID Data Requirements	MDE,DRC	0%	10 days	Wed 5/6/15	Tue 5/19/15
Establish System Interface - Pre-ID	MDE,DRC	0%	5 days	Thu 6/4/15	Wed 6/10/15
Complete UAT Testing - Pre-ID	MDE,DRC	0%	5 days	Thu 6/11/15	Wed 6/17/15
State Pre-ID Window - Pre-Test	MDE	0%	100 days	Thu 6/25/15	Fri 11/13/15
Initial Pre-ID Student Pull - Pre-Test	DRC	0%	1 day	Fri 8/7/15	Fri 8/7/15
Updated Pre-ID Student Pulls Pre-Test (As Required)	DRC	0%	70 days	Fri 8/7/15	Fri 11/13/15
New Enrollee Data Pulls Pre-Test (As Required)	DRC	0%	70 days	Fri 8/7/15	Fri 11/13/15
State Pre-ID Window - Mid-Test	MDE	0%	100 days	Thu 9/3/15	Fri 1/29/16
Initial Pre-ID Student Pull - Mid-Test	DRC	0%	1 day	Fri 10/16/15	Fri 10/16/15
Updated Pre-ID Student Pulls Mid-Test (As Required)	DRC	0%	69 days	Mon 10/19/15	Fri 1/29/16
New Enrollee Data Pulls Mid-Test (As Required)	DRC	0%	69 days	Mon 10/19/15	Fri 1/29/16
State Pre-ID Window - Post-Test	MDE	0%	100 days	Tue 12/1/15	Mon 4/25/16
Initial Pre-ID Student Pull - Post-Test	DRC	0%	1 day	Fri 1/15/16	Fri 1/15/16
Updated Pre-ID Student Pulls Post-Test (As Required)	DRC	0%	69 days	Tue 1/19/16	Mon 4/25/16
New Enrollee Data Pulls Post-Test (As Required)	DRC	0%	69 days	Tue 1/19/16	Mon 4/25/16
<b>Online Test Session Pulls</b>		<b>0%</b>	<b>244 days</b>	<b>Wed 5/6/15</b>	<b>Mon 4/25/16</b>
Update and Approve Online Test Session Pulls Requirements	MDE,DRC	0%	10 days	Wed 5/6/15	Tue 5/19/15
Establish System Interface - Online Test Session Pulls	MDE,DRC	0%	5 days	Thu 6/4/15	Wed 6/10/15



Complete UAT Testing - Online Test Session Pulls	MDE,DRC	0%	5 days	Thu 6/11/15	Wed 6/17/15
Initial Online Test Session Pulls - Pre-Test	DRC	0%	1 day	Fri 8/7/15	Fri 8/7/15
Updated Online Test Session Pulls(As Required) - Pre-Test	DRC	0%	83 days	Fri 8/7/15	Fri 12/4/15
New Online Test Session Pulls (As Required) - Pre-Test	DRC	0%	83 days	Fri 8/7/15	Fri 12/4/15
Initial Online Test Session Pulls - Mid-Test	DRC	0%	1 day	Fri 10/16/15	Fri 10/16/15
Updated Online Test Session Pulls(As Required) - Mid-Test	DRC	0%	69 days	Mon 10/19/15	Fri 1/29/16
New Online Test Session Pulls (As Required) - Mid-Test	DRC	0%	69 days	Mon 10/19/15	Fri 1/29/16
Initial Online Test Session Pulls - Post-Test	DRC	0%	1 day	Fri 1/15/16	Fri 1/15/16
Updated Online Test Session Pulls(As Required) - Post-Test	DRC	0%	69 days	Tue 1/19/16	Mon 4/25/16
New Online Test Session Pulls (As Required) - Post-Test	DRC	0%	69 days	Tue 1/19/16	Mon 4/25/16
<b>District and School Information</b>		<b>0%</b>	<b>244 days</b>	<b>Wed 5/6/15</b>	<b>Mon 4/25/16</b>
Update and Approve District and School Data Requirements	MDE,DRC	0%	10 days	Wed 5/6/15	Tue 5/19/15
Establish System Interface - District and School Information	MDE,DRC	0%	5 days	Thu 6/4/15	Wed 6/10/15
Complete UAT Testing - District and School Information	MDE,DRC	0%	5 days	Thu 6/11/15	Wed 6/17/15
Initial District and School Information Data Pull - Pre-Test	DRC	0%	1 day	Fri 8/7/15	Fri 8/7/15
Updated District and School Information Data Pulls (As Required) - Pre-Test	DRC	0%	70 days	Fri 8/7/15	Fri 11/13/15
Initial District and School Information Data Pull - Mid-Test	DRC	0%	1 day	Fri 10/16/15	Fri 10/16/15
Updated District and School Information Data Pulls (As Required) - Mid-Test	DRC	0%	69 days	Mon 10/19/15	Fri 1/29/16
Initial District and School Information Data Pull - Post-Test	DRC	0%	1 day	Fri 1/15/16	Fri 1/15/16
Updated District and School Information Data Pulls (As Required) - Post-Test	DRC	0%	69 days	Tue 1/19/16	Mon 4/25/16
<b>Personal Needs Profile</b>		<b>0%</b>	<b>244 days</b>	<b>Wed 5/6/15</b>	<b>Mon 4/25/16</b>
Update and Approve Personal Needs Profile Requirements	MDE,DRC	0%	10 days	Wed 5/6/15	Tue 5/19/15
Establish System Interface - Personal Needs Profile Information	MDE,DRC	0%	5 days	Thu 6/4/15	Wed 6/10/15
Complete UAT Testing - Personal Needs Profile Information	MDE,DRC	0%	5 days	Thu 6/11/15	Wed 6/17/15
Initial Personal Needs Profile Information Data Pull - Pre-Test	DRC	0%	1 day	Fri 8/7/15	Fri 8/7/15
Updated Personal Needs Profile Information Data Pulls (As Required) - Pre-Test	DRC	0%	70 days	Fri 8/7/15	Fri 11/13/15
Initial Personal Needs Profile Information Data Pull - Mid-Test	DRC	0%	1 day	Fri 10/16/15	Fri 10/16/15
Updated Personal Needs Profile Information Data Pulls (As Required) - Mid-Test	DRC	0%	69 days	Mon 10/19/15	Fri 1/29/16
Initial Personal Needs Profile Information Data Pull - Post-Test	DRC	0%	1 day	Fri 1/15/16	Fri 1/15/16
Updated Personal Needs Profile Information Data Pulls (As Required) - Post-Test	DRC	0%	69 days	Tue 1/19/16	Mon 4/25/16
<b>Single Sign-On</b>		<b>0%</b>	<b>59 days</b>	<b>Mon 6/1/15</b>	<b>Fri 8/21/15</b>
Update and Approve Single Sign-On Requirements	MDE,DRC	0%	10 days	Mon 6/1/15	Fri 6/12/15
Establish System Interface - Single Sign-On	MDE,DRC	0%	10 days	Tue 7/28/15	Mon 8/10/15
Complete UAT Testing - Single Sign-On	MDE,DRC	0%	8 days	Tue 8/11/15	Thu 8/20/15
Single Sign On Available for Testing and Reporting	DRC	0%	1 day	Fri 8/21/15	Fri 8/21/15
<b>Accessibility</b>		<b>0%</b>	<b>58 days</b>	<b>Mon 6/1/15</b>	<b>Thu 8/20/15</b>
Update and Approve Accessibility Requirements	MDE,DRC	0%	10 days	Mon 6/1/15	Fri 6/12/15
Complete UAT Testing Accessibility	MDE,DRC	0%	8 days	Tue 8/11/15	Thu 8/20/15
<b>Test Preparation</b>		<b>0%</b>	<b>69 days</b>	<b>Thu 5/14/15</b>	<b>Thu 8/20/15</b>
Update and Approve Test Preparation Requirements	MDE,DRC	0%	10 days	Thu 5/14/15	Thu 5/28/15
Deliver DRC INSIGHT Software	DRC	0%	1 day	Mon 8/10/15	Mon 8/10/15
Complete UAT Testing - Test Preparation	MDE,DRC	0%	8 days	Tue 8/11/15	Thu 8/20/15
<b>Training of Test Administrators &amp; Technology Coordinators</b>		<b>0%</b>	<b>81 days</b>	<b>Wed 4/8/15</b>	<b>Fri 7/31/15</b>
<b>Video Presentations</b>		<b>0%</b>	<b>81 days</b>	<b>Wed 4/8/15</b>	<b>Fri 7/31/15</b>
Update and Approve Video Presentation Requirements	DRC,MDE	0%	10 days	Wed 4/8/15	Tue 4/21/15



Develop Video Presentations	DRC	0%	40 days	Wed 5/6/15	Wed 7/1/15
Review and Approve Video Presentations	DRC,MDE	0%	10 days	Thu 7/2/15	Thu 7/16/15
Video Presentations Available for Technology Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Video Presentations Available for District Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Video Presentations Available for Building Test Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Video Presentations Available for Test Administrators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
<b>Webcasts</b>		<b>0%</b>	<b>81 days</b>	<b>Wed 4/8/15</b>	<b>Fri 7/31/15</b>
Update and Approve Webcasts Requirements	DRC,MDE	0%	10 days	Wed 4/8/15	Tue 4/21/15
Develop Webcasts	DRC	0%	40 days	Wed 5/6/15	Wed 7/1/15
Review and Approve Webcasts	DRC,MDE	0%	10 days	Thu 7/2/15	Thu 7/16/15
Webcasts Available for Technology Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Webcasts Available for District Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Webcasts Available for Building Test Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Webcasts Available for Test Administrators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
<b>Quick Start Guides</b>		<b>0%</b>	<b>61 days</b>	<b>Wed 5/6/15</b>	<b>Fri 7/31/15</b>
Update and Approve Quick Start Guides	DRC,MDE	0%	10 days	Wed 5/6/15	Tue 5/19/15
Develop Quick Start Guides	DRC	0%	20 days	Thu 6/4/15	Wed 7/1/15
Review and Approve Quick Start Guides	DRC,MDE	0%	10 days	Thu 7/2/15	Thu 7/16/15
Quick Start Guides Available for Technology Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Quick Start Guides Available for District Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Quick Start Guides Available for Building Test Coordinators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
Quick Start Guides Available for Test Administrators	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
<b>Online Administration Test Administration Manuals</b>		<b>0%</b>	<b>58 days</b>	<b>Mon 5/11/15</b>	<b>Fri 7/31/15</b>
Update and Approve Test Administration Manual Requirements	MDE,DRC	0%	10 days	Mon 5/11/15	Fri 5/22/15
Develop Test Administration Manuals	DRC	0%	20 days	Tue 5/26/15	Mon 6/22/15
Review and Approve Test Administration Manuals	MDE,DRC	0%	10 days	Tue 6/23/15	Tue 7/7/15
Test Administration Manuals Available Online	DRC	0%	1 day	Wed 7/15/15	Wed 7/15/15
Print Test Administration Manuals	DRC	0%	10 days	Wed 7/15/15	Tue 7/28/15
Ship Test Administration Manuals to Schools	DRC	0%	1 day	Wed 7/29/15	Wed 7/29/15
Test Administration Manuals in Schools	DRC	0%	1 day	Fri 7/31/15	Fri 7/31/15
<b>Test Administration</b>		<b>0%</b>	<b>189 days</b>	<b>Fri 7/24/15</b>	<b>Mon 4/25/16</b>
Update and Approve Test Administration Communication Requirements	MDE,DRC	0%	10 days	Fri 7/24/15	Thu 8/6/15
Provide Communication During Test Administration	DRC	0%	46 days	Mon 9/21/15	Mon 11/23/15
Deliver Test Administration Security Compliance Agreements	DRC	0%	46 days	Mon 9/21/15	Mon 11/23/15
Prepare Security Monitors	DRC	0%	5 days	Mon 9/14/15	Fri 9/18/15
Provide Security Monitors (if necessary) - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Provide Security Monitors (if necessary) - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Provide Security Monitors (if necessary) - Post-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
<b>Online Test Delivery</b>		<b>0%</b>	<b>149 days</b>	<b>Mon 9/21/15</b>	<b>Mon 4/25/16</b>
Online Test Delivery Window (Pre)		0%	40 days	Mon 9/21/15	Fri 11/13/15
Online Test Delivery Window (Mid)		0%	40 days	Tue 12/1/15	Fri 1/29/16
Online Test Delivery Window (Post)		0%	40 days	Tue 3/1/16	Mon 4/25/16
<b>Test Session Data Electronic Reports</b>		<b>0%</b>	<b>210 days</b>	<b>Fri 7/10/15</b>	<b>Tue 5/10/16</b>
Update and Approve Test Session Data Electronic Reports Requirements	MDE,DRC	0%	10 days	Fri 7/10/15	Thu 7/23/15
Complete UAT Testing - Test Session Data Electronic Reports	MDE,DRC	0%	5 days	Fri 9/4/15	Fri 9/11/15



Deliver Student Response Changes Electronic Report - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Deliver Aggregate number of flagged students Electronic Report - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Delivery Summary Flagged Students Electronic Report - Pre-Test	DRC	0%	1 day	Wed 12/2/15	Wed 12/2/15
Deliver Student Response Changes Electronic Report - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Deliver Aggregate number of flagged students Electronic Report - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Delivery Summary Flagged Students Electronic Report - Mid-Test	DRC	0%	1 day	Tue 2/16/16	Tue 2/16/16
Deliver Student Response Changes Electronic Report - Post-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
Deliver Aggregate number of flagged students Electronic Report - Post-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
Delivery Summary Flagged Students Electronic Report - Post-Test	DRC	0%	1 day	Tue 5/10/16	Tue 5/10/16
<b>Scoring and Reporting Data Pull</b>		<b>0%</b>	<b>249 days</b>	<b>Wed 5/13/15</b>	<b>Mon 5/9/16</b>
Update and Approve Scoring and Reporting Data Pull Requirements	MDE,DRC	0%	10 days	Wed 5/13/15	Wed 5/27/15
Establish System Interface - Scoring and Reporting Data Pull	MDE,DRC	0%	5 days	Fri 7/10/15	Thu 7/16/15
Complete UAT Testing - Scoring and Reporting Data Pull	MDE,DRC	0%	5 days	Fri 7/24/15	Thu 7/30/15
Pull Scoring and Reporting Data Pull (As Required) - Pre-Test	DRC	0%	80 days	Fri 8/7/15	Tue 12/1/15
Pull Scoring and Reporting Data Pull (As Required) - Mid-Test	DRC	0%	80 days	Fri 10/16/15	Fri 2/12/16
Pull Scoring and Reporting Data Pull (As Required) - Mid-Test	DRC	0%	80 days	Fri 1/15/16	Mon 5/9/16
<b>Assessment Data Push</b>		<b>0%</b>	<b>209 days</b>	<b>Thu 6/25/15</b>	<b>Mon 4/25/16</b>
Update and Approve Assessment Data Push Requirements	MDE,DRC	0%	10 days	Thu 6/25/15	Thu 7/9/15
Establish System Interface - Assessment Data Push	MDE,DRC	0%	5 days	Fri 8/21/15	Thu 8/27/15
Complete UAT Testing - Assessment Data Push	MDE,DRC	0%	5 days	Fri 9/4/15	Fri 9/11/15
Updated Assessment Data (As Required) - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Updated Assessment Data (As Required) - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Updated Assessment Data (As Required) - Mid-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
<b>Machine Scoring</b>		<b>0%</b>	<b>209 days</b>	<b>Thu 6/25/15</b>	<b>Mon 4/25/16</b>
Update and Approve Machine Scoring Requirements	MDE,DRC	0%	10 days	Thu 6/25/15	Thu 7/9/15
Update and Approve Machine Scoring Quality Assurance Plan	DRC,MDE	0%	10 days	Thu 6/25/15	Thu 7/9/15
Establish System Interface - Machine Scoring	MDE,DRC	0%	10 days	Fri 8/7/15	Thu 8/20/15
Complete UAT Testing - Machine Scoring	MDE,DRC	0%	5 days	Fri 8/21/15	Thu 8/27/15
Provide Student Raw Item Score Data - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Provide Student Score Response Data - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Provide Student Raw Item Score Data - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Provide Student Score Response Data - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Provide Student Raw Item Score Data - Post-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
Provide Student Score Response Data - Post-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
<b>Constructed-Response Scoring (Online Responses)</b>		<b>0%</b>	<b>220 days</b>	<b>Thu 6/25/15</b>	<b>Tue 5/10/16</b>
Update and Approve Artificial Intelligence (AI) Scoring Requirements	MDE,DRC	0%	10 days	Thu 6/25/15	Thu 7/9/15
Complete UAT Testing - Artificial Intelligence (AI) Scoring	MDE,DRC	0%	10 days	Fri 8/28/15	Fri 9/11/15
Complete AI Scoring - Pre-Test	DRC	0%	41 days	Mon 9/21/15	Mon 11/16/15
Complete AI Scoring - Mid-Test	DRC	0%	41 days	Tue 12/1/15	Mon 2/1/16
Complete AI Scoring - Post-Test		0%	41 days	Tue 3/1/16	Tue 4/26/16
Update and Approve Human Scoring Requirements	MDE,DRC	0%	10 days	Thu 6/25/15	Thu 7/9/15
Complete UAT Testing - Human Scoring	MDE,DRC	0%	10 days	Fri 9/4/15	Fri 9/18/15
Complete Human Scoring - Pre-Test	DRC	0%	46 days	Mon 9/28/15	Wed 12/2/15
Deliver Reader Production and Reliability Statistics Reports - Pre-Test	DRC	0%	46 days	Mon 9/28/15	Wed 12/2/15
Complete Human Scoring - Mid-Test		0%	46 days	Tue 12/8/15	Tue 2/16/16



Deliver Reader Production and Reliability Statistics Reports - Mid-Test		0%	46 days	Tue 12/8/15	Tue 2/16/16
Complete Human Scoring - Post-Test		0%	46 days	Tue 3/8/16	Tue 5/10/16
Deliver Reader Production and Reliability Statistics Reports - Post-Test		0%	46 days	Tue 3/8/16	Tue 5/10/16
<b>Reporting</b>		<b>0%</b>	<b>304 days</b>	<b>Tue 2/10/15</b>	<b>Mon 4/25/16</b>
<b>Near Time Reporting</b>		<b>0%</b>	<b>249 days</b>	<b>Wed 4/29/15</b>	<b>Mon 4/25/16</b>
Update and Approve Near Time Reporting Requirements	MDE,DRC	0%	10 days	Wed 4/29/15	Tue 5/12/15
Update and Approve Production Reporting Quality Assurance Plan	MDE,DRC	0%	10 days	Thu 5/28/15	Wed 6/10/15
Develop Mock Student Information for UAT	DRC	0%	10 days	Fri 7/24/15	Thu 8/6/15
Develop Mock Student Response Data Set for UAT	DRC	0%	10 days	Fri 7/24/15	Thu 8/6/15
Complete UAT Testing - Mock Report	MDE,DRC	0%	2 days	Fri 8/21/15	Mon 8/24/15
Monitor Real Time Reporting - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Provide Production Monitoring Report - Pre-Test	DRC	0%	40 days	Mon 9/21/15	Fri 11/13/15
Monitor Real Time Reporting - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Provide Production Monitoring Report - Mid-Test	DRC	0%	40 days	Tue 12/1/15	Fri 1/29/16
Monitor Real Time Reporting - Post-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
Provide Production Monitoring Report - Post-Test	DRC	0%	40 days	Tue 3/1/16	Mon 4/25/16
<b>Online Dynamic Reports</b>		<b>0%</b>	<b>156 days</b>	<b>Tue 2/10/15</b>	<b>Mon 9/21/15</b>
Update and Approve Online Dynamic Report Requirements	MDE,DRC	0%	10 days	Tue 2/10/15	Tue 2/24/15
Develop Online Dynamic Reports	DRC	0%	80 days	Wed 5/6/15	Thu 8/27/15
Complete UAT Testing - Online Dynamic Reports	MDE,DRC	0%	5 days	Fri 8/28/15	Thu 9/3/15
Online Dynamic Reports Available	DRC	0%	1 day	Mon 9/21/15	Mon 9/21/15
<b>Online Custom Data Access</b>		<b>0%</b>	<b>156 days</b>	<b>Tue 2/10/15</b>	<b>Mon 9/21/15</b>
Update and Approve Online Custom Data Access Requirements	MDE,DRC	0%	10 days	Tue 2/10/15	Tue 2/24/15
Develop Online Custom Data Access	DRC	0%	80 days	Wed 5/6/15	Thu 8/27/15
Complete UAT Testing - Online Custom Data Access	MDE,DRC	0%	5 days	Fri 8/28/15	Thu 9/3/15
Online Custom Data Access Available	DRC	0%	1 day	Mon 9/21/15	Mon 9/21/15
<b>Document Retention and Storage</b>		<b>0%</b>	<b>253 days</b>	<b>Mon 3/16/15</b>	<b>Wed 3/16/16</b>
Update and Approve Document Retention and Storage Requirements	MDE,DRC	0%	10 days	Fri 7/24/15	Thu 8/6/15
Provide Data Access as Required (Year 1)	DRC	0%	253 days	Mon 3/16/15	Wed 3/16/16
<b>Technical Report</b>		<b>0%</b>	<b>100 days</b>	<b>Fri 1/15/16</b>	<b>Tue 6/7/16</b>
Update and Approve Technical Report Documentation Requirements	MDE,DRC	0%	10 days	Fri 1/15/16	Fri 1/29/16
Deliver Test Development Information for Technical Report	DRC	0%	30 days	Tue 4/26/16	Tue 6/7/16
Deliver Test Administration Information for Technical Report	DRC	0%	30 days	Tue 4/26/16	Tue 6/7/16
Deliver Test Security Information for Technical Report	DRC	0%	30 days	Tue 4/26/16	Tue 6/7/16
Deliver Test Scoring and Report Information for Technical Report	DRC	0%	30 days	Tue 4/26/16	Tue 6/7/16

Task Name	Resource Names	% Complete	Duration	Start	Finish
<b>Michigan Online Summative Assessments Spring 2016</b>		<b>0%</b>	<b>375 days</b>	<b>Mon 3/2/15</b>	<b>Tue 8/23/16</b>
<b>PROJECT ADMINISTRATION</b>		<b>0%</b>	<b>375 days</b>	<b>Mon 3/2/15</b>	<b>Tue 8/23/16</b>
<b>Planning for Kickoff and Test Cycle</b>		<b>0%</b>	<b>22 days</b>	<b>Wed 3/4/15</b>	<b>Thu 4/2/15</b>
Organize and Plan Kick-Off Meeting	DRC	0%	20 days	Wed 3/4/15	Tue 3/31/15
Provide Preliminary Agenda	DRC	0%	1 day	Wed 3/11/15	Wed 3/11/15
Provide Preliminary Schedule	DRC	0%	1 day	Wed 3/11/15	Wed 3/11/15



Provide Supporting Materials for Kick-Off Meeting	DRC	0%	1 day	Wed 3/25/15	Wed 3/25/15
Kick-Off Meeting	MDE,DRC	0%	2 days	Wed 4/1/15	Thu 4/2/15
<b>Meetings and Status</b>		<b>0%</b>	<b>365 days</b>	<b>Mon 3/16/15</b>	<b>Tue 8/23/16</b>
Management Meeting 1 (every 3 months)	MDE,DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
Executive Management Meetings (Twice Per Year)	MDE,DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
TAC Meeting (4 times per year)	MDE,DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
Provide Project Status Report (Weekly)	DRC	0%	365 days	Mon 3/16/15	Tue 8/23/16
<b>Administration Plan and Project Schedule</b>		<b>0%</b>	<b>10 days</b>	<b>Fri 4/3/15</b>	<b>Thu 4/16/15</b>
Update and Approve Overall Administration Plan	DRC,MDE	0%	10 days	Fri 4/3/15	Thu 4/16/15
Finalize and Approve Administration Project Schedule	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
Update and Approve Escalation Procedures	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
Update and Approve Change of Scope Requests and CCR procedures	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
<b>Electronic Document Management Site</b>		<b>0%</b>	<b>15 days</b>	<b>Fri 4/3/15</b>	<b>Thu 4/23/15</b>
Update and Approve Electronic Document Management Site Requirements	MDE,DRC	0%	10 days	Fri 4/3/15	Thu 4/16/15
Confirm Permissions and Folder Structures based on Approved Requirements	MDE,DRC	0%	5 days	Fri 4/17/15	Thu 4/23/15
<b>Call Center(s)</b>		<b>0%</b>	<b>340 days</b>	<b>Mon 3/2/15</b>	<b>Tue 7/5/16</b>
Update and Approve Call Center Requirements	MDE,DRC	0%	10 days	Mon 3/2/15	Fri 3/13/15
Call Center Available (Year1)	DRC	0%	330 days	Mon 3/16/15	Tue 7/5/16
Provide Call Center Detail Reports (Monthly or Weekly During Administrations)	DRC	0%	330 days	Mon 3/16/15	Tue 7/5/16
Provide Monthly Call Center Report	DRC	0%	330 days	Mon 3/16/15	Tue 7/5/16
<b>Distribution of Forms</b>		<b>0%</b>	<b>104 days</b>	<b>Tue 8/25/15</b>	<b>Tue 1/26/16</b>
Update and Approve Form Distribution Requirements	MDE,DRC	0%	10 days	Tue 8/25/15	Tue 9/8/15
Complete UAT Testing for Form Distribution	MDE,DRC	0%	5 days	Wed 1/20/16	Tue 1/26/16
<b>School Readiness</b>		<b>0%</b>	<b>16 days</b>	<b>Fri 4/17/15</b>	<b>Fri 5/8/15</b>
Provide Updated Provide Device, Bandwidth, Checklist, and Deployment Option Requirements	DRC	0%	1 day	Fri 4/17/15	Fri 4/17/15
Provide Updated Disaster Recovery Plan	DRC	0%	1 day	Fri 4/17/15	Fri 4/17/15
Determine School Technology Readiness	MDE	0%	15 days	Mon 4/20/15	Fri 5/8/15
<b>Content Alignment</b>		<b>0%</b>	<b>60 days</b>	<b>Fri 4/3/15</b>	<b>Fri 6/26/15</b>
Content Alignment Review	DRC,MDE	0%	60 days	Fri 4/3/15	Fri 6/26/15
<b>Training for Online Tools</b>		<b>0%</b>	<b>66 days</b>	<b>Thu 10/29/15</b>	<b>Fri 2/5/16</b>
Update and Approve Training for Online Tools Requirements	DRC,MDE	0%	10 days	Thu 10/29/15	Wed 11/11/15
Complete UAT Testing for Training for Online Tools	DRC,MDE	0%	5 days	Mon 12/14/15	Fri 12/18/15
Training for Online Tools Available	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
<b>Video Tutorial</b>		<b>0%</b>	<b>61 days</b>	<b>Thu 11/12/15</b>	<b>Fri 2/12/16</b>
Update and Approve Video Tutorial Requirements	DRC,MDE	0%	10 days	Thu 11/12/15	Wed 11/25/15
Complete UAT Testing for Video Tutorial	DRC,MDE	0%	5 days	Wed 12/30/15	Wed 1/6/16
Video Tutorial Available	DRC	0%	1 day	Fri 2/12/16	Fri 2/12/16
<b>Test Form Development - Fixed Form (Summative Assessments)</b>		<b>0%</b>	<b>203 days</b>	<b>Fri 4/17/15</b>	<b>Mon 2/8/16</b>
Update and Approve Test Form Development Requirements - Fixed Form	MDE,DRC	0%	10 days	Fri 4/17/15	Thu 4/30/15
Establish System Interface - Item Transfers	MDE,DRC	0%	15 days	Fri 5/1/15	Thu 5/21/15
Test Map Development and Approval	MDE	0%	43 days	Fri 7/31/15	Wed 9/30/15
Test Maps Available - Direct Table Read	MDE	0%	1 day	Thu 10/1/15	Thu 10/1/15
Complete UAT Testing for QIT Transfers and Direct Table Reads	MDE,DRC	0%	5 days	Fri 10/2/15	Thu 10/8/15
Provide Item Exports (via QTI)	MDE	0%	5 days	Fri 10/16/15	Thu 10/22/15



Complete Item Imports (via QTI)	DRC	0%	5 days	Mon 10/19/15	Fri 10/23/15
Develop Forms for Item Rendering Review	DRC	0%	10 days	Thu 10/22/15	Wed 11/4/15
Item Rendering Review - Quality Assurance	MDE	0%	35 days	Tue 10/27/15	Wed 12/16/15
Develop Test Forms for Form Rendering Review	DRC	0%	15 days	Thu 12/3/15	Wed 12/23/15
Online Test Form Rendering Review - Quality Assurance	MDE	0%	20 days	Thu 12/10/15	Mon 1/11/16
Provide Test Forms in Production for UAT Testing	DRC	0%	5 days	Tue 1/12/16	Tue 1/19/16
Complete UAT Testing for Online Test Forms	MDE,DRC	0%	8 days	Wed 1/20/16	Fri 1/29/16
Export Approved Item Rendering Packages	DRC	0%	1 day	Mon 2/8/16	Mon 2/8/16
<b>Test Form Development - CAT Form (Consortia-Developed Items)</b>		<b>0%</b>	<b>203 days</b>	<b>Fri 4/17/15</b>	<b>Mon 2/8/16</b>
Update and Approve Test Form Development Requirements - CAT Specifications	MDE,DRC	0%	10 days	Fri 4/17/15	Thu 4/30/15
Establish System Interface - Item Transfers	MDE,DRC	0%	15 days	Fri 5/1/15	Thu 5/21/15
Blue Print Specifications Development and Approval	MDE	0%	43 days	Fri 7/31/15	Wed 9/30/15
Complete UAT Testing for QIT Transfers and Adaptive Algorithm	MDE,DRC	0%	5 days	Fri 10/2/15	Thu 10/8/15
Provide Item Exports (via QTI)	MDE	0%	5 days	Fri 10/16/15	Thu 10/22/15
Complete Import Items (via QTI)	DRC	0%	5 days	Mon 10/19/15	Fri 10/23/15
Develop Forms for Item Rendering Review	DRC	0%	10 days	Thu 10/22/15	Wed 11/4/15
Item Rendering Review - Quality Assurance	MDE	0%	35 days	Tue 10/27/15	Wed 12/16/15
Create UAT Simulations and Provide Required Data	DRC	0%	35 days	Tue 10/27/15	Wed 12/16/15
Complete UAT Testing for CAT Forms	MDE,DRC	0%	8 days	Wed 1/20/16	Fri 1/29/16
Export Approved Item Rendering Packages	DRC	0%	1 day	Mon 2/8/16	Mon 2/8/16
<b>Pre-Identification of Students</b>		<b>0%</b>	<b>148 days</b>	<b>Mon 10/26/15</b>	<b>Fri 5/27/16</b>
Update and Approve Pre-ID Data Requirements	MDE,DRC	0%	10 days	Mon 10/26/15	Fri 11/6/15
Establish System Interface - Pre-ID	MDE,DRC	0%	5 days	Mon 11/23/15	Tue 12/1/15
Complete UAT Testing - Pre-ID	MDE,DRC	0%	5 days	Wed 12/2/15	Tue 12/8/15
State Pre-ID Window	MDE	0%	125 days	Mon 11/30/15	Fri 5/27/16
Initial Pre-ID Student Pull	DRC	0%	1 day	Tue 2/2/16	Tue 2/2/16
Updated Pre-ID Student Pulls (As Required)	DRC	0%	83 days	Tue 2/2/16	Fri 5/27/16
New Enrollee Data Pulls (As Required)	DRC	0%	83 days	Tue 2/2/16	Fri 5/27/16
<b>Online Test Session Pulls</b>		<b>0%</b>	<b>148 days</b>	<b>Mon 10/26/15</b>	<b>Fri 5/27/16</b>
Update and Approve Online Test Session Pulls Requirements	MDE,DRC	0%	10 days	Mon 10/26/15	Fri 11/6/15
Establish System Interface - Online Test Session Pulls	MDE,DRC	0%	5 days	Mon 11/23/15	Tue 12/1/15
Complete UAT Testing - Online Test Session Pulls	MDE,DRC	0%	5 days	Wed 12/2/15	Tue 12/8/15
Initial Online Test Session Pulls	DRC	0%	1 day	Tue 2/2/16	Tue 2/2/16
Updated Online Test Session Pulls(As Required)	DRC	0%	83 days	Tue 2/2/16	Fri 5/27/16
New Online Test Session Pulls (As Required)	DRC	0%	83 days	Tue 2/2/16	Fri 5/27/16
<b>District and School Information</b>		<b>0%</b>	<b>148 days</b>	<b>Mon 10/26/15</b>	<b>Fri 5/27/16</b>
Update and Approve District and School Data Requirements	MDE,DRC	0%	10 days	Mon 10/26/15	Fri 11/6/15
Establish System Interface - District and School Information	MDE,DRC	0%	5 days	Mon 11/23/15	Tue 12/1/15
Complete UAT Testing - District and School Information	MDE,DRC	0%	5 days	Wed 12/2/15	Tue 12/8/15
Initial District and School Information Data Pull	DRC	0%	1 day	Tue 2/2/16	Tue 2/2/16
Updated District and School Information Data Pulls (As Required)	DRC	0%	83 days	Tue 2/2/16	Fri 5/27/16
<b>Personal Needs Profile</b>		<b>0%</b>	<b>148 days</b>	<b>Mon 10/26/15</b>	<b>Fri 5/27/16</b>
Update and Approve Personal Needs Profile Requirements	MDE,DRC	0%	10 days	Mon 10/26/15	Fri 11/6/15
Establish System Interface - Personal Needs Profile Information	MDE,DRC	0%	5 days	Mon 11/23/15	Tue 12/1/15
Complete UAT Testing - Personal Needs Profile Information	MDE,DRC	0%	5 days	Wed 12/2/15	Tue 12/8/15



Initial Personal Needs Profile Information Data Pull	DRC	0%	1 day	Tue 2/2/16	Tue 2/2/16
Updated Personal Needs Profile Information Data Pulls (As Required)	DRC	0%	83 days	Tue 2/2/16	Fri 5/27/16
<b>Single Sign-On</b>		<b>0%</b>	<b>59 days</b>	<b>Tue 11/3/15</b>	<b>Mon 2/1/16</b>
Update and Approve Single Sign-On Requirements	MDE,DRC	0%	10 days	Tue 11/3/15	Mon 11/16/15
Establish System Interface - Single Sign-On	MDE,DRC	0%	10 days	Tue 1/5/16	Tue 1/19/16
Complete UAT Testing - Single Sign-On	MDE,DRC	0%	8 days	Wed 1/20/16	Fri 1/29/16
Single Sign On Available for Testing and Reporting	DRC	0%	1 day	Mon 2/1/16	Mon 2/1/16
<b>Accessibility</b>		<b>0%</b>	<b>58 days</b>	<b>Tue 11/3/15</b>	<b>Fri 1/29/16</b>
Update and Approve Accessibility Requirements	MDE,DRC	0%	10 days	Tue 11/3/15	Mon 11/16/15
Complete UAT Testing Accessibility	MDE,DRC	0%	8 days	Wed 1/20/16	Fri 1/29/16
<b>Test Preparation</b>		<b>0%</b>	<b>69 days</b>	<b>Mon 10/19/15</b>	<b>Fri 1/29/16</b>
Update and Approve Test Preparation Requirements	MDE,DRC	0%	10 days	Mon 10/19/15	Fri 10/30/15
Deliver DRC INSIGHT Software	DRC	0%	1 day	Tue 1/19/16	Tue 1/19/16
Deliver MI-Access Answer Document Screens (SI and P)	DRC	0%	1 day	Tue 1/19/16	Tue 1/19/16
Complete UAT Testing - Test Preparation	MDE,DRC	0%	8 days	Wed 1/20/16	Fri 1/29/16
<b>Training of Test Administrators &amp; Technology Coordinators</b>		<b>0%</b>	<b>81 days</b>	<b>Thu 10/8/15</b>	<b>Fri 2/5/16</b>
<b>Video Presentations</b>		<b>0%</b>	<b>81 days</b>	<b>Thu 10/8/15</b>	<b>Fri 2/5/16</b>
Update and Approve Video Presentation Requirements	DRC,MDE	0%	10 days	Thu 10/8/15	Wed 10/21/15
Develop Video Presentations	DRC	0%	40 days	Thu 11/5/15	Wed 1/6/16
Review and Approve Video Presentations	DRC,MDE	0%	10 days	Thu 1/7/16	Thu 1/21/16
Video Presentations Available for Technology Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Video Presentations Available for District Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Video Presentations Available for Building Test Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Video Presentations Available for Test Administrators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
<b>Webcasts</b>		<b>0%</b>	<b>81 days</b>	<b>Thu 10/8/15</b>	<b>Fri 2/5/16</b>
Update and Approve Webcasts Requirements	DRC,MDE	0%	10 days	Thu 10/8/15	Wed 10/21/15
Develop Webcasts	DRC	0%	40 days	Thu 11/5/15	Wed 1/6/16
Review and Approve Webcasts	DRC,MDE	0%	10 days	Thu 1/7/16	Thu 1/21/16
Webcasts Available for Technology Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Webcasts Available for District Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Webcasts Available for Building Test Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Webcasts Available for Test Administrators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
<b>Quick Start Guides</b>		<b>0%</b>	<b>61 days</b>	<b>Thu 11/5/15</b>	<b>Fri 2/5/16</b>
Update and Approve Quick Start Guides	DRC,MDE	0%	10 days	Thu 11/5/15	Wed 11/18/15
Develop Quick Start Guides	DRC	0%	20 days	Mon 12/7/15	Wed 1/6/16
Review and Approve Quick Start Guides	DRC,MDE	0%	10 days	Thu 1/7/16	Thu 1/21/16
Quick Start Guides Available for Technology Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Quick Start Guides Available for District Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Quick Start Guides Available for Building Test Coordinators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
Quick Start Guides Available for Test Administrators	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16
<b>Online Administration Test Administration Manuals</b>		<b>0%</b>	<b>58 days</b>	<b>Mon 11/30/15</b>	<b>Wed 2/24/16</b>
Update and Approve Test Administration Manual Requirements	MDE,DRC	0%	10 days	Mon 11/30/15	Fri 12/11/15
Develop Test Administration Manuals	DRC	0%	20 days	Mon 12/14/15	Wed 1/13/16
Review and Approve Test Administration Manuals	MDE,DRC	0%	10 days	Thu 1/14/16	Thu 1/28/16
Test Administration Manuals Available Online	DRC	0%	1 day	Fri 2/5/16	Fri 2/5/16



Print Test Administration Manuals	DRC	0%	10 days	Fri 2/5/16	Fri 2/19/16
Ship Test Administration Manuals to Schools	DRC	0%	1 day	Mon 2/22/16	Mon 2/22/16
Test Administration Manuals in Schools	DRC	0%	1 day	Wed 2/24/16	Wed 2/24/16
<b>Test Administration</b>		<b>0%</b>	<b>86 days</b>	<b>Fri 1/29/16</b>	<b>Tue 5/31/16</b>
Update and Approve Test Administration Communication Requirements	MDE,DRC	0%	10 days	Fri 1/29/16	Thu 2/11/16
Provide Communication During Test Administration	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
Deliver Test Administration Security Compliance Agreements	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
Prepare Security Monitors	DRC	0%	5 days	Mon 3/21/16	Fri 3/25/16
Provide Security Monitors (if necessary)	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
<b>Online Test Delivery</b>		<b>0%</b>	<b>46 days</b>	<b>Mon 3/28/16</b>	<b>Tue 5/31/16</b>
Online Test Delivery Window		0%	46 days	Mon 3/28/16	Tue 5/31/16
<b>Test Session Data Electronic Reports</b>		<b>0%</b>	<b>107 days</b>	<b>Thu 1/14/16</b>	<b>Wed 6/15/16</b>
Update and Approve Test Session Data Electronic Reports Requirements	MDE,DRC	0%	10 days	Thu 1/14/16	Thu 1/28/16
Complete UAT Testing - Test Session Data Electronic Reports	MDE,DRC	0%	5 days	Mon 3/14/16	Fri 3/18/16
Deliver Student Response Changes Electronic Report	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
Deliver Aggregate number of flagged students Electronic Report	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
Delivery Summary Flagged Students Electronic Report	DRC	0%	1 day	Wed 6/15/16	Wed 6/15/16
<b>Testing Certification</b>		<b>0%</b>	<b>124 days</b>	<b>Wed 12/30/15</b>	<b>Fri 6/24/16</b>
Update and Approve Testing Certification Requirements	MDE,DRC	0%	10 days	Wed 12/30/15	Wed 1/13/16
Establish System Interface - Testing Certification	MDE,DRC	0%	10 days	Mon 2/29/16	Fri 3/11/16
Complete UAT Testing - Testing Certification	MDE,DRC	0%	5 days	Mon 3/14/16	Fri 3/18/16
Provide Testing Certification Data	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
Testing Certification Window	MDE	0%	10 days	Wed 6/1/16	Tue 6/14/16
Pull Testing Certification Issues Data	DRC	0%	11 days	Wed 6/1/16	Wed 6/15/16
Provide Updated Student Responses from Testing Certification Results	DRC	0%	1 day	Fri 6/24/16	Fri 6/24/16
<b>Scoring and Reporting Data Pull</b>		<b>0%</b>	<b>150 days</b>	<b>Thu 11/12/15</b>	<b>Mon 6/20/16</b>
Update and Approve Scoring and Reporting Data Pull Requirements	MDE,DRC	0%	10 days	Thu 11/12/15	Wed 11/25/15
Establish System Interface - Scoring and Reporting Data Pull	MDE,DRC	0%	5 days	Thu 1/14/16	Thu 1/21/16
Complete UAT Testing - Scoring and Reporting Data Pull	MDE,DRC	0%	5 days	Fri 1/29/16	Thu 2/4/16
Pull Scoring and Reporting Data Pull (As Required)	DRC	0%	90 days	Fri 2/12/16	Mon 6/20/16
<b>Assessment Data Push</b>		<b>0%</b>	<b>121 days</b>	<b>Wed 12/30/15</b>	<b>Tue 6/21/16</b>
Update and Approve Assessment Data Push Requirements	MDE,DRC	0%	10 days	Wed 12/30/15	Wed 1/13/16
Establish System Interface - Assessment Data Push	MDE,DRC	0%	5 days	Mon 2/29/16	Fri 3/4/16
Complete UAT Testing - Assessment Data Push	MDE,DRC	0%	5 days	Mon 3/14/16	Fri 3/18/16
Updated Assessment Data (As Required)	DRC	0%	61 days	Mon 3/28/16	Tue 6/21/16
<b>Machine Scoring</b>		<b>0%</b>	<b>121 days</b>	<b>Wed 12/30/15</b>	<b>Tue 6/21/16</b>
Update and Approve Machine Scoring Requirements	MDE,DRC	0%	10 days	Wed 12/30/15	Wed 1/13/16
Update and Approve Machine Scoring Quality Assurance Plan	DRC,MDE	0%	10 days	Wed 12/30/15	Wed 1/13/16
Establish System Interface - Machine Scoring	MDE,DRC	0%	10 days	Fri 2/12/16	Fri 2/26/16
Complete UAT Testing - Machine Scoring	MDE,DRC	0%	5 days	Mon 2/29/16	Fri 3/4/16
Provide Student Raw Item Score Data	DRC	0%	61 days	Mon 3/28/16	Tue 6/21/16
Provide Student Score Response Data	DRC	0%	61 days	Mon 3/28/16	Tue 6/21/16
<b>Constructed-Response Scoring (Online Responses)</b>		<b>0%</b>	<b>134 days</b>	<b>Wed 12/30/15</b>	<b>Mon 7/11/16</b>
Update and Approve Artificial Intelligence (AI) Scoring Requirements	MDE,DRC	0%	10 days	Wed 12/30/15	Wed 1/13/16
Complete UAT Testing - Artificial Intelligence (AI) Scoring	MDE,DRC	0%	10 days	Mon 3/7/16	Fri 3/18/16



Complete AI Scoring	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
Update and Approve Human Scoring Requirements	MDE,DRC	0%	10 days	Wed 12/30/15	Wed 1/13/16
Complete UAT Testing - Human Scoring	MDE,DRC	0%	10 days	Mon 3/14/16	Fri 3/25/16
Complete Human Scoring	DRC	0%	56 days	Mon 4/4/16	Tue 6/21/16
Deliver Reader Production and Reliability Statistics Reports	DRC	0%	56 days	Mon 4/4/16	Tue 6/21/16
Conduct Rangefinding Sessions	MDE,DRC	0%	3 days	Thu 7/7/16	Mon 7/11/16
<b>Reporting</b>		<b>0%</b>	<b>234 days</b>	<b>Wed 8/12/15</b>	<b>Mon 7/18/16</b>
<b>Near Time Reporting</b>		<b>0%</b>	<b>146 days</b>	<b>Thu 10/29/15</b>	<b>Tue 5/31/16</b>
Update and Approve Near Time Reporting Requirements	MDE,DRC	0%	10 days	Thu 10/29/15	Wed 11/11/15
Update and Approve Production Reporting Quality Assurance Plan	MDE,DRC	0%	10 days	Mon 11/30/15	Fri 12/11/15
Develop Mock Student Information for UAT	DRC	0%	10 days	Fri 1/29/16	Thu 2/11/16
Develop Mock Student Response Data Set for UAT	DRC	0%	10 days	Fri 1/29/16	Thu 2/11/16
Complete UAT Testing - Mock Report	MDE,DRC	0%	2 days	Mon 2/29/16	Tue 3/1/16
Monitor Real Time Reporting	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
Provide Production Monitoring Report	DRC	0%	46 days	Mon 3/28/16	Tue 5/31/16
<b>Summative Reporting (Parent Report and Student Label)</b>		<b>0%</b>	<b>158 days</b>	<b>Tue 12/1/15</b>	<b>Mon 7/18/16</b>
Update and Approve Summative Reporting Requirements	MDE,DRC	0%	10 days	Tue 12/1/15	Mon 12/14/15
Develop Summative Reports	DRC	0%	80 days	Tue 3/1/16	Tue 6/21/16
Complete UAT Testing Summative Reports	MDE,DRC	0%	5 days	Wed 6/22/16	Tue 6/28/16
Summative Reports Available Online	DRC	0%	1 day	Wed 6/29/16	Wed 6/29/16
Print Summative Reports	DRC	0%	8 days	Thu 6/30/16	Tue 7/12/16
Ship Summative Reports to Schools	DRC	0%	1 day	Wed 7/13/16	Wed 7/13/16
Summative Reports in Schools	DRC	0%	1 day	Mon 7/18/16	Mon 7/18/16
<b>Online Dynamic Reports</b>		<b>0%</b>	<b>156 days</b>	<b>Wed 8/12/15</b>	<b>Mon 3/28/16</b>
Update and Approve Online Dynamic Report Requirements	MDE,DRC	0%	10 days	Wed 8/12/15	Tue 8/25/15
Develop Online Dynamic Reports	DRC	0%	80 days	Thu 11/5/15	Fri 3/4/16
Complete UAT Testing - Online Dynamic Reports	MDE,DRC	0%	5 days	Mon 3/7/16	Fri 3/11/16
Online Dynamic Reports Available	DRC	0%	1 day	Mon 3/28/16	Mon 3/28/16
<b>Online Custom Data Access</b>		<b>0%</b>	<b>156 days</b>	<b>Wed 8/12/15</b>	<b>Mon 3/28/16</b>
Update and Approve Online Custom Data Access Requirements	MDE,DRC	0%	10 days	Wed 8/12/15	Tue 8/25/15
Develop Online Custom Data Access	DRC	0%	80 days	Thu 11/5/15	Fri 3/4/16
Complete UAT Testing - Online Custom Data Access	MDE,DRC	0%	5 days	Mon 3/7/16	Fri 3/11/16
Online Custom Data Access Available	DRC	0%	1 day	Mon 3/28/16	Mon 3/28/16
<b>Document Retention and Storage</b>		<b>0%</b>	<b>253 days</b>	<b>Mon 3/16/15</b>	<b>Wed 3/16/16</b>
Update and Approve Document Retention and Storage Requirements	MDE,DRC	0%	10 days	Fri 1/29/16	Thu 2/11/16
Provide Data Access as Required (Year 1)	DRC	0%	253 days	Mon 3/16/15	Wed 3/16/16
<b>Technical Report</b>		<b>0%</b>	<b>106 days</b>	<b>Fri 2/12/16</b>	<b>Wed 7/13/16</b>
Update and Approve Technical Report Documentation Requirements	MDE,DRC	0%	10 days	Fri 2/12/16	Fri 2/26/16
Deliver Test Development Information for Technical Report	DRC	0%	30 days	Wed 6/1/16	Wed 7/13/16
Deliver Test Administration Information for Technical Report	DRC	0%	30 days	Wed 6/1/16	Wed 7/13/16
Deliver Test Security Information for Technical Report	DRC	0%	30 days	Wed 6/1/16	Wed 7/13/16
Deliver Test Scoring and Report Information for Technical Report	DRC	0%	30 days	Wed 6/1/16	Wed 7/13/16



## APPENDIX C - PRELIMINARY PROJECT PLAN

Data Recognition Corporation (DRC) is known within the educational assessment community for our excellent and responsive service to our clients. We have demonstrated our flexibility and ability to collaborate well with MDE staff. Our long-term experience in implementing and maintaining successful state testing programs has demonstrated that the best solutions for assessments are the result of true collaboration between the testing contractor and the state client. We are pleased to offer MDE several superior and differentiating factors that will positively influence the Michigan Assessments:

Established and effective project management methodologies, in collaboration with MDE staff.

A team of seasoned assessment professionals who will bring to this project many years of experience in all aspects of large-scale assessments.

A proven Project Delivery Process that begins with contract award and ends with the distribution and receipt of all required deliverables.

A true partnership between DRC, MDE, and other assessment stakeholders, resulting in a highly successful testing program that benefits the students, parents, and educators of Michigan.

For the success of any assessment program, the requirements, goals, and constraints of each assessment component must be thoroughly understood, documented, and communicated. Understanding, documenting, and communicating are the fundamental activities that are the foundation of DRC's project management approach. DRC will provide a Preliminary Project Plan to MDE for review, and will work with the MDE Project Manager to revise the Plan to fit MDE's needs. Within 20 days of contract award, we will resubmit a Final Project Plan. MDE can be assured that the Michigan project will be a high priority for DRC. This will be apparent as we respond to MDE's needs and requests with a clear focus on timeliness, accuracy, and quality.

DRC is a very strong proponent of the project management principles promoted by the Project Management Institute (PMI). Over two dozen project managers at DRC have obtained their PMP (Project Management Professional) certification from the Project Management Institute (PMI). Continued professional development is a key component for these project managers to maintain this certification. This is evidence of DRC's commitment to quality project management.

DRC's project management methodology encompasses the development and ongoing maintenance of thorough project plans. These project plans include, at a minimum, the following tools:

Project schedules

Statement of work, with key deliverables

Assumptions and exclusions

Critical success factors

Initial resource/staffing plan

Initial risk plan

Initial communication plan

Anticipated items to be provided by MDE

Quality assurance plan

Description of key milestones



**DRC will ensure that all deliverables for the Michigan Assessments are:**

- **On time**
- **Within budget**
- **Aligned to Department specifications**

The on-time delivery of high quality products and services is a corporate commitment at DRC. DRC has implemented company-wide use of MS Project as a tool to track progress toward meeting the deliverables of our assessment programs. This will ensure unparalleled communication of the Michigan Assessments program scope, requirements, and DRC's Michigan Project Management Team's ability to accurately track progress toward the completion of project tasks and activities.

By the start of each contract year, the Michigan Project Manager, Mr. Fagen, will provide the state with an Annual Project Plan that summarizes the contract deliverables for the upcoming year. The Annual Project Plan will include, but is not limited to, the following sections.

- Computer-based Assessment Administration
- Paper/pencil Materials Development/Production
- Answer Key Verification
- Packaging/Distribution/Collection

Handscoring Activities

Reporting

Statistical Analysis and Interpretation

Based on the Annual Project Plan, DRC will develop an updated, detailed Project Schedule on an annual basis, which will be made available to all Michigan project staff and the state. Mr. Fagen and his staff will ensure that the Project Schedule is updated weekly and distributed to all team members. Using MS Project, Mr. Fagen and his Project Team will be responsible for maintaining the Project Schedule and ensuring management of the following:

- Correctly identifying and communicating the tasks and deliverables of the Michigan program.
- Tracking and communicating progress on the Michigan program.
- Evaluating the status and availability of resources for the Michigan program.
- Identifying project managers, resource managers, team members, and executives.

Preliminary project schedules have been developed by DRC in advance of the first project planning meeting (*Appendix B*). During the initial planning meeting, the DRC Michigan Project Management Team will review the schedule in detail with the state to ensure that all timelines are approved and that the schedule reflects the desired level of detail for each facet of development, administration, and scoring and reporting of the Michigan Assessments program.