

CONTRACT AWARD
SP-38 - Rev. 11/17/16
Prev. Rev. 5/21/14

Greg Mooney
Contract Specialist

860-713-5755
Telephone Number

STATE OF CONNECTICUT

DEPARTMENT OF ADMINISTRATIVE SERVICES

PROCUREMENT DIVISION

450 Columbus Boulevard, Hartford, CT 06103

CONTRACT AWARD NO.:

18PSX0050

Contract Award Date:

24 March 2020

RFP Due Date:

5 June 2018

CONTRACT AWARD

IMPORTANT: THIS IS NOT A PURCHASE ORDER. DO NOT PRODUCE OR SHIP WITHOUT AN AGENCY PURCHASE ORDER.

DESCRIPTION: **Automated Vehicle Location/Global Positioning System (AVL), Maintenance Decision Support System (MDSS), Integrated Mobile Observations (IMO)**

FOR:
CT Department of Transportation

TERM OF CONTRACT:

March 24, 2019 through March 24, 2025

AGENCY REQUISITION NUMBER:

IN STATE (NON-SB) CONTRACT VALUE	DAS CERTIFIED SMALL BUSINESS CONTRACT VALUE	OUT OF STATE CONTRACT VALUE	TOTAL CONTRACT AWARD VALUE
		Est. \$4,000,000	Est. \$4,000,000

NOTICE TO CONTRACTORS: This notice is not an order to ship. Purchase Orders against contracts will be furnished by the using agency or agencies on whose behalf the contract is made. INVOICE SHALL BE RENDERED DIRECT TO THE ORDERING AGENCY.

NOTE: Dollar amounts listed next to each contractor are possible award amounts, however, they do not reflect any expected purchase amounts (actual or implied). They are for CHRO use only.

NOTICE TO AGENCIES: A complete explanatory report shall be furnished promptly to the Procurement Manager concerning items delivered and/or services rendered on orders placed against awards listed herein which are found not to comply with the specifications or which are otherwise unsatisfactory from the agency's viewpoint, as well as failure of the contractor to deliver within a reasonable period of time specified. Please issue orders and process invoices promptly.

CASH DISCOUNTS: Cash discounts, if any, shall be given SPECIAL ATTENTION, but such cash discount shall not be taken unless payment is made within the discount period.

PRICE BASIS: Unless otherwise noted, prices include delivery and transportation charges fully prepaid f.o.b. agency. No extra charge is to be made for packing or packages.

CONTRACTOR INFORMATION:

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

Company Name: **Parsons Transportation Inc.**

Company Address: **3577 Parkway Lane, Suite 100, Peachtree Corners, GA 30092**

Tel. No.: **615-937-3794**

Contact Person: **Larry Simmons**

Company E-mail Address and/or Company Web Site: **larry.simmons@parsons.com**

Certification Type (SBE, MBE or None): **None**

Agrees to Supply Political SubDivisions: **No**

Prompt Payment Terms: **Net 45**

The signature below by the DAS Contract Specialist is evidence that the Contractor's solicitation response has/have been accepted and that the Contractor(s) and DAS are bound by all of the terms and conditions of the Contract.

DEPARTMENT OF ADMINISTRATIVE SERVICES

By: _____
(Original Signature on Document in Procurement Files)

Name: **GREG MOONEY**

Title: Contract Specialist

Date: 3/24/2020

**INFORMATION PROCESSING CONTRACT
CONTRACT # 18PSX0050**

Between

THE STATE OF CONNECTICUT

Acting by its

DEPARTMENT OF ADMINISTRATIVE SERVICES

And

PARSONS TRANSPORTATION GROUP INC.

**AUTOMATED VEHICLE LOCATION/GLOBAL POSITIONING
SYSTEM (AVL/GPS), MAINTENANCE DECISION SUPPORT
SYSTEM (MDSS) – INTEGRATED MOBILE OBSERVATIONS
(IMO)**

CONTENTS

1. TERM OF CONTRACT	4
2. DEFINITIONS	4
3. ACQUIRING DELIVERABLES AND SERVICES	7
4. PROJECT PERSONNEL	8
5. CHANGE ORDERS	9
6. DELIVERABLE INSTALLATION & DEINSTALLATION	10
7. EVALUATION & ACCEPTANCE.....	10
8. PAYMENTS AND CREDITS	10
9. LICENSED SOFTWARE MAINTENANCE & SUPPORT	11
10. RESERVED	12
11. RESERVED	12
12. WARRANTIES	12
13. OTHER WARRANTIES.....	13
14. LICENSED SOFTWARE	13
15. CONFIDENTIALITY; NONDISCLOSURE	15
16. PROTECTION OF CONFIDENTIAL INFORMATION	15
17. RESERVED	16
18. RISK OF LOSS & INSURANCE.....	16
19. DELIVERABLE ALTERATIONS.....	17
20. FORCE MAJEURE	17
21. RESERVED.....	17
22. GENERAL PROVISIONS	18
23. COMMUNICATIONS	19
24. RESERVED	20
25. WHISTLEBLOWER PROVISION	20
26. DISCLOSURE OF PUBLIC RECORDS PROVISION	20
27. FORUM AND CHOICE OF LAW	20
28. BREACH.....	21
29. TERMINATION.....	21
30. REPRESENTATIONS AND WARRANTIES	22

31. DISCLOSURE OF CONTRACTOR PARTIES LITIGATION25

32. STATE COMPTROLLER’S SPECIFICATIONS25

33. CHIEF INFORMATION OFFICER SUBCONTRACT APPROVAL.....25

34. RIGHTS TO AND INTEGRITY OF PUBLIC RECORDS25

35. PUBLIC RECORDS AND FOIA26

36. DISCLOSURE OF PUBLIC RECORDS26

37. PROFITING FROM PUBLIC RECORDS.....26

38. CONTRACTOR’S OBLIGATION TO NOTIFY DAS CONCERNING PUBLIC RECORDS.....26

39. GENERAL ASSEMBLY ACCESS TO RECORDS.....26

40. CONTINUITY OF SYSTEMS27

41. TANGIBLE PERSONAL PROPERTY28

42. INDEMNIFICATION29

43. SOVEREIGN IMMUNITY30

44. SUMMARY OF STATE ETHICS LAWS.....30

45. AUDIT AND INSPECTION OF PLANTS, PLACES OF BUSINESS AND RECORDS.....30

46. CAMPAIGN CONTRIBUTION RESTRICTION.....31

47. EXECUTIVE ORDERS.....31

48. NONDISCRIMINATION.....31

49. RESERVED34

50. OWNERSHIP OF DATA.....34

51. TERMS35

52. WORKERS’ COMPENSATION.....35

53. ENTIRETY OF CONTRACT35

EXHIBIT 1 – NOTICE TO EXECUTIVE BRANCH STATE CONTRACTORS AND
PROSPECTIVE STATE CONTRACTORS OF CAMPAIGN CONTRIBUTION AND SOLICITATION
LIMITATIONS

EXHIBIT 2 – DELIVERABLES DOCUMENT

EXHIBIT 3 – DELIVERABLES IMPLEMENTATION SCHEDULE

EXHIBIT 4 – PRODUCT & PRICING SCHEDULE

EXHIBIT 5 – SERVICE LEVEL AGREEMENT

This Information Processing Systems Contract (“Contract”) is made by and between the **STATE OF CONNECTICUT** (“State”), acting by its **Department of Administrative Services** (“DAS”) located at 450 Columbus Boulevard, Hartford, CT 06103, under the authority of Sections 4d-2, 4d-5, and 4d-8 of the Connecticut General Statutes and **PARSONS TRANSPORTATION GROUP INC.** (“Contractor”), having its principal place of business at 3577 Parkway Lane, Suite 100, Peachtree Corners, GA 30092.

Now therefore, in consideration of these presents, and for other good and valuable consideration, the receipt and sufficiency of which the parties acknowledge Contractor and the State agree as follows:

1. TERM OF CONTRACT

This Contract shall become effective upon its approval as to form by the Office of the Attorney General of the State of Connecticut (“Effective Date”), as evidenced by its signature below, and shall continue uninterrupted for (5) five years from the Effective Date. DAS, in its sole discretion, may extend this Contract one or more times for a combined total period not to exceed the complete length of the original term.

2. DEFINITIONS

- a) **Acceptance:** Determination made by the Department upon successful User Acceptance Test that the Deliverable, or if applicable, System, performs to the Specifications and fulfills the business and technical requirements of the Contract.
- b) **Acceptance Date:** The date the Department accepts a Deliverable or System in accordance with Section 7 below.
- c) **Administrator:** A designated Department representative who is responsible for managing the Department’s User access to electronically stored information. The Administrator shall be responsible for implementing a role based security policy process to the electronically stored information.
- d) **Alteration:** The modification, changing, refashioning, remodeling, remaking, revising or reworking of any part of the System or Deliverable.
- e) **Claims:** All actions, suits, claims, demands, investigations, and proceedings of any kind, open, pending, or threatened, whether mature, un-matured, contingent, known or unknown, at law or in equity in any form.
- f) **Confidential Information:** Any name, number or other information that may be used, alone or in conjunction with any other information, to identify a specific individual including, but not limited to, such individual's name, date of birth, mother's maiden name, motor vehicle operator's license number, Social Security number, employee identification number, employer or taxpayer identification number, alien registration number, government passport number, health insurance identification number, demand deposit account number, savings account number, credit card number, debit card number or unique biometric data such as fingerprint, voice print, retina or iris image, or other unique physical representation. Without limiting the foregoing, Confidential Information shall also include any information that DAS classifies as “confidential” or “restricted.” Confidential Information shall not

include information that may be lawfully obtained from publicly available sources or from federal, state, or local government records which are lawfully made available to the general public.

- g) **Confidential Information Breach:** Generally, an instance where an unauthorized person or entity accesses Confidential Information in any manner, including but not limited to the following occurrences: (1) any Confidential Information that is not encrypted or protected is misplaced, lost, stolen or in any way compromised; (2) one or more third parties have had access to or taken control or possession of any Confidential Information that is not encrypted or protected without prior written authorization from the State; (3) the unauthorized acquisition of encrypted or protected Confidential Information together with the confidential process or key that is capable of compromising the integrity of the Confidential Information; or (4) if there is a substantial risk of identity theft or fraud to the client, the Contractor, the Department or State.
- h) **Contractor Parties:** A Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under this Contract in any capacity.
- i) **Corrective Action Plan:** A detailed written plan produced by the Contractor at the request of the Department to correct or resolve Contractor deficiency(ies) identified by the Department in accordance with Section 13.
- j) **Deliverable:** Any product, service, including Hosted Services, or warranty that is required to be delivered to the Department under this Contract or available under Exhibit 2 and Exhibit 3, or both, whether produced by the Contractor or by a third party as a supplier or subcontractor to the Contractor.
- k) **Deliverables Document:** Exhibit 2 to this Contract - Document which sets forth and describes the Services and Deliverables that are to be provided or made available under to this Contract and the specific requirements and terms applicable to those Services and Deliverables.
- l) **Deliverables Implementation Schedule:** Exhibit 3 to this Contract itemizing the timing requirements, including phases, and Department signoffs, as applicable or appropriate, for specific Deliverables and/or Services.
- m) **Department:** Any and all departments, commissions, boards, bureaus, agencies, institutions, public authorities, offices, councils, associations, instrumentalities, entities or political subdivisions of the State that issue duly authorized Purchase Orders against this Contract.
- n) **Documentation:** Manuals, documents, evidence of licenses, including without limitation certificate of authenticity and other media provided in connection with the Licensed Software.
- o) **Goods:** For the purposes of this Contract, all things which are movable at the time that this Contract is effective and which include, without limiting this definition, supplies, materials and equipment, as specified in the Solicitation and set forth in Exhibit 2 or Exhibit 4, or both.

- p) **Hosting Environment:** Collectively, the platform, environment, and conditions on, in or under which the Licensed Software is intended to be installed and operate, as set forth in this Contract and the Contract Exhibits, including such structural, functional and other features, conditions and components as hardware, operating software, system architecture and configuration.
- q) **Hosted Services:** The provision, management, operation, support, warranty and maintenance of the System and Licensed Software within the Contractor’s setting, location or Hosting Environment.
- r) **Improvement:** Contractor changes made to Deliverables from time to time either to provide additional functions for Department use or to correct errors and other Performance deficiencies noted by the Department and reported to the Contractor.
- s) **Key Contractor Personnel:** The individual employees of Contractor who, from time to time, will hold positions with the job functions described in Exhibit A or a Statement of Work, as applicable.
- t) **Licensed Software:** The Parsons Intelligent Networks (iNET) Advanced Transportation Management System (ATMS)_ software operated by the Contractor and provided by Contractor in connection with the Deliverables, subject to Section 14 of this Contract.
- u) **Parsons iNET:** The web-enabled software owned and sold by the Contractor and related Documentation.
- v) **Perform:** All Acts and things of the Contractor and Contractor Parties, severally and collectively, that are necessary or appropriate to fulfill or accomplish this Contract fully, including the Deliverables and all other Contract obligations. For purposes of this Contract, the verb “to Perform” includes all parts of speech.
- w) **Product & Pricing Schedule:** Exhibit 4 to this Contract - Document which lists the Deliverables and Services available under this Contract and establishes the component or unit pricing and price schedules for each Deliverable and Service available pursuant to this Contract.
- x) **Product Schedule Update:** Update to the Product & Pricing Schedule in accordance with Section 3 of this Contract to make additional products or services available under this Contract or to alter the pricing of products or services listed in the Product & Pricing Schedule.
- y) **Purchase Order:** Document issued by a Department for one or more Goods, Deliverables in accordance with the terms of this Contract.
- z) **Records:** All working papers and such other information and materials as may have been accumulated by the Contractor in Performing this Contract, including but not limited to, documents, data, plans, books, computations, drawings, specifications, notes, reports, records, estimates, summaries, memoranda and correspondence, kept or stored in any form.
- aa) **Services:** The Performance of labor or work set forth in Exhibit 2, including Hosted Services, or in the Statement of Work, whichever is applicable.

- bb) **Site:** Location(s) specified by Department where Deliverables are to be installed or Services rendered.
- cc) **Solicitation:** Request for Proposals entitled Automated Vehicle Location (AVL), Maintenance Decision Support System (MDSS) -Integrated Mobile Observations (IMO) System dated June 15, 2018.
- dd) **Specifications:** The written technical and non-technical detailed documentation and descriptions of the Deliverables' and the System's capabilities, or intended use, or both, as more fully set forth in this Contract and its Exhibits.
- ee) **State:** The State of Connecticut, including the Department and any office, department, board, council, commission, institution or other agency or entity of the State.
- ff) **Statement of Work (SOW):** Statement issued in connection with a Purchase Order for a Deliverable or Service available under this Contract which sets forth all work and payment requirements for Contractor's Performance in connection with said Purchase Order.
- gg) **System:** Contractor furnished or otherwise supplied Deliverables, including the Hosted Services, that collectively and in an integrated fashion, fulfill the business and technical requirements of the Solicitation, Specifications, this Contract and its Exhibits.
- hh) **Term:** The original term of the Contract plus any extensions exercised under Section 1 of the Contract.
- ii) **Termination:** An end to this Contract prior to the end of its Term.
- jj) **Upgrade:** A change to the primary version number of the Licensed Software, generally providing additional features or functionality
- kk) **Update:** A change to the Licensed Software to correct bugs or defects, patches or changes to enable the Licensed Software to operate on new or upgraded operating platforms.
- ll) **User:** A Department representative that may access the Licensed Software. User access to the Licensed Software will be subject to role-based security implemented by the Department's Administrator.
- mm) **User Acceptance Testing (UAT):** Phase in which the State tests the functionality of a Deliverable with real world scenarios to determine if the Deliverables conform to the Specifications.

3. ACQUIRING DELIVERABLES AND SERVICES

- a) Subject to the terms of this Contract, Contractor shall sell, transfer, convey and/or license to the State any duly ordered Deliverable and/or Perform the Services in accordance with Exhibit 2, or in accordance with a Statement of Work, if applicable. The Deliverables shall be itemized in and available under Exhibit 4 Product & Pricing Schedule and may be acquired through duly issued Purchase Orders.

- b) Any Purchase Order is subject to the terms of this Contract and shall remain in effect until Department acceptance of full Performance of all Deliverables and Services contained in the applicable Purchase Order, unless terminated sooner under the terms of this Contract.
- c) Contractor may supplement Exhibit 4 at any time to make additional products, services and related terms available to the State, provided that the effective date of each supplement is stated thereon. Any supplement shall be transmitted to the DAS with a cover letter documenting formal approval of the supplement by a Contractor representative duly empowered to so act. The supplement will only be deemed accepted by DAS if it issues a Product Schedule Update letter to Contractor, indicating its concurrence with the supplement.
- d) Notwithstanding any other provision of this Contract, no material change may be made to the Deliverables set forth in Exhibit 2 that alters the nature or scope of the Deliverables or their intended use. Any change in the Deliverables set forth in Exhibit 2 shall be conditioned upon the new product(s) being of a similar nature and having a similar use as the defined Deliverables. An update of the Deliverables or the addition of products that are related to or serve similar functions as the Deliverables is permissible only with the prior written approval of the DAS.
- e) Contractor shall provide the State with a discount on any Product Schedule Update according to the discount, if any, shown on the Exhibit 4.
- f) The Department is authorized to use any Licensed Software solely for the State’s business purposes in connection with the Deliverables. The right to access and use Contractor’s Licensed Software, unless expressly stated otherwise elsewhere in this Contract, shall be nonexclusive.
- g) No additions to or reductions in the Deliverables and prices for work completed in the Performance of any Purchase Order shall be permitted unless the Department issues a change order in accordance the provisions of Section 5.
- h) The Department shall issue a Purchase Order when acquiring any Deliverable or Service available under this Contract and, if appropriate, a Statement of Work mutually acceptable to the purchasing Department and the Contractor.

4. PROJECT PERSONNEL

- a) The Client Agency shall designate a project administrator (the “Project Administrator”), who may be replaced at the discretion of the Department, and shall notify Contractor in writing of such designation. The Project Administrator shall have the authority to act for the Department under this Contract for any Deliverables and such authority shall continue to be in effect throughout the Term, unless the Department sooner notifies Contractor in writing of any change in the authority or identity of the Project Administrator.
- b) At the request of the Department, the Contractor shall submit the resumes of and any other information, desired or requested, about proposed Key Contractor Personnel to the Department no later than fourteen (14) calendar days after Department’s written request. The Department shall review such submittal and, in its sole discretion, approve or reject each individual as a Key Contractor Personnel. The Department shall conclude its review and approve or reject each Key Contractor Personnel no later than two (2) calendar days after receiving the submittal. Once approved, the Contractor shall not remove any Key Contractor Personnel except in accordance with the following procedure:

(i) If one or more of the Key Contractor Personnel, for any reason, becomes or is expected to become unavailable for work for a continuous period exceeding seven (7) calendar days, or is expected to devote substantially less effort to the work than anticipated at the time that they were approved as Key Contractor Personnel, then the Contractor shall, subject to the concurrence of the Project Administrator, replace that Key Contractor Personnel with personnel of at least equal ability and qualifications no later than one (1) calendar day after being notified or becoming aware of the Key Contractor Personnel's actual or expected unavailability or the date of the concurrence of the Project Administrator, whichever is earlier.

(ii) For any reason the Department may direct, in writing, that the Contractor either remove one or more Key Contractor Personnel, or remove any Key Contractor Personnel and provide a substitute. The request may provide a detailed explanation of the circumstances for the proposed removal. The Contractor shall deliver the resumes of the proposed substitute Key Contractor Personnel to the Project Administrator for consideration within fourteen (14) calendar days of receiving the substitution request. The Project Administrator shall notify the Contractor of approval or disapproval in writing within two (2) calendar day(s) of receiving the resumes.

(iii) Time is of the essence in the removal process of Key Contractor Personnel. Accordingly, the Contractor shall do and perform all acts and things that are necessary or appropriate in order to minimize or eliminate disruptions to the Performance.

c) Any changes to the Key Contractor Personnel must be made in accordance with this section and may be made by the parties' mutually executing a document detailing the change, without executing a formal amendment to the Contract.

5. CHANGE ORDERS

a) The Department may, at any time, with written notice to Contractor, request changes within the scope of Exhibit 2 or Statement of Work, if applicable. Such changes shall not be unreasonably denied or delayed by Contractor. Such changes may include, but are not limited to, modifications or other changes required by new or amended State and/or Federal laws and regulations relating to functional requirements and processing procedures, or involving the correction of System deficiencies in the Hosting Environment or the Hosted Services. Any changes required because the System does not fully perform in accordance with this Contract, shall be made by Contractor without charge to the Department. Any investigation necessary to determine the source of the problem requiring the change shall be done by Contractor at its sole cost and expense.

b) A change order request may be issued only by the Department and must be in writing. As soon as possible after Contractor receives a written change order request, but in no event later than fifteen (15) calendar days thereafter, the Contractor shall provide the Department with a written statement confirming the change has no price impact on the Contract or, if there is a price impact, Contractor shall provide the Department a written statement explaining the price increase or decrease involved in implementing the requested change.

c) If the Department issues a change order requesting a change to the System to comply with changes to Federal or State law, or changes to regulations affecting the Department, the Contractor shall implement the changes at a mutually agreed upon cost to the Department.

d) No change order with a price impact will be effective until Contractor receives written confirmation from the Department.

6. DELIVERABLE INSTALLATION & DEINSTALLATION

a) Contractor shall provide all pre-installation and post-installation Deliverable compatibility system surveys, consultation, reference manuals, onsite operational training to facilitate proper installation and operation of all Deliverables.

b) Contractor represents and warrants that it shall complete installation of the System in accordance with the Contract.

c) Department ordered de-installation, relocation and, or, reinstallation of any system previously installed at a Department Site or Department designated Site shall be at Department's expense according to Contractor's prices then in effect for such services. If the Department determines that de-installation, relocation and, or, reinstallation of any system previously installed at a Department Site or Department designated Site is necessary due to Contractor error, work or advice, then the Contractor shall do so at its sole cost and expense.

7. EVALUATION & ACCEPTANCE

a) Any Deliverable provided by Contractor under the terms of this Contract will be subject to User Acceptance Testing. User Acceptance Testing for each Deliverable begins as of the date the Department notifies the Contractor in writing that the Deliverable provided for UAT has been successfully installed in the Department's development and testing computer environment and is ready for UAT. The following procedures will apply during UAT:

- 1) The Department shall provide Contractor with (a) written notice of Acceptance of the Deliverable or (b) a written statement which identifies in reasonable detail, with references to the applicable requirements, the deficiencies preventing Acceptance.
- 2) Contractor shall have five (5) business days, or such other period mutually agreed upon by the parties in writing, from the date it receives the notice of deficiencies to complete corrective actions to make the Deliverable conform in all material respects to the applicable Specifications. The Department shall review the corrected Deliverable and notify Contractor in writing of acceptance or rejection in accordance with the foregoing provisions of this section.
- 3) The Acceptance Date for a Deliverable shall be the date of written notice of Acceptance of the Deliverable from Department to Contractor.

b) After the Department Accepts all of the Deliverables, the Department shall perform UAT on the System prior to implementing the System in the Department's production environment. If UAT for the System is successfully completed, the Department shall in writing notify the Contractor of the Department's Acceptance of the System, and the date of such notice will be the Acceptance Date for the System.

c) If requested by Contractor, Department may complete Contractor's acceptance certificate, in a form reasonably acceptable to Department, so long as such certificate does not amend, alter or modify in any way the terms of this Contract.

8. PAYMENTS AND CREDITS

- a) The Department shall pay for Deliverables within 30 (thirty) days after the latter of the Deliverable Acceptance Date and receipt of Contractor’s properly documented invoice.
- b) The State shall make all payments to the Contractor through electronic funds transfer via the Automated Clearing House (“ACH”). Contractor shall enroll in ACH through the Office of the State Comptroller prior to sending any invoice to the State. The Contractor may obtain detailed information regarding ACH at: <http://www.osc.ct.gov/vendor/directdeposit.html>.
- c) Contractor may assign any payments, in whole or in part, upon prior written notice to the Department and compliance with the requirements of the State's Comptroller's Office concerning such assignments. No assignment of receivables by Contractor shall relieve Contractor of any obligations under this Contract without prior written Department consent in each such instance. Notwithstanding any such assignment, Contractor represents and warrants that the Deliverable shall be and remain free of any repossession or any Claims by Contractor or its successors and assigns, subject to the terms of this Contract.
- d) Contractor shall furnish separate invoices for each Purchase Order and shall list each license charge, maintenance and support charge or other charge included in each invoice as separate line items.

9. LICENSED SOFTWARE, HOSTED SERVICES

- a) After Acceptance of the System by the Department, Hosted Services for the Licensed Software shall be provided by the Contractor in accordance with Exhibit 2:
- b) The Contractor shall provide the following services:
 - 1. Contractor shall provide reasonable and competent assistance in accordance with the requirements of Exhibit 5;
 - 2. Contractor shall provide Improvements, Updates and Upgrades to the Licensed Software; and
 - 3. Contractor shall update any Deliverable, including Hosted Services as required, to cause it to operate under new versions or releases of the operating system(s), database system(s), application servers or report servers that comprise the Hosting Environment.
- c) Maintenance and support services for the Licensed Software shall be provided by the Contractor on an ongoing basis in accordance with Exhibit 5. Contractor shall invoice the Department on a monthly basis in accordance with the Exhibit 4 Product & Pricing Schedule.
- d) Contractor shall maintain sufficient and competent Deliverable support services staff to satisfy its Contract obligations.
- e) Contractor shall have access to any Deliverable to provide required services thereon, subject to the Department’s access and security policies.
- f) Contractor shall maintain at all times a copy of the most current version of the Licensed Software which is installed in the Hosting Environment.
- g) Contractor shall provide a complete list of any platform requirements and Specifications to provide technical support services.

h) If a Deliverable or the System becomes not usable due to new versions or releases of the operating system(s), database system(s), application servers or report servers that comprise the Hosting Environment or the Department's operating environment, the Contractor shall have thirty (30) days from the date of written notification by the Department to provide an Update to restore functions to the standards required under this Contract. If the Contractor fails to provide such Update, the Department may cease payments for maintenance and support until such time the Deliverable and System operates in conformance with the Specifications and may require Contractor to reimburse the Department for any maintenance and support amounts paid by the Department for the period during which the Deliverable(s) or System were not usable. If, after the expiration of thirty (30) days from the date of said notification, the Deliverable remains not usable, then the applicable license and Hosted Services may be terminated at the option of said Department without further obligation or liability.

i) The Department may cancel the Hosted Services at any time and Contractor shall reimburse the Department on a pro-rata basis for the balance of the pre-paid period.

j) If the Department allows the Hosted Services to lapse, the Department may at any time reinstate services with fifteen (15) day advance written notice to the Contractor. Upon such reinstatement, the Department will be responsible for payment of fees beginning the date Contractor commences services. The Department shall not be responsible for payment of any separate fees or penalties in order to reinstate the Hosted Services.

10. RESERVED

11. RESERVED

12. WARRANTIES

a) Contractor represents and warrants that the System and Hosting Environment shall conform to the terms of this Contract and the Specifications, and be free from defects in material, workmanship, parts and labor from the Acceptance Date of the System until one (1) year commencing from the time of written Acceptance of the System by the Department or the manufacturer's warranty, whichever is longer.

b) Additionally, Contractor shall modify, adjust, repair, Improve, Update, Upgrade, and/or replace such Deliverable(s), at no charge to Department, as necessary to maintain ongoing System reliability according to Exhibit 5.

c) If the Contractor's maintenance and support of the System and Hosting Environment or the ongoing Performance of the System and Hosting Environment do not conform to Exhibit 5, DAS or the Department shall give Contractor written notice of performance deficiencies. Contractor shall then have not more than a thirty (30) calendar day period, unless otherwise permitted by the Department, to correct the applicable deficiency and restore the functioning of the System and Hosting Environment to a level of operation that meets the requirements of this Contract.

d) If the Contractor breaches the Contract, then, in addition to any other rights or remedies provided in this Contract, DAS may, by written notice to Contractor, terminate this Contract. If the breach is such that the

System and Hosting Environment do not conform to the requirements of this Contract, then the Contractor shall reimburse the Department all monies paid by Department to Contractor under this Contract.

13. OTHER WARRANTIES

a) Unless expressly stated otherwise in this Contract, Contractor represents and warrants that a Deliverable installed by Contractor shall function according to the Specifications on the Acceptance Date for such Deliverable, and that Contractor shall modify and/or replace such Deliverable as necessary to maintain ongoing reliability pursuant to Exhibit 5. This latter warranty shall not apply to any Deliverable deficiency caused by maintenance by a person other than the Contractor or its representative.

b) If the ongoing performance of the Deliverable does not conform to the Specifications on the Acceptance Date for such Deliverable, the System and Hosting Environment consequently fails to conform to the provisions of this Contract, Department shall give Contractor written notice of performance deficiencies. Contractor shall then have not more than a ten (10) calendar day cumulative cure period per twelve (12) month period to correct such deficiencies. If the cumulative number of days in a twelve (12) month period is exceeded, and said performance continues to be in nonconformance, the Contractor shall be in material breach of this Contract and DAS, at its option, may take any one or more of the following actions:

1. Terminate this Contract;
2. Require Contractor replace said Deliverable at Contractor's expense with a functional Deliverable or competent Service;
3. Terminate the Deliverable license or service without fee or charge to the Department, or further obligation or financial liability. In the event of such termination, the Contractor shall refund to the Department all monies paid to the Contractor no later than fifteen (15) days after termination, according to the following schedule:
 - (i) if termination is of a lump-sum payment perpetual license, repayment shall be determined by the point in the Term in which the Acceptance Date of the terminated Deliverable occurred:
 - a. 1st - 12th month: 100% of license fee paid
 - b. 13th - 24th month: 75% of license fee paid
 - c. 25th - 36th month: 50% of license fee paid
 - d. 37th month and over: 25% of license fee paid
 - (ii) if termination is of associated services, or a periodic payment license, or a lump-sum payment non-perpetual license, all fees paid by the Department to the Contractor during the period following the event of material default shall be returned.

c) The Contractor neither excludes nor modifies the implied warranties of merchantability and fitness for a particular purpose concerning the Deliverables offered under the terms and conditions of this Contract.

14. LICENSED SOFTWARE

a) The Department shall have a transferable and non-exclusive license of access and use of the Licensed Software in the Hosting Environment for the Department’s own operations and purposes during the Term and thereafter during any transition period provided pursuant to the Contract. The Department shall have the right to provide other State entities and third parties access and use of the Licensed Software in the Hosting Environment.

b) In the event any Licensed Software Deliverable becomes the actual or prospective subject of any patent, copyright, license & proprietary rights claim or proceeding, Contractor may, at its discretion:

1. Modify the Deliverable or substitute another equally suitable Deliverable (provided that the performance of the modified or substitute Deliverable equals or exceeds that of the original Deliverable);
2. Obtain for the State or Department the right to continued use of the Deliverable; or
3. If use of the Deliverable is prevented by injunction, take back the Deliverable and credit the State or Department for any charges as a result of enjoined use as follows:
 - a. If the Deliverable is a periodic payment license, Contractor shall promptly refund the Department the amount of the fees paid to the Contractor for the portion of the applicable term found to be infringing.
 - b. If the Deliverable is a lump-sum payment license, Contractor shall promptly refund the Department any license fee paid by the Department to the Contractor for the Licensed Software Deliverable as determined by the point in the Term in which the Acceptance Date of the terminated Deliverable occurred:
 1. 1st - 12th month: 100% of license fee paid
 2. 13th - 24th month: 75% of license fee paid
 3. 25th - 36th month: 50% of license fee paid
 4. 37th month and over: 25% of license fee paid

c) Contractor shall not have any liability for any infringement claim or proceeding based on the Department’s use of the Licensed Software and a Deliverable for which it was neither designed nor intended.

d) Contractor shall retain all right, title, and interest in any and all inventions or improvements to computer programs and/or base software specifically developed by the Contractor, but not produced specifically for the Department, and paid for by the Department pursuant to this Contract. Contractor shall also retain all right, title, and interest in Contractor’s pre-existing intellectual property secured, developed, written, or produced by Contractor prior to the execution of this Contract including any derivative works or improvement thereto that were not specifically developed pursuant to this Contract.

e) Contractor shall provide to the Department reproductions of the patent, copyright, license or proprietary rights information notices which are applicable and were affixed to original Deliverables. Once the Department receives those notices, the Department shall promptly affix them to any copies made of the Deliverable. The Department shall maintain the confidentiality of any such Licensed Software Deliverable consistent with its privileged nature, and shall not divulge the Deliverable or make it available to any third party, except as may be noted elsewhere in this Contract or as it may be required under the Connecticut Freedom of Information Act. This obligation survives the expiration or early termination of this Contract.

f) Any Alteration of a Licensed Software Deliverable that changes the operation or functionality of the Licensed Software Deliverable by the Department without prior written consent of Contractor shall void the obligations of Contractor under Section 9, 12 and 13 for such Deliverable.

g) Neither the State nor the Department will reproduce, create derivative works, translate, reverse engineer or decompile the Licensed Software, in whole or in part, nor create or attempt to create, by reverse engineering or disassembling of the design, algorithms or other proprietary trade secrets of the Licensed Software.

h) The Department shall use the Licensed Software only in the pursuit of its own business operations.

15. CONFIDENTIALITY; NONDISCLOSURE

a) The State shall exercise at least the same degree of care to safeguard any trade secrets or confidential information of Contractor Licensed Software as the State does its own property of a similar nature and shall take reasonable steps to assure that neither the Licensed Software nor any part thereof received by the State under this Contract shall be disclosed for reasons other than its own business operations. Such prohibition on disclosures shall not apply to disclosures by the State to its employees or its representatives, provided such disclosures are reasonably necessary to the State's use of the Deliverable, and provided further that the State shall take all reasonable steps to ensure that the Deliverable is not disclosed by such parties in contravention of this Contract. The State's performance of the requirements of this section shall be subject to the State of Connecticut Freedom of Information Act, as amended.

b) All Records, including any data owned by the State in any form, in the possession of the Contractor or Contractor Parties must remain within the United States and may be not be stored, hosted or otherwise maintained outside of the United States.

16. PROTECTION OF CONFIDENTIAL INFORMATION

a) Contractor and Contractor Parties, at their own expense, have a duty to and shall protect from a Confidential Information Breach any and all Confidential Information which they come to possess or control, wherever and however stored or maintained, in a commercially reasonable manner in accordance with current industry standards.

b) Each Contractor or Contractor Party shall develop, implement and maintain a comprehensive data - security program for the protection of Confidential Information. The safeguards contained in such program shall be consistent with and comply with the safeguards for protection of Confidential Information, and information of a similar character, as set forth in all applicable federal and state law and written policy of the Department or State concerning the confidentiality of Confidential Information. Such data-security program shall include, but not be limited to, the following:

1. A security policy for employees related to the storage, access and transportation of data containing Confidential Information;
2. Reasonable restrictions on access to records containing Confidential Information, including access to any locked storage where such records are kept;

3. A process for reviewing policies and security measures at least annually;
4. Creating secure access controls to Confidential Information, including but not limited to passwords; and
5. Encrypting of Confidential Information that is stored on laptops, portable devices or being transmitted electronically.

c) The Contractor and Contractor Parties shall notify DAS, the Department and the Connecticut Office of the Attorney General as soon as practical, but no later than twenty-four (24) hours, after they become aware of or suspect that any Confidential Information which Contractor or Contractor Parties have come to possess or control has been subject to a Confidential Information Breach. If a Confidential Information Breach has occurred, the Contractor shall, within three (3) business days after the notification, present a credit monitoring and protection plan to the Commissioner of Administrative Services, the Department and the Connecticut Office of the Attorney General, for review and approval. Such credit monitoring or protection plan shall be made available by the Contractor at its own cost and expense to all individuals affected by the Confidential Information Breach. Such credit monitoring or protection plan shall include, but is not limited to reimbursement for the cost of placing and lifting one (1) security freeze per credit file pursuant to Connecticut General Statutes § 36a-701a. Such credit monitoring or protection plans shall be approved by the State in accordance with this section and shall cover a length of time commensurate with the circumstances of the Confidential Information Breach. The Contractors' costs and expenses for the credit monitoring and protection plan shall not be recoverable from DAS, the Department, any State of Connecticut entity or any affected individuals.

d) The Contractor shall incorporate the requirements of this section in all subcontracts requiring each Contractor Party to safeguard Confidential Information in the same manner as provided for in this section.

e) Nothing in this section shall supersede in any manner Contractor's or Contractor Party's obligations pursuant to HIPPA or any provisions of this Contract concerning the obligations of the Contractor as a Business Associate of Covered Entity.

17. RESERVED

18. RISK OF LOSS & INSURANCE

a) The State shall not be liable to Contractor for any risk of Deliverable loss or damage while Deliverable is in transit, or while in the Department's possession, except when such loss or damage is due directly to the Department's negligence or intentional misconduct. Nothing in this section is intended nor shall it be construed, in any manner, as waiving or compromising the sovereign immunity of the State.

b) Throughout the Term, Contractor shall maintain, at Contractor's sole cost and expense, a policy or policies of commercial general liability insurance, including contractual liability coverage, in an amount not less than \$1,000,000.00 for all damages arising out of bodily injuries to, or death of, all persons and injuries to or

destruction of property, in any one accident or occurrence, and, subject to that limit per accident, a total (or aggregate) limit of \$2,000,000.00 per occurrence for all damages arising out of bodily injuries to, or death of, all persons and injuries to or destruction of property per policy period. Such insurance policy or policies shall name the State as additional insured. Contractor shall provide the State a certificate of insurance evidencing the above coverage on an annual basis and shall not begin performance of the Services until such a certificate has been provided to DAS, and, if requested, the Department.

c) During the Term, and for a period of three (3) years thereafter, the Contractor shall carry Professional Liability Insurance in the amount of \$1,000,000 per Claim and Annual Aggregate. Contractor shall provide the State a certificate of insurance evidencing such Professional Liability Insurance coverage upon written request on an annual basis and shall not begin Performance of the Services until such a certificate has been provided to the Department.

d) Throughout the Term, Contractor shall carry, at Contractor's sole cost and expense, an Information Security Privacy insurance policy with limits not less than \$1,000,000 per occurrence or claim, \$1,000,000 aggregate. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by Contractor in this Contract and shall include, but not be limited to, claims involving infringement of intellectual property, including but not limited to infringement of copyright, trademark, invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information, release of Confidential Information, alteration of electronic information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.

e) All insurance with the exception of the professional liability insurance required under (c) above must be written on an occurrence basis as opposed to "claims made" basis.

19. DELIVERABLE ALTERATIONS

a) This section applies only to Deliverables that do not include or incorporate Licensed Software as an operational component and applies only to Alterations made throughout the Term of the Contract.

b) Throughout the Term of the Contract, Alterations of a Deliverable may be made by the Department only with the prior written consent of Contractor and/or manufacturer. Such consent shall not be unreasonably withheld or delayed and shall be provided without cost to the Department.

20. FORCE MAJEURE

a) Neither party shall be responsible for delays or failures in its obligations herein due to any cause beyond its reasonable control. Such causes shall include, but not be limited to, strikes, lockouts, riot, sabotage, rebellion, insurrection, acts of war or the public enemy, acts of terrorism, unavailable raw materials, telecommunication or power failure, fire, flood, earthquake, epidemics, natural disasters, and acts of God.

21. RESERVED

22. GENERAL PROVISIONS

- a) Section headings and document titles used in this Contract are included for convenience only and shall not be used in any substantive interpretation of this Contract.
- b) If any term of this Contract is decided by a proper authority to be invalid, the remaining provisions of the Contract shall be unimpaired and the invalid provision shall be replaced by a provision which comes closest to the intention underlying the invalid provision. Contractor shall comply with the statutes, regulations, Executive Orders and policies incorporated into this Contract to the extent that such statutes, regulations, Executive Orders and/or policies are applicable to Contractor in connection with its Performance under this Contract.
- c) The failure at any time by either party to this Contract to require performance by the other party of any provision in this Contract shall not affect in any way the full right to require such performance at any other time. The failure of either party to enforce or pursue a right or remedy shall not constitute a waiver of the right or remedy itself, unless such a waiver is expressed in writing and signed by a duly authorized representative of the waiving party.
- d) In any case where the consent or approval of either party is required to be obtained under this Contract, such consent or approval shall not be unreasonably withheld or delayed. No such consent or approval shall be valid unless in writing and signed by a duly authorized representative of that party. Such consent or approval shall apply only to the given instance, and shall not be deemed to be a consent to, or approval of, any subsequent like act or inaction by either party.
- e) The Department shall not remove or destroy any proprietary markings or proprietary legends placed upon or contained within any Deliverable.
- f) Except as may be otherwise provided for in this Contract, the Department shall not assign, mortgage, alter, relocate or give up possession of any Deliverable to which Contractor retains title without the prior written consent of Contractor.
- g) Contractor represents and warrants that it shall not, without prior written consent from the State, make any reference to the Department or the State in any of Contractor's advertising or news releases. The Contractor may use the State's and/or the Department's name as a specific citation within proposals it submits.
- h) Contractor shall execute any and all documents or to take any actions which may be reasonably necessary to perfect the rights granted to the State in Section 14.
- i) Neither Department nor Contractor's personnel who had substantive contact with personnel of the other in the course of the Performance shall directly or indirectly employ, solicit, engage or retain the services of such an employee of the other party to this Contract during its Term and for a period of one year from the Termination of this Contract or such longer period as may be required by State statute. This provision shall not restrict the right of either party to solicit or recruit generally in the media.
- j) The Department shall cooperate with Contractor in the Performance, including, (i) providing Contractor with adequate working space, equipment and facilities and timely access to data, information, and personnel of the State; (ii) providing experienced and qualified personnel to perform their assigned tasks and duties in a competent and timely fashion; (iii) providing a stable, fully functional system infrastructure environment which will support the Deliverables and allow Contractor and the Department to work productively; and (iii) promptly notifying Contractor of any issues, concerns or disputes with respect to the Deliverables. The Contractor shall not be responsible for, among other things, the acts of the Department's personnel and agents, and the accuracy

and completeness of all data and information provided to Contractor by the Department for purposes of the Performance.

k) Each of the State and Contractor is an independent contractor and neither of them is, nor shall be considered to be, nor shall purport to act as, the other's agent, partner, fiduciary, joint venturer, or representative.

l) Contractor may (i) provide any Deliverables to any person or entity, and (ii) develop for itself, or for others, materials or processes including those that may be similar to those produced as a result of the Performance, provided that, Contractor complies with its obligations of confidentiality set forth in Sections 14, 15 and 16.

m) All references in this Contract to any statute, public act, regulation, code or executive order shall mean such statute, public act, regulation, code or executive order, respectively, as it has been amended, replaced or superseded at any time. Notwithstanding any language in this Contract that relates to such statute, public act, regulation, code or executive order, and notwithstanding a lack of a formal amendment to this Contract, this Contract shall always be read and interpreted as if it contained the most current and applicable wording and requirements of such statute, public act, regulation, code or executive order as if their most current language had been used in and requirements incorporated into this Contract at the time of its execution.

23. COMMUNICATIONS

a) Unless notified otherwise by the other party in writing, correspondence, notices, and coordination between the parties to this Contract as to general business matters or the terms herein shall be directed to:

State: Connecticut Department of Administrative Services
Director of Procurement
Procurement Division
450 Columbus Boulevard, Suite 1202
Hartford, CT 06103

Contractor: Parsons Transportation Group
Russ Brookshire
3577 Parkway Lane, Suite 100
Peachtree Corners, GA 30092

b) Details regarding Contractor invoices and all technical or day-to-day administrative matters pertaining to any Deliverable shall be directed to:

Department: The individual specified in the applicable Purchase Order

Contractor: The individual designated by Contractor in their Proposal or as the Contractor may otherwise designate in writing to the Department.

24. RESERVED

25. WHISTLEBLOWER PROVISION

This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

26. DISCLOSURE OF PUBLIC RECORDS PROVISION

This Contract may be subject to the provisions of Section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of Sections 1-205 and 1-206 of the Connecticut General Statutes.

27. FORUM AND CHOICE OF LAW

The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

28. BREACH

- a) If either party breaches the Contract in any respect, the non-breaching party shall provide written notice of the breach to the breaching party by overnight or certified mail, return receipt requested, to the most current address the breaching party has furnished for the purposes of correspondence and afford the breaching party an opportunity to cure within thirty (30) days from the date that the breaching party receives the notice. In the case of a Contractor breach, DAS may set forth any period greater or less than thirty (30) days, so long as such time period is otherwise consistent with the provisions of this Contract (for the purposes of this paragraph, the time period set forth by the non-breaching party shall be referred to as the “right to cure period”). The right to cure period shall be extended if the non-breaching party is satisfied that the breaching party is making a good faith effort to cure, but the nature of the breach is such that it cannot be cured within the right to cure period.
- b) In the event of a breach, DAS may require the Contractor to prepare and submit to DAS or the Department a Corrective Action Plan in connection with an identified breach. The Corrective Action Plan shall provide a detailed explanation of the reasons for the cited deficiency(ies), the Contractor’s assessment or diagnosis of the cause, and a specific proposal to cure or resolve the deficiency(ies). The Contractor shall submit the Corrective Action Plan within ten (10) business days following the request for the plan by DAS and is subject to approval by the Department or DAS, which approval shall not unreasonably be withheld. Notwithstanding the submission and acceptance of a Corrective Action Plan, Contractor remains responsible for achieving all Performance criteria. The acceptance of a Corrective Action Plan shall not excuse prior substandard Performance, relieve Contractor of its duty to comply with Performance standards, or prohibit the State from pursuing additional remedies or other approaches to correct substandard Performance.
- c) The written notice of the breach may include an effective Termination date. If the identified breach is not cured by the stated Termination date, unless otherwise modified by the non-breaching party in writing prior to such date, no further action shall be required of any party to effect the Termination as of the stated date. If the notice does not set forth an effective Termination date, the non-breaching party shall be required to provide the breaching party no less than twenty four (24) hours written notice prior to terminating the Contract, such notice to be provided in accordance with Section 29(c).
- d) If the Department reasonably and in good faith determines the Contractor has not Performed in accordance with the Contract, the State may withhold payment in whole or in part in an amount reasonably related to the non-Performance pending resolution of the Performance issue, provided that the State notifies the Contractor in writing prior to the date that the payment would have been due.
- e) Notwithstanding any provisions in this Contract, DAS may terminate this Contract with no right to cure period for Contractor’s breach or violation of any of the provisions in the section concerning Representations and Warranties and revoke any consent to assignments given as if the assignments had never been requested or consented to, without liability to the Contractor or Contractor Parties or any third party.
- f) Termination under this Breach section is subject to the provisions of the Termination section in this Contract.

29. TERMINATION

- a) Notwithstanding any provisions in this Contract, DAS, through a duly authorized employee, may Terminate the Contract whenever DAS makes a written determination that such Termination is in the best interests of the State. DAS shall notify the Contractor in writing of Termination pursuant to this section, which

notice shall specify the effective date of Termination and the extent to which the Contractor must complete its Performance under the Contract prior to such date.

b) Notwithstanding any provisions in this Contract, DAS, through a duly authorized employee, may, after making a written determination that the Contractor has breached the Contract and that there remains an uncured breach, Terminate the Contract in accordance its terms.

c) DAS shall send the notice of Termination via certified mail, return receipt requested, to the Contractor at the most current address which the Contractor has furnished to DAS for purposes of correspondence, or by hand delivery. Upon receiving the notice from the DAS, the Contractor shall immediately discontinue all services affected in accordance with the notice, undertake commercially reasonable efforts to mitigate any losses or damages and deliver to the Department all Records. The Records are deemed to be the property of the Department and the Contractor shall deliver them to the Department the sooner of thirty (30) days after the Termination of the Contract and fifteen (15) days after the Contractor receives a written request from the Department for the Records. The Contractor shall deliver those Records that exist in electronic, magnetic or other intangible form in a non-proprietary format, such as, but not limited to, ASCII or .TXT.

d) Upon receipt of a written notice of Termination from DAS, the Contractor shall cease operations as DAS directs in the notice, and take all actions that are necessary or appropriate, or that DAS may reasonably direct, for the protection, and preservation of the Goods and any other property. Except for any work which DAS directs the Contractor to Perform in the notice prior to the effective date of Termination, and except as otherwise provided in the notice, the Contractor shall terminate or conclude all existing subcontracts and purchase orders and shall not enter into any further subcontracts, purchase orders or commitments.

e) The Department shall, within forty-five (45) days of the effective date of Termination, reimburse the Contractor for its Performance rendered and accepted by the Department, in addition to all reasonable costs, incurred after Termination in completing those portions of the Performance which the notice required the Contractor to complete. However, the Contractor is not entitled to receive and the Department is not obligated to tender to the Contractor any payments for anticipated or lost profits. Upon request by DAS, the Contractor shall assign to DAS or the Department, or any replacement contractor which DAS or the Department designates, all subcontracts, purchase orders, and other information pertaining to its Performance, and remove from State premises, whether leased or owned, all of Contractor's property, equipment, waste material and rubbish related to its Performance, all as DAS may request.

f) For breach or violation of any of the provisions in the section concerning Representations and Warranties, DAS may Terminate the Contract in accordance with its terms and revoke any consents to assignments given as if the assignments had never been requested or consented to, without liability to the Contractor, Contractor Parties or any third party.

g) Upon Termination of the Contract, all rights and obligations shall be null and void, so that no party shall have any further rights or obligations to any other party, except with respect to the sections which survive Termination. All representations, warranties, agreements and rights of the parties under the Contract shall survive such Termination to the extent not otherwise limited in the Contract and without each one of them having to be specifically mentioned in the Contract.

h) Termination of the Contract pursuant to this section shall not be deemed to be a breach of the Contract by the State.

30. REPRESENTATIONS AND WARRANTIES

The Contractor represents and warrants to the State for itself and, as applicable, the Contractor Parties that:

- a) if they are entities, they are duly and validly existing under the laws of their respective states of organization and authorized to conduct business in the State of Connecticut in the manner contemplated by the Contract. Further, as appropriate, they have taken all necessary action to authorize the execution, delivery and Performance of the Contract and have the power and authority to execute, deliver and Perform their obligations under the Contract;
- b) they will comply with all applicable State and Federal laws and municipal ordinances in satisfying their obligations to the State under and pursuant to the Contract, including, but not limited to (1) Connecticut General Statutes Title 1, Chapter 10, concerning the State's Codes of Ethics and (2) Title 4a concerning State purchasing, including, but not limited to Section 22a-194a concerning the use of polystyrene foam;
- c) the execution, delivery and Performance of the Contract will not violate, be in conflict with, result in a breach of or constitute (with or without due notice and/or lapse of time) a default or breach under or of any of the following, as applicable: (1) any provision of law; (2) any order of any court or the State; or (3) any indenture, agreement, document or other instrument to which it is a party or by which it may be bound;
- d) they are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any governmental entity;
- e) as applicable, they have not, within the three years preceding the Contract, in any of their current or former jobs, been convicted of, or had a civil judgment rendered against them or against any person who would Perform under the Contract, for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a transaction or contract with any governmental entity. This includes, but is not limited to, violation of Federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records or property, making false statements, or receiving stolen property;
- f) they are not presently indicted for or otherwise criminally or civilly charged by any governmental entity with commission of any of the offenses listed above;
- g) they have notified DAS in writing whether they have had any contracts with any governmental entity terminated for cause within 3 years preceding the Effective Date ;
- h) they have not employed or retained any entity or person, other than a bona fide employee working solely for them, to solicit or secure the Contract and that they have not paid or agreed to pay any entity or person, other than a bona fide employee working solely for them, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of the Contract or any assignments made in accordance with the terms of the Contract;
- i) to the best of their knowledge, there are no Claims involving the Contractor or Contractor Parties that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Contract;
- j) they shall disclose, to the best of their knowledge, to the State in writing any Claims involving them that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties,

financial stability, business prospects or ability to Perform fully under the Contract, no later than twenty (20) calendar days after becoming aware of any such Claims. For purposes of the Contractor's obligation to disclose any Claims to the State, the ten (10) calendar days in the section of this Contract concerning disclosure of Contractor Parties litigation shall run consecutively with the ten (10) days provided for in this representation and warranty;

k) their participation in the Solicitation process is not a conflict of interest or a breach of ethics under the provisions of Title 1, Chapter 10 of the Connecticut General Statutes concerning the State's Code of Ethics;

l) the proposal submitted by Contractor in response to the Solicitation was not made in connection or concert with any other person, entity or proposer, including any affiliate (as defined in the Tangible Personal Property section of this Contract) of the proposer, submitting a proposal for the same Solicitation, and is in all respects fair and without collusion or fraud;

m) they are able to Perform under the Contract using their own resources or the resources of a party who was not a proposer;

n) the Contractor shall obtain in a written contract all of the representations and warranties in this section from any Contractor Parties and require that provision be included in any contracts and purchase orders with such Contractor Parties;

o) they have paid all applicable workers' compensation second injury fund assessments concerning all previous work done in Connecticut; they have a record of compliance with Occupational Health and Safety Administration regulations without any unabated, willful or serious violations;

p) they are not delinquent in the payment of unemployment compensation contributions;

q) they are not delinquent in the payment of any taxes owed, or, that they have filed a sales tax security bond, and they have, if and as applicable, filed for motor carrier road tax stickers and have paid all outstanding road taxes;

r) all of their vehicles have current registrations and, unless such vehicles are no longer in service, they shall not allow any such registrations to lapse;

s) each Contractor Party has vested in the Contractor plenary authority to bind the Contractor Parties to the full extent necessary or appropriate to ensure full compliance with and Performance in accordance with all of the terms of the Contract and that all appropriate parties shall also provide, no later than fifteen (15) days after receiving a request from DAS or the Department, such information as DAS or the Department may require to evidence, in their sole determination, compliance with this section;

t) they either own or have the authority to use all the Goods, System, Licensed Software and Hosting Environment;

u) to the best of Contractor's knowledge, the Goods, System and Licensed Software do not infringe or misappropriate any patent, copyright, trade secret or other intellectual property right of a third party;

- v) the Department's use of any Goods, System and Hosting Environment and Licensed Software in a manner consistent with this Contract shall not infringe or misappropriate any patent, trade secret or other intellectual property right of a third party;
- w) if they procure any Goods, they shall sub-license such Goods and that the Department shall be afforded the full benefits of any manufacturer or subcontractor licenses for the use of the Goods; and
- x) they shall assign or otherwise transfer to the Department, or afford the Department the full benefits of any manufacturer's warranty for the Goods, Hosting Environment and Licensed Software, to the extent that such warranties are assignable or otherwise transferable to the Department.

31. DISCLOSURE OF CONTRACTOR PARTIES LITIGATION

The Contractor shall require that all Contractor Parties, as appropriate, disclose to the Contractor, to the best of their knowledge, any Claims involving the Contractor Parties that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Contract, no later than twenty (20) calendar days after becoming aware of any such Claims. Disclosure shall be in writing.

32. STATE COMPTROLLER'S SPECIFICATIONS

In accordance with Conn. Gen. Stat. § 4d-31, this Contract is deemed to have incorporated within it, and the Contractor shall deliver the Goods and Services in compliance with, all specifications established by the State Comptroller to ensure that all policies, procedures, processes and control systems, including hardware, software and protocols, which are established or provided by the Contractor or Contractor Parties, are compatible with and support the State's core financial systems, including but not limited to, accounting, payroll, time and attendance, and retirement systems.

33. CHIEF INFORMATION OFFICER SUBCONTRACT APPROVAL

In accordance with Conn. Gen. Stat. § 4d-32, the Contractor shall not award a subcontract for work under this Contract without having first obtained the written approval of the Chief Information Officer of the Department of Administrative Services or their designee of the selection of the subcontractor and of the provisions of the subcontract. The Contractor shall deliver a copy of each executed subcontract or amendment to the subcontract to the Chief Information Officer, who shall maintain the subcontract or amendment as a public record, as defined in Conn. Gen. Stat. § 1-200.

34. RIGHTS TO AND INTEGRITY OF PUBLIC RECORDS

In accordance with Conn. Gen. Stat. § 4d-34, (a) neither the Contractor nor Contractor Parties shall have any Title in or to (1) any public records which the Contractor or Contractor Parties possess, modify or create pursuant to a contract, subcontract or amendment to a contract or subcontract, or (2) any modifications by such contractor, subcontractor, employee or agent to such public records; (b) neither the Contractor nor Contractor Parties shall impair the integrity of any public records which they possess or create; and (c) public records which the Contractor or Contractor Parties possess, modify or create pursuant to this Contract or other contract,

subcontract or amendment to a contract or subcontract shall at all times and for all purposes remain the property of the State. For purposes of this section, “public records” shall have the meaning set forth in Conn. Gen. Stat. § 4-33, as it may be modified from time to time.

35. PUBLIC RECORDS AND FOIA

In accordance with Conn. Gen. Stat. § 4d-35, any public record which a state agency provides to the Contractor or Contractor Parties shall remain a public record for the purposes of Conn. Gen. Stat. § 1-210(a). With regard to any public records, the State, the Contractor and Contractor Parties shall have a joint and several obligation to comply with the obligations of the state agency under the Freedom of Information Act (FOIA), as defined in Conn. Gen. Stat. §1-200, provided that the determination of whether or not to disclose a particular record or type of record shall be made by such state agency.

36. DISCLOSURE OF PUBLIC RECORDS

In accordance with Conn. Gen. Stat. § 4d-36, neither the Contractor nor Contractor Parties shall disclose to the public any public records (a) which they possess, modify or create pursuant to this Contract or any contract, subcontract or amendment to a contract or subcontract and (b) which a state agency (1) is prohibited from disclosing pursuant to state or federal law in all cases, (2) may disclose pursuant to state or federal law only to certain entities or individuals or under certain conditions or (3) may withhold from disclosure pursuant to state or federal law. This provision shall not be construed to prohibit the Contractor from disclosing such public records to any Contractor Parties to carry out the purposes of its subcontract. For purposes of this section, “public records” shall have the meaning set forth in Conn. Gen. Stat. § 1-200, as it may be modified from time to time.

37. PROFITING FROM PUBLIC RECORDS

In accordance with Conn. Gen. Stat. § 4d-37, neither the Contractor nor Contractor Parties shall sell, market or otherwise profit from the disclosure or use of any public records which are in their possession pursuant to this Contract or any contract, subcontract or amendment to a contract or subcontract, except as authorized in this Contract. For purposes of this section, “public records” shall have the meaning set forth in Conn. Gen. Stat. § 1-200, as it may be modified from time to time.

38. CONTRACTOR’S OBLIGATION TO NOTIFY DAS CONCERNING PUBLIC RECORDS

In accordance with Conn. Gen. Stat. § 4d-38, if the Contractor or Contractor Parties learn of any violation of the provisions of Conn. Gen. Stat. §§ 4d-36 or 4d-37 they shall, no later than seven calendar days after learning of such violation, notify the Chief Information Officer of such violation.

39. GENERAL ASSEMBLY ACCESS TO RECORDS

In accordance with Conn. Gen. Stat. § 4d-40, the Joint Committee on Legislative Management and each nonpartisan office of the General Assembly shall continue to have access to DAS records that is not less than the access that said committee and such offices have on July 1, 1997.

40. CONTINUITY OF SYSTEMS

- a) This section is intended to comply with Conn. Gen. Stat. §4d-44, as it may be amended.
- b) The Contractor acknowledges that the Systems and associated services are important to the function of State government and that they must continue without interruption. Pursuant to Conn. Gen. Stat. §4d-44, as it may be amended, if the work under the Contract, any subcontract, or amendment to either, is transferred back to the State or to another contractor at any time for any reason, then the Contractor shall cooperate fully with the State, and do and Perform all acts and things that DAS deems to be necessary or appropriate, to ensure continuity of state agency information system and telecommunication system facilities, equipment and services so that there is no disruption or interruption in Performance as required or permitted in the Contract. The Contractor shall not enter into any subcontract for any part of the Performance under the Contract without approval of such subcontract by DAS, as required by Conn. Gen. Stat. §4d-32, as it may be amended, and without such subcontract including a provision that obligates the subcontractor to comply fully with Conn. Gen. Stat. §4d-44, as it may be amended, as if the subcontractor were in fact the Contractor. The Contractor shall make a full and complete disclosure of and delivery to DAS or its representatives of all Records and “Public Records,” as that term is defined in Conn. Gen. Stat. §4d-33, as it may be amended, in whatever form they exist or are stored and maintained and wherever located, directly or indirectly concerning the Contract.
- c) The parties shall follow the below applicable and respective procedures in order to ensure the orderly transfer to the State the following:
1. facilities and equipment: Unless a shorter period is necessary or appropriate to ensure compliance with subsection (a) above, in which case that shorter period shall apply, the Contractor shall deliver to DAS, F.O.B. Hartford, Connecticut or other State location which DAS identifies, all facilities and equipment related to or arising out of the Contract, subcontract or amendment, no later than 10 days from the date that the work under the Contract is transferred back to the State or to another contractor for any reason. The Contractor shall deliver the facilities and equipment to DAS, during DAS’s business hours, in good working order and in appropriately protective packaging to ensure delivery without damage. Concurrent with this delivery, the Contractor shall also deliver all related operation manuals and other documentation in whatever form they exist and a list of all related passwords and security codes;
 2. software Deliverables created or modified pursuant to the Contract, subcontract or amendment: Unless a shorter period is necessary or appropriate to ensure compliance with subsection (a) above, in which case that shorter period shall apply, the Contractor shall deliver to DAS, F.O.B. Hartford, Connecticut or other location which DAS identifies, all Deliverables, no later than 10 days from the date that the work under the SOW or Contract is transferred back to the State or to another contractor for any reason. The Contractor shall deliver such Deliverables to DAS, during DAS’s business hours, in good working order, and if equipment shall be delivered, in appropriately protective packaging to ensure delivery without damage. Concurrent with this delivery, the Contractor shall also deliver all Deliverable-related operation manuals and other documentation in whatever form they exist, if delivery of such manuals and documentation is required by this Contract or the SOW for such Deliverable, and a list of all Deliverable passwords and security codes; and

3. Public Records, as defined in Conn. Gen. Stat. §4d-33, as it may be amended, which the Contractor or Contractor Parties possess or create pursuant to the Contract, subcontract or amendment: Unless a shorter period is necessary or appropriate to ensure compliance with subsection (a) above, in which case that shorter period shall apply, the Contractor shall deliver to DAS, F.O.B. Hartford, Connecticut or other State location which DAS identifies, all Public Records created or modified pursuant to the Contract, Statement of Work, subcontract or amendment and requested in writing by DAS (provided that Contractor may redact confidential information of Contractor, its personnel or third parties to the extent permitted by applicable law) no later than the latter of (1) the time specified in the section in this Contract concerning Termination for the return of Public Records and (2) 10 days from the date that the work under the Contract or Statement of Work is transferred back to the State or to another contractor for any reason. The Contractor shall deliver to DAS those Public Records in electronic, magnetic or other intangible form in a non-proprietary format, such as, but not limited to, ASCII or TXT. The Contractor shall deliver to DAS, during DAS's business hours, those Public Records and a list of all applicable passwords and security codes, all in appropriately protective packaging to ensure delivery without damage.

d) If the Contractor employs former State employees, the Contractor shall facilitate the exercising of any reemployment rights that such State employees may have with the State, including, but not limited to, affording them all reasonable opportunities during the workday to interview for State jobs. The Contractor shall include language similar to this section in all of its contracts with its subcontractors and applicable Contractor Parties so that they are similarly obligated.

41. TANGIBLE PERSONAL PROPERTY

a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:

1. For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;
2. A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;
3. The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;
4. The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and
5. Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.

b) For purposes of this section of the Contract, the word “Affiliate” means any person, as defined in Section 12-1 of the general statutes, that controls is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word “voting security” means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. “Voting security” includes a general partnership interest.

c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State’s contracting authority, such information as the State may require to ensure, in the State’s sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

42. INDEMNIFICATION

a) The Contractor shall indemnify, defend and hold harmless the State and its officers, representatives, agents, servants, employees, successors and assigns from and against any and all (1) Claims arising directly or indirectly, in connection with the Contract for the acts of commission or omission (collectively, the "Acts") of the Contractor or Contractor Parties; and (2) liabilities, damages, losses, costs and expenses, including but not limited to, attorneys' and other professionals' fees, arising, directly or indirectly, in connection with Claims, Acts or the Contract. The Contractor shall use counsel reasonably acceptable to the State in carrying out its obligations under this section. The Contractor’s obligations under this section to indemnify, defend and hold harmless against Claims includes Claims concerning confidentiality of any part of or all of the Contractor’s bid, proposal or any Records, any intellectual property rights, other proprietary rights of any person or entity, copyrighted or non-copyrighted compositions, secret processes, patented or unpatented inventions, articles or appliances furnished or used in the Performance.

b) The Contractor shall not be responsible for indemnifying or holding the State harmless from any liability arising due to the negligence of the State or any third party acting under the direct control or supervision of the State.

c) The Contractor shall reimburse the State for any and all damages to the real or personal property of the State caused by the Acts of the Contractor or any Contractor Parties. The State shall give the Contractor reasonable notice of any such Claims.

d) The Contractor’s duties under this section shall remain fully in effect and binding in accordance with the terms of the Contract, without being lessened or compromised in any way, even where the Contractor is alleged or is found to have merely contributed in part to the Acts giving rise to the Claims and/or where the State is alleged or is found to have contributed to the Acts giving rise to the Claims.

e) The Contractor shall carry and maintain at all times during the term of the Contract, and during the time that any provisions survive the term of the Contract, sufficient commercial general liability insurance to satisfy its obligations under this Contract. The Contractor shall cause the State to be named as an additional insured on the policy and shall provide (1) a certificate of insurance, (2) the declaration page and (3) the additional insured endorsement to the policy to DAS all in an electronic format acceptable to DAS prior to the Effective Date of the Contract evidencing that the State is an additional insured. The Contractor shall not begin

Performance until the delivery of these 3 documents to DAS. Contractor shall provide an annual electronic update of the 3 documents to DAS on or before each anniversary of the Effective Date during the Contract Term. The State shall be entitled to recover under the insurance policy even if a body of competent jurisdiction determines that the State is contributorily negligent. In no event shall either Party be liable to the other for any special, incidental, or consequential damages.

f) This section shall survive the Termination of the Contract and shall not be limited by reason of any insurance coverage.

43. SOVEREIGN IMMUNITY

The parties acknowledge and agree that nothing in the Contract shall be construed as a modification, compromise or waiver by the State of any rights or defenses of any immunities provided by Federal law or the laws of the State of Connecticut to the State or any of its officers and employees, which they may have had, now have or will have with respect to all matters arising out of the Contract. To the extent that this section conflicts with any other section, this section shall govern.

44. SUMMARY OF STATE ETHICS LAWS

Pursuant to the requirements of Section 1-101qq of the Connecticut General Statutes, the summary of State ethics laws developed by the State Ethics Commission pursuant to Section 1-81b of the Connecticut General Statutes is incorporated by reference into and made a part of the Contract as if the summary had been fully set forth in the Contract.

45. AUDIT AND INSPECTION OF PLANTS, PLACES OF BUSINESS AND RECORDS.

a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract.

b) The Contractor shall maintain, and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.

c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.

d) The Contractor will pay for all costs and expenses of any audit or inspection which reveals information that, in the sole determination of the State, is sufficient to constitute a breach by the Contractor under this Contract. The Contractor will remit full payment to the State for such audit or inspection no later than 30 days after receiving an invoice from the State. If the State does not receive payment within such time, the State may setoff the amount from any moneys which the State would otherwise be obligated to pay the Contractor in accordance with this Contract's Setoff provision.

e) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Contract, or (ii) the expiration or earlier termination of this Contract, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.

f) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.

g) The Contractor shall incorporate this entire section verbatim into any contract or other agreement that it enters into with any Contractor Party.

46. CAMPAIGN CONTRIBUTION RESTRICTION

For all State contracts, defined in Conn. Gen. Stat. §9-612(g)(1) as having a value in a calendar year of \$50,000 or more, or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this Contract expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," attached as Exhibit 1.

47. EXECUTIVE ORDERS

This Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the Contract as if they had been fully set forth in it. The Contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services, Executive Order No. 61 of Governor Dannel P. Malloy promulgated December 13, 2017 concerning the Policy for the Management of State Information Technology Projects, as issued by the Office of Policy and Management, Policy ID IT-SDLC-17-04, and Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office in accordance with their respective terms and conditions. If Executive Orders 14, 61 or 49 are applicable, it is deemed to be incorporated into and are made a part of the Contract as if it had been fully set forth in it. At the Contractor's request, the State shall provide a copy of these orders to the Contractor.

48. NONDISCRIMINATION

a) For purposes of this Section, the following terms are defined as follows:

- i. "Commission" means the Commission on Human Rights and Opportunities;
- ii. "Contract" and "contract" include any extension or modification of the Contract;
- iii. "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
- iv. "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose;
- v. "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;
- vi. "good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;
- vii. "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;
- viii. "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;
- ix. "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Connecticut General Statutes § 32-9n; and
- x. "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, unless the contract is a municipal public works contract or quasi-public agency project, (2) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in Conn. Gen. Stat. Section 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, agency, state or government described in the immediately preceding enumerated items (1), (2), (3), or (4).

(b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status of a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to ensure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status of a veteran, intellectual disability, mental

disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining Agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this section and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e, 46a-68f and 46a-86; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, municipal public works contract or contract for a quasi-public agency project, the Contractor agrees and warrants that he or she will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.

e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State, and in every subcontract entered into in order to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes §46a-56; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a State contract, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.

g) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to

provide each labor union or representative of workers with which such Contractor has a collective bargaining Contract or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Connecticut General Statutes § 46a-56.

h) The Contractor shall include the provisions of the foregoing paragraph in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State, and in every subcontract entered into in order to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a State contract, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

49. RESERVED

50. OWNERSHIP OF DATA

a) All ownership, title, licenses, proprietary rights and interest (including, but not limited to, perpetual use) (for purposes of this Ownership of Data Section, collectively, "Title") of and to any and all data existing in electronic, magnetic or any other tangible or intangible form (for purposes of this Ownership of Data Section, "Data") that is uploaded, collected, stored, held, hosted, located or utilized by the Department or Contractor and Contractor Parties directly or indirectly in connection with this Contract at all times is and will always remain vested in the State. At no time will Contractor have Title to such Data, wherever located.

b) At no cost to the State, the Contractor and Contractor Parties shall, no later than fifteen (15) days after (i) receiving a written request from the Department or (ii) Termination for any reason, deliver and transfer possession to the Department all of the Data, in a format acceptable to the State.

c) At no cost to the State, the Contractor and Contractor Parties shall, no later than fifteen (15) days after (i) receiving a written request from the Department, (ii) receiving final payment from the Department, or (iii) Termination for any reason, over-write and securely delete all of the Data, such that the Data will be expunged in a manner to make retrieval of the Data impossible.

d) The Contractor's failure to deliver and transfer possession of the Data to a duly authorized agent of the Department shall constitute, without more, a de facto breach of this Contract. Consequently, the Contractor shall indemnify and hold harmless the Department and the State, as appropriate, for any and all damages, costs and expenses associated directly or indirectly with such failure. The damages, costs and expenses shall include,

but not be limited to, those resulting from any corresponding contracting for credit or identity protection services, or both, and from any subsequent non-State use of any Data. If Contractor Parties will Perform for any purpose under this paragraph, the Contractor represents and warrants that it shall cause each of the Contractor Parties to so Perform and that each has vested in the Contractor plenary authority to cause the Contractor Parties to Perform. For purposes of this Ownership of Data Section, “Perform” shall include, but not be limited to, the obligations relating to the sale, transfer of Title, removal and transfer of possession of the Data and indemnifying and holding harmless the Department and the State. The Contractor on its own behalf and on behalf of the Contractor Parties shall also provide, no later than 30 days after receiving a request by the Department, such information as the Department may identify to ensure, in the Department’s sole discretion, compliance with the provisions of this Ownership of Data Section. This Ownership of Data Section survives Termination.

Any and all data hosted by Contractor on behalf of the State of Connecticut will remain the sole property of the State and the State shall retain any and all ownership of such data. It is further understood that at no time will Contractor have ownership of any data held within the System.

51. TERMS

Any and all Purchase Orders, Product Schedule Updates, Statement of Works or other documents authorized in connection with this Contract shall be subject to the terms of this Contract. Any terms or conditions contained in any such Purchase Order, Product Schedule Update, Statement of Work or other document shall have no force or effect and shall in no way affect, change or modify any of the terms of this Contract.

52. WORKERS' COMPENSATION

The Contractor shall maintain Worker’s Compensation and Employer’s Liability insurance in compliance with the laws of the state of Connecticut, which coverage shall include Employer’s Liability coverage with minimum limits of \$100,000 for each accident, \$500,000 for disease, and \$100,000 for each employee, per policy period.

53. ENTIRETY OF CONTRACT

This Contract includes the SIGNATURE PAGE OF CONTRACT. To the extent the provisions of any exhibits or attachment referenced in the Contract do not contradict the provisions of Sections 1-53 of this Contract, said documents, exhibits and/or attachments are incorporated herein by reference and made a part hereof as though fully set forth herein. This Contract, as thus constituted, contains the complete and exclusive statement of the terms and conditions agreed to by the parties hereto and shall not be altered, amended, or modified except in writing executed by an authorized representative of each party.

THE REMAINDER OF THIS PAGE IS LEFT BLANK INTENTIONALLY

SIGNATURE PAGE OF CONTRACT

IN WITNESS WHEREOF, the parties have executed this Contract by their duly authorized representatives with full knowledge of and agreement with its terms.

Parsons Transportation Group, Inc.

STATE OF CONNECTICUT,

BY: _____

BY: _____

NAME: Roberto Perez

NAME:

TITLE: Vice President

TITLE:

Duly Authorized

Department of Administrative Services

Duly Authorized

DATE: _____

DATE: _____

APPROVED AS TO FORM:

OFFICE OF THE ATTORNEY GENERAL

BY: _____

JOSEPH RUBIN

ITS ASSISTANT DEPUTY ATTORNEY GENERAL

DATE: _____



Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations

This notice is provided under the authority of Connecticut General Statutes §9-612(G)(2), as amended by P.A. 10-1, and is for the purpose of informing state contractors and prospective state contractors of the following law (italicized words are defined on the reverse side of this page).

CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

No *state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor*, with regard to a *state contract or state contract solicitation* with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee (which includes town committees).

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

On and after January 1, 2011, no state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall **knowingly solicit** contributions from the state contractor's or prospective state contractor's employees or from a *subcontractor or principals of the subcontractor* on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

DUTY TO INFORM

State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

PENALTIES FOR VIOLATIONS

Contributions of solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:

Civil Penalties – Up to \$2,000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and possible consequences of their violations may also be subject to civil penalties of up to \$2,000 or twice the amount of the prohibited contributions made by their principals.

Criminal penalties – Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or not more than \$5,000 in fines, or both.

CONTRACT CONSEQUENCES

In the case of a state contractor, contributions made or solicited in violation of the above prohibitions may result in the contract being voided.

In the case of a prospective state contractor, contributions made or solicited in violation of the above prohibitions shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State shall not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information may be found on the website of the State Elections Enforcement Commission, www.ct.gov/seec. Click on the link to "Lobbyist/Contractor Limitations."



DEFINITIONS

“State contractor” means a person, business entity or nonprofit organization that enters into a state contract. Such person, business entity or nonprofit organization shall be deemed to be a state contractor until December thirty-first of the year in which such contract terminates. “State contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Prospective state contractor” means a person, business entity or nonprofit organization that (i) submits a response to a state contract solicitation by the state, a state agency or a quasi-public agency, or a proposal in response to a request for proposals by the state, a state agency or a quasi-public agency, until the contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100. “Prospective state contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Principal of a state contractor or prospective state contractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract*, (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

“State contract” means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee. “State contract” does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan, a loan to an individual for other than commercial purposes or any agreement or contract between the state or any state agency and the United States Department of the Navy or the United States Department of Defense.

“State contract solicitation” means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

“Managerial or discretionary responsibilities with respect to a state contract” means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

“Dependent child” means a child residing in an individual's household who may legally be claimed as a dependent on the federal income tax of such Individual.

“Solicit” means (A) requesting that a contribution be made, (B) participating in any fund-raising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

“Subcontractor” means any person, business entity or nonprofit organization that contracts to perform part or all of the obligations of a state contractor's state contract. Such person, business entity or nonprofit organization shall be deemed to be a subcontractor until December thirty first of the year in which the subcontract terminates. “Subcontractor” does not include (i) a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or (ii) an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Principal of a subcontractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a subcontractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a subcontractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a subcontractor, which is not a business entity, or if a subcontractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any subcontractor who has managerial or discretionary responsibilities with respect to a subcontract with a state contractor, (v) the spouse or a dependent child who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.

18PSX0050
Exhibit 2
Deliverables Document

**Automated Vehicle Location/Global Positioning System (AVL/GPS),
Maintenance Decision Support System (MDSS) and Integrated
Mobile Observations (IMO)**

I. DEFINITIONS

- a) **“Automated Vehicle Location/Global Positioning System” (“AVL/GPS”)** means all servers, software, and web services necessary to provide a password-protected web portal permitting authorized Users to access and map Real-Time Data from WMTs, including Location Sensor data (vehicle locations and speeds), Camera images, On-Vehicle Weather Sensors data, Vehicle Sensors data, and Equipment Sensor data.
- b) **“Cameras”** means cameras installed on WMTs to provide images of road conditions.
- c) **“Communications Equipment”** means all communications equipment installed in WMTs necessary to allow the WMT to communicate with the Contractor’s servers via the cellular network.
- d) **“Equipment Sensors”** means sensors installed on WMTs which collect information on WMT equipment, such as spreader settings and plow positions.
- e) **“Integrated Mobile Observation” (“IMO”)** means equipment that captures mobile weather observations from sensors to supplement observations from Location Sensors, On-Vehicle Weather Sensors, Equipment Sensors and Vehicle Sensors, and other data sources to enhance winter maintenance reactions to events affecting the traveling public and to provide detailed information to the traveling public to assist in dealing with weather events and hazards.
- f) **“In-Vehicle Display”** refers to a rugged touch-screen display mounted on the interior of WMTs to provide the operator with an easy to read screen that can be used to present any useful information such as weather forecasts, treatment suggestions from the MDSS system, and weather radar images.
- g) **“Location Sensors”** means a sensor that collects location and direction data via the AVL/GPS system.
- h) **“Maintenance Decision Support System” (“MDSS”)** means all servers, software, and web services necessary to provide a password-protected web portal that allows authorized Users to access and map maintenance decision support system data, such as weather forecast information, pavement conditions information, and route-specific treatment recommendations.
- i) **“On-Board Unit with Data Storage” (“OBU”)** means a field-hardened, interior WMT-mounted computing unit that integrates the data from Location Sensors, On-Vehicle Weather Sensors, Equipment Sensors, Vehicle Sensors, and data inputs and stores this data within the OBU until the data can be transmitted via cellular connection to the Contractor hosted central servers.
- j) **“On-Vehicle Weather Sensors”** means weather sensors installed on WMTs to collect information on weather and road conditions, including, but not limited to, air temperature, road temperature and relative humidity.
- k) **“Other In-Vehicle Equipment”** means all in-vehicle equipment, wiring, power harnesses,

ancillaries, brackets, mountings, processors, power supplies, antennas, hardware items and components necessary to install all equipment described in this Exhibit 2.

- l) **“Real-Time Data”** means sensor data, weather information, and other roadway condition information gathered in the field and reported ten (10) minutes or less from the time the data is collected by the WMTs .
- m) **“Vehicle Sensors”** means sensors installed on WMTs to collect information about WMT status, including, but not limited to, speed, odometer, and accelerometer.
- n) **“Weather Management Trucks” (“WMT”)** means Department-owned and operated vehicles used for winter maintenance operations.

II. GENERAL

The Contractor shall provide AVL/GPS, MDSS and IMO to the Department. The Contractor shall provide project management and implementation of the AVL/GPS, the MDSS and the IMO to the Department in accordance with this Exhibit and Exhibit 5.

The components of AVL/GPS, MDSS and IMO shall include the following devices and systems provided, installed, maintained and hosted by the Contractor:

1. On-vehicle Weather Sensors
2. Vehicle Sensors
3. Equipment Sensors
4. Location Sensors
5. Cameras
6. In-vehicle Display
7. OBU
8. Communications Equipment (cellular)
9. Contractor-hosted AVL/GPS server and website
10. Contractor-hosted MDSS server and website

III. SYSTEM AND SERVICE REQUIREMENTS

AVL/GPS, MDSS and IMO must meet the following requirements:

A. Equipment Requirements

1. General Equipment Requirements

- (a) The Contractor shall supply new Deliverables. All Deliverables must be recently manufactured, latest make and model, unless otherwise approved in advance by the Department.
- (b) The Deliverables supplied must be “commercial-off-the-shelf” equipment currently in use by other agencies.
- (c) For spreader controllers, the Department shall provide serial interfaces enabled to provide AVL/GPS data. The Contractor shall create interfaces and provide serial extension cables to connect the provided serial interface to the OBU.
- (d) All Deliverables must match installation wiring and equipment location within each of the WMT manufacturer and model types.
- (e) The Contractor shall not modify any Deliverables unless the Department provides prior written approval.

- (f) All connections between Equipment Sensors, Location Sensors, On-Vehicle Weather Sensors and Vehicle Sensors and equipment must have hard-wire ruggedized connections.
- (g) All outdoor cable connections must be sealed and made weather tight using manufacturer recommended methods and materials.
- (i) All Deliverables installed in or on the WMT must be solid state electronics with no moving parts such as fans. All in-vehicle equipment must be enclosed by a ruggedized case.
- (h) All WMT electronics must be field-hardened and suitable for use in extreme temperature conditions and exposure to vibration.
- (i) Deliverables must utilize National Transportation Communications for Intelligent Transportation System Protocol (“NTCIP”) standards where possible, including NTCIP 1204 (Environmental Sensor Station Interface Standard).
- (j) Power - All Deliverables installed in or on WMTs must run off the WMT's power system.
- (k) Power Loss - Major system components of Deliverables installed in the WMT must be able to detect and report previous power loss if the Deliverable is disconnected and then reconnected. The foregoing requirement applies in the event someone disables the WMT during their shift whether inadvertent or intentional.
- (l) Power Surge/Failure - All Deliverables installed in or on WMTs must be properly grounded and have built in protection from electrical power surges.
- (m) Upon WMT ignition, the WMT must automatically establish a connection to the central communications system and central operating system. No operator interface will be necessary to begin transmitting position and sensor data. All information on WMT status must be stored and accessible through the Contractor’s AVL/GPS accessible to the Department at any time.
- (n) All Deliverables installed in or on the WMTs must be able to remain powered on for a brief, configurable period following ignition shut-off, in order to ensure transmission of all data and the orderly shut-down of the IMO.
- (o) All Deliverables installed in or on WMTs must feature a power management feature or "sleep mode" and/or "charge guard" to ensure the WMT battery does not discharge after the WMT is turned off. The current draw (Amps) of the Deliverables t installed in or on WMTs must be minimal and allow for WMTs to sit unused for up to two (2) months without discharging battery.
- (p) All Deliverables installed in or on WMTs must meet as a minimum Society of Automotive Engineers (“SAE”) J1455 environmental specifications and provide +/- 25g shock rating.
- (q) All Deliverables installed in or on WMTs must be suitable for operating temperatures in the range from -40°F to 140°F and operating humidity up to ninety percent (90%).

- (r) Remote Updates - Deliverables installed in or on WMTs, including but not limited to, the cellular modem and OBU, must support over-the-air firmware updates. The AVL/GPS must update remotely.
- (s) Universal Time - All Deliverables installed in or on WMTs must be synchronized to the universal time clock and time stamp all data collected.
- (t) All Deliverables installed in or on WMTs must not interfere with manufacturer electronics.
- (u) Ease of Transferal/Replacement - All Deliverables installed in or on WMTs must allow for transferal to replacement WMTs with minimal reprogramming and downtime. Electronic Deliverables such as, but not limited to, the OBU and cellular modem must be installed on a single back board in a central location. If removable storage media is used, the media must have easy access to replace or reprogram the media, if necessary.
- (v) Equipment System Architecture – The AVL/GPS architecture for the equipment installed on or in WMTs must be designed to allow for future scalability, expansion, and modification.
- (w) Installation of all Deliverables on or in WMTs must be performed at the Department’s Brooke Street Garage, located at 660 Brooke Street, Rocky Hill, CT 06067.
- (x) Following the initial installation, all repairs for Deliverables installed on or in the WMTs must be done at the designated repair facility as determined by the Department.

2. OBU Requirements

- (a) The Contractor shall install the OBU in each of the designated WMTs in accordance with the Department’s approved installation plan. The Contractor shall submit installation plans as part of its System Design Document. The Contractor shall install the OBU in the interior of the WMT in an area designed for ease of access and maintenance.
- (b) The OBU must have sufficient ports to interface with the IMO. At a minimum, the OBU must have sufficient number and types of ports to interface with Equipment Sensors, Location Sensors, In-Vehicle Weather Sensors, and Vehicle Sensors and equipment, along with at least one (1) spare USB port and one (1) spare Ethernet port.
- (c) The OBU must support a minimum 128 gigabyte (“GB”) of memory in a solid state industrial grade drive, intended for automotive installations. The Contractor shall provide calculations showing that the minimum data storage capacity is greater than or equal to forty-eight (48) hours of continuous IMO data collection in the event cellular connectivity is lost. These calculations should be included in the System Design Document. The OBU must automatically forward the data when cellular connectivity is restored. The OBU must store all sensor data until communications with the Contractor’s central server can be re-established and all data has been successfully transmitted and stored on the Contractor’s hosted central server. Data must not be deleted or overwritten on the OBU until data successful transmission is verified by the Contractor.
- (d) The OBU must transmit from all integrated sensors simultaneously with the timestamp.

- (e) The OBU must be able to interface to on-board discrete sensor inputs and log data for export to external systems simultaneously.
- (f) The OBU must communicate with on-board Equipment Sensors installed on the WMT to report the present status and changes of the on-board Equipment Sensors in real-time. The on-board Equipment Sensors, such as proximity switches, infrared, magnetic read switches, micro limit switches or equivalent must be able to communicate with the on-board Equipment Sensors present status to the OBU with necessary cabling connected to on-board equipment.
- (g) The OBU must be programmable in common full programming language such as Java for building server-side applications, to accept input from Equipment Sensors, Location Sensors, On-Vehle Weater Senors, and Vehicle Sensors provided by the Contractor or from existing sensors already installed on the WMT.
- (h) The OBU must utilize a Linux or windows-based operating system to allow Virtual Private Network (“VPN”) software. The OBU must be capable of carrying additional VPN software at the Department's sole discretion.
- (i) Troubleshooting - The OBU must have self-diagnostic capabilities to facilitate troubleshooting and maintenance activities.
- (j) Remote Configuration - The OBU must have remote configuration capabilities. Remote configuration must be capable of configuring the OBU to the following:
 - (1) Set distance and time reporting intervals;
 - (2) Set destinations for data communications; and
 - (3) Detect temperature sensor status changes and expansion of devices.
- (k) The OBU must provide for future enhancements for easy configuration, expansion and scalability, including but not limited to, additional sensors, control units and hardware.
- (l) Blade sensors and installation are not required for this Contract, but the OBU must have the capability to monitor blade sensor information if appropriate equipment is installed at a later date.

3. In-Vehicle Display Requirements

- (a) The Contractor shall install an In-Vehicle Display in each of the specified WMT in accordance with the Department’s approved installation plan. The Contractor shall submit installation plans as part of its System Design Document. The In-Vehicle Display must be mounted so that it can be easily viewed by the operator, and must not obstruct the WMT dashboard displays. Mounting of the In-Vehicle Display must meet all State, local, and Federal motor vehicle regulations, laws, and standards.
- (b) The In-Vehicle Display must permit the operator to report on conditions, incidents, and to log activities via the touchscreen.

- (c) The In-Vehicle Display must be connected to the OBU.
- (d) The In-Vehicle Display must be connected to power in the WMT as not to require special battery charging or replacement.
- (e) The In-Vehicle Display must include a data input method, such as a keyboard, touchpad, or touch screen. Any operator controls for the In-Vehicle Display must be capable of only being allowed to function when the WMT is stopped.
- (f) The In-Vehicle Display must allow operators to receive text messages from the MDSS by Department supervisors but the operator must not be able to view the messages until the WMT is stopped. The In-Vehicle Display must not allow operators to create or send text messages using the In-Vehicle Display.
- (g) The display screen of the In-Vehicle Display must be sized a minimum of 5” x 9” inches. The In-Vehicle Display must display colors easy to read at varying light levels. The In-Vehicle Display must be automatically adjusted to provide optimal visibility during changing light conditions.
- (h) The In-Vehicle Display must include indications of power status, cellular connectivity status, and AVL/GPS status.

4. On-Vehicle Weather Sensors Requirements

- (a) The On-Vehicle Weather Sensors must be a PreCise Air & Road Conditions (ARC) TS-01.
- (b) The On-Vehicle Air & Road Conditions Display must be PreCise ARC System Model WCM-02.
- (c) The Contractor shall install On-Vehicle Weather Sensors, display and cabling on each of the specified WMT, to collect, at a minimum, air temperature, road temperature and relative humidity.
- (d) The Contractor shall submit an installation plan to the Department for each WMT make and model for review and approval prior to installation of any Equipment Sensors, Location Sensors, On-Vehicle Weather Sensors, Vehicle Sensors, cables, and In-Vehicle Display. The Contractor shall submit installation plans as part of its System Design Document. The installation plan must be in accordance with all manufacturer’s requirements. The installation plan must include a wiring schematic and proposed locations for the PreCise Air & Road Conditions (ARC) TS-01 and PreCise ARC System Model WCM-02. Once a final installation plan is accepted and approved by Department, the Contractor may commence installation of the equipment.
- (e) As described in request for proposal 18PSX0050, several of the specified WMT have already been equipped with the Precise Air & Road Conditions (ARC) TS-01 and PreCise ARC System Model WCM-02. For these WMTs, the Contractor shall verify the functionality and operation of the existing units and provide and install all cabling and accessories necessary to

integrate the On-Vehicle Weather Sensors with the OBU. The Contractor shall be responsible for replacing any sensors determined to be defective/faulty at the Department's expense.

(f) All On-Vehicle Weather Sensors must be (i) capable of sending sensor data in its original format for data integrity, and (ii) integrated to provide data directly to the OBU, where the sensor data will be stored until it can be transmitted to the Contractor's central servers.

(h) The On-Vehicle Weather Sensors TS-01 must meet the following:

- (1) Air Temp: $\pm 0.5^{\circ}\text{C}$ ($\pm 1.0^{\circ}\text{F}$) typical;
- (2) Relative Humidity: $\pm 6\%$ typical;
- (3) Road Temp: $\pm 1.0^{\circ}\text{C}$ ($\pm 2.0^{\circ}\text{F}$) typical;
- (4) Emissivity: calibrated to 0.95%;
- (5) Field of View: 10° ;
- (6) Operating Temp: -40°C to 85°C (-40°F to 185°F);
- (7) Radio Communications: IEEE 802.15.4 (2.4GHz DSSS); and
- (8) Range: 10m (33ft) typical.

(i) The PreCise ARC System Model WCM-02 On-Vehicle Weather Sensor must display temperatures using a sunlight readable full color display. Backlight for the temperature display must be User selectable and auto-dimming.

(j) The On-Vehicle-Weather Sensor must display temperature units in $^{\circ}\text{C}$ or $^{\circ}\text{F}$, User selectable. The On-Vehicle-Weather Sensor must be configured to use $^{\circ}\text{F}$.

(k) The On-Vehicle-Weather Sensor must have an update frequency of one (1) to sixty (60) seconds, User selectable. The update frequency selected for use by the Contractor is subject to prior approval of Department.

(l) The On-Vehicle-Weather Sensor must use 12 volt "V"-24V vehicle DC power.

(m) The On-Vehicle-Weather Sensor must support RS-232, SAE J-1708 and CAN.

(n) The On-Vehicle-Weather Sensor must be mounted using hardware and all necessary cabling and ancillaries as shown in the Department's approved installation plan.

(o) Cabling and wiring supplied and installed by the Contractor shall include the following:

- (1) DC power, connected to the ignition side, along with an in-line fuse rated for three (3) or five (5) Amps;
- (2) Wiring harness between the PreCise ARC System Model - WCM-02 (mounted inside the WMT) and the PreCise Air & Road Conditions (ARC) TS-01 (mounted externally) the required length for connection. The wiring harness must be of sufficient length, PN 6M-5-PSG 6M/S90/S618; and
- (3) RS-232 connector (9-pin D-connector or approved equal), for transmission of weather sensor data collected by the WCM-02 to the OBU.

5. Location Sensor Requirements

- (a) The Contractor shall install a Location Sensor in accordance with the Department's approved installation plan. The Contractor shall submit installation plans as part of its System Design Document. The installation must consist of an AVL/GPS receiver and antennas in each of the specified WMTs. This Location Sensor (AVL/GPS receiver) must be integrated into the Communications Equipment (e.g., cellular modem) at the Department's sole discretion. The AVL/GPS antennas must be mounted on the operator outside mirror.
- (b) Location Sensors must report latitude, longitude, speed, time, direction of travel, and whether the receiver has an AVL/GPS position lock.
- (c) The AVL/GPS receivers must be parallel tracking receivers, capable of simultaneously tracking at least four (4) AVL/GPS satellites in the best available geometry, while also tracking at least the four (4) next best and/or upcoming (rising) satellites.
- (d) The AVL/GPS receivers must be Wide Area Augmentation System (WAAS), and capable of providing position accuracy within ten (10) feet (or three (3) meters) ninety percent (90%) percent of the time.
- (e) The AVL/GPS receivers must have a cold start solution time (TTFF, Time to First Fix) of two (2) minutes or less and a re-acquisition time of twenty-seven (27) seconds or less.
- (f) The AVL/GPS output interval must be programmable as determined by the Department with collection intervals at least once every second. The ability to remotely configure collection intervals on AVL/GPS units must be available.

6. Equipment Sensor Requirements

- (a) The Contractor shall install Equipment Sensors in accordance with the Department's approved installation plan. The Contractor shall submit installation plans as part of its System Design Document. Most of the designated WMTs must allow for integration and data collection from spreader controller, loader, and/or other supplemental equipment. Several of the older WMTs may not allow for this integration. The Contractor shall review the WMT inventory and recommend best practices for integrating Equipment Sensor data.
- (b) The Contractor shall integrate Equipment Sensor data, as available, on designated WMT to collect data from the spreader controller, loader, or other supplemental equipment for the following data:
 - (1) Plow sensor (front plow, wing, underbody, tow plow);
 - (2) Pavement temperature and ambient sensor;
 - (3) Auger feedback sensor;
 - (4) Gate sensor;
 - (5) Hydraulic flow Meter Sensor; and
 - (6) Material flow meter sensor (to monitor if material is dispensing from WMT and to verify spreader controller).

- (c) All Equipment Sensors must be (i) capable of sending sensor data in its original format and (ii) integrated to provide data directly to the OBU.
- (d) For all salt spreader controls, the data must be collected, stored and reported whenever a change to any of the following fields occurs: solid material type such as salt and sand, solid material spread rate, solid material spread width, gate setting, blast on/off, pause on/off, liquid material spread rate, pre-wet on/off, and error status, depending on the functionality available for each particular spreader controller.

7. Vehicle Sensor Requirements

Based on the make and model of the WMT, the Contractor may propose to integrate information from Vehicle Sensors, such as engine hours and odometer values. If engine hours and odometer values are unavailable from the WMT's on-board computer, the Contractor's IMO solution must calculate virtual odometer and engine hours based on the reporting of the WMT and AVL/GPS distance. However, the Contractor's IMO solution must provide User-configurable odometer and hour meter syncing to the WMT's actual odometer and hour meter. Onboard odometer and hour meter takes precedence over any virtual data.

8. Camera Requirements

- (a) The Contractor shall install Cameras in each specified WMT in accordance with the Department's approved installation plan. The Contractor shall submit installation plans as part of its System Design Document. The installation must include a single, interior-mounted, forward-facing, Camera to provide both the Department management and the public with an indication of weather and roadway conditions and trends. Cameras must be securely mounted to the interior cab of the WMT using a ceiling-mounted z-bracket and forward-facing.
- (b) Each Camera must be a high definition camera with tamper resistant with a waterproof fixed dome ceiling mount.
- (c) Cameras must be integrated to provide video via the cellular modem and camera images must be captured directly by the OBU. Camera videos must not be recorded.
- (d) Cameras must be a Panasonic Super Dynamic Full HD Vandal Resistant Dome Network Camera: Model number WV-SFV130M, or a comparable camera with prior written approval by the Department.

9. Equipment Communication Requirements

- (a) The Contractor shall install all Communications Equipment in accordance with a Department approved installation plan. The Contractor shall submit installation plans as part of its System Design Document.
- (b) Installation of the Communications Equipment must include a rugged multi-function cellular router with 3G/4G AVL/GPS data modem, and procure all cellular services, necessary to meet the communications requirements between the instrumented WMT and the Contractor's central servers. Each WMT must be equipped with a cellular modem and antennas that transmit

both outgoing and incoming data and messages. The cell modem must be 4G LTE capable with fallback capabilities.

- (c) Communications Equipment must be connected to the OBU.
- (d) Communications Equipment must be capable of using and changing carriers by changing carrier connection card or module without changing or replacing the AVL/GPS.
- (e) Contractor shall provide Digi TransPort WR44R-4G LTE North America/EMEA, Wi-Fi (802.11ac) modem, or a comparable modem with prior written approval of the Department.

10. Other In-Vehicle Equipment Requirements

The Contractor shall install all Other In-Vehicle Equipment in accordance with the Department's approved installation plan. The Contractor shall submit installation plans as part of its System Design Document. The Contractor shall install all Other In-Vehicle Equipment necessary for integrated operation of the equipment described in this Exhibit 2.

B. Communication Requirements

1. General Communication Requirements

- (a) The Contractor shall be responsible for procuring, configuring, and providing all communications necessary to facilitate two-way cellular communications between the WMT and the Contractor's central servers.
- (b) The Contractor shall provide Verizon as defined by the Department and quoted in Exhibit 4. Data will be pooled across all WMTs in the fleet.
- (c) The Contractor's Communications Equipment must be able to operate on multiple major cellular carriers, in different parts of the State, with the replacement of the communications module.
- (d) Cellular Coverage and Network Reliability - Verizon shall provide coverage of a minimum cellular signal strength of -90 dBm for at least ninety percent (90%) of the Department's roadway network across the State and maintain on-site location backup power generators for all the cellular carriers cell tower locations.
- (e) Two-way Communications - The Contractor shall provide capability to send and receive messages and images to and from the WMT.
- (f) Individual and Group/Fleet messaging - The Contractor shall provide messaging capabilities for communicating to one WMT, all WMTs, or CTDOT-configurable groups of WMTs, without use or additional cost of "text messaging".
- (g) Department Carrier Selection - Department reserves the right, at any time during this Contract term, to procure cellular data plans at a reduced cost using State contracting mechanisms.

If the Department exercises this right, the Contractor shall be responsible for integrating and managing the cellular data plans provided by the Department.

2. Communications Monitoring

- (a) The Contractor shall provide a method to automatically monitor the operational status of all the Contractor-provided communications components in real-time.
- (b) The Contractor shall provide a network management service such as Digi Remote Manager, Sierra Wireless ALMS (or equivalent) to monitor cellular router performance, update software, and manage deployments.
- (c) The Contractor shall collect and provide network information including communications system availability/uptime, latency, and bandwidth to the Department.
- (d) The Contractor shall provide reports to the Department of the operational status of the communications system and shall record and store all maintenance reports of the communication system in the Contractor's hosted website. Contractor shall ensure the storage of all records are protected from unauthorized access.
- (e) As part of its invoicing, the Contractor shall submit monthly cellular data plan charges, with allowable markup, for all cellular data plans in service that month. The Contractor shall not be reimbursed for any cellular data plan charges associated with the WMTs that are out of service, or awaiting repairs. Contractor shall suspend cellular data plan service for WMTs that are out of service or awaiting repair within three (3) business days of being notified by the Department. Any activation or deactivation fees, as charged by the carrier, and any minimum monthly service obligations, as part of the carrier contract, will be the Department's responsibility.

C. AVL/GPS Requirements

1. General Requirements

- (a) The AVL/GPS must allow authorized Users to search, filter, export, and generate reports based on AVL/GPS data.
- (b) The AVL/GPS must assign User privileges based on usernames and passwords. The AVL/GPS must monitor and allow modification of WMTs and sensors. User access levels must be configurable for the type of User, including but not limited to, administrator, management and various office/agency level, as defined by the Department.
- (c) Database - The AVL/GPS must access, store, and archive AVL/GPS data in a relational database instance that is used exclusively to hold only the Department's data. The database must be designed to preserve the integrity of collected data, include a dictionary and relationship diagram for translation, and facilitate access and export of data for potential use in other Department applications. The AVL/GPS database must be in continuous operation twenty-four

(24) hours per day, throughout each year, and must be capable of handling year-end changes and daylight savings changes with no impact to the AVL/GPS.

(d) Database Backup/Recovery - The AVL/GPS must automatically recovery data after any type of network failure. The AVL/GPS must have automatic data archival and backup without AVL/GPS interruption.

2. AVL/GPS Website

(a) The AVL/GPS website must accommodate at least six-hundred (600) simultaneous Users with no noticeable impact on website performance from multiple locations. The AVL/GPS website User interface must utilize point and click features as much as possible to increase ease of use and limit input User error.

(b) Real-Time Data feed - The AVL/GPS website must include a web services Application Programming Interface (“API”) to allow read only secured access for raw data retrieval for use in other relational database applications, such as GIS mapping or other Department uses. Real-Time Data must be published to the data feed at a minimum of once every ten (10) minutes.

(c) The AVL/GPS website must allow Users to be able to view the position of their fleet WMTs at any point of time via a standard web browser from a computer, tablet, and/or smartphone. The primary display must be a map view of the WMT fleet with icons to indicate the status of WMTs and the time the status is reported.

(d) The Contractor shall provide two (2) endpoints for the AVL/GPS website. The first endpoint must be a full desktop version of the website that allows access to all functionality. The second endpoint must be a limited mobile version of the AVL/GPS website that sizes components automatically to adjust itself to the device the User is using.

(e) Each WMT on the map must have a unique identifier, such as a license plate. Color coded icons for at-a-glance status must be used for the AVL/GPS website.

(f) The AVL/GPS website must provide a minimum of the following mapping and reporting information:

- (1) Last known WMT location with a WMT fleet wide map view;
- (2) Dispatch map (full screen “live” view);
- (3) Asset odometer readings, if available;
- (4) Total engine hours, if available;
- (5) Timestamp of last WMT report;
- (6) Last known WMT location (individual asset map view);
- (7) Historical trip report (individual asset map view);
- (8) View maintenance history/update maintenance record; and
- (9) Distance measurement tool within the WMT fleet-wide map view.

(g) The AVL/GPS website must provide the following mapping and reporting information:

- (1) Vehicle identifier (required) that is unique to the Department from which the data is being collected;
- (2) Time (required): This must be a complete description of the date and time of the report to within one (1) second of accuracy. It can be in the form of a string, for example "12/20/2013 3:43 AM EST" or "1-20-2005 9:43 UTC" or numeric such as a Unix timestamp (a count of seconds since a certain point in history). The form of string representations of the date and time is flexible, but should include at least the year, month, day, hour, minute, second and time zone of the observation (Eastern Standard Time).
- (3) Location (required) to be provided in the form of an AVL/GPS latitude and longitude associated with the WMT's location at the time of the report. Three or more decimals of accuracy are required.
- (4) Lane identifier (required): An identifier that can be used to uniquely determine the lane or lanes in the applicable report.
- (5) Maintenance Data:
 - Road Temperature (required), Air Temperature (required) and Dew Point (required);
 - Camera Feed (required): Programmed to collect a time stamped forward Camera image when installed;
 - Plow Position (optional);
 - Scraper/Underbody Position (optional) and Wing Position (optional);
 - Material Applied (optional), Material Form (optional) and Application Rate (optional); and
 - Application Rate Units (optional).

(h) The map must display WMT position and status with automatic updates on screen without any input from the User. Users must be able to view the status of monitored on-board WMT equipment.

(i) The Camera images update frequency must be User configurable to coincide with polling of AVL/GPS location data from the WMTs. At a minimum the Camera images must be capable of being updated at least once every two (2) minutes. The ability to allow the User to hover over a WMT icon on the map and be able to access the most recent camera image from that WMT must be available at the Vehicle Prototype Test as outlined in Exhibit 3.

(j) The AVL/GPS website must allow viewing of a WMT in motion leaving tracks or "breadcrumbs" as it travels with arrow indicators for direction and showing all operations (AVL/GPS & telematic data) as they occur including street location. Users must have the ability to view the above mentioned data by selecting a specific WMT(s) for a login session using a filter tool. Contractor may provide future capability to view breadcrumbs for an entire WMT fleet as a future enhancement, as requested by the Department.

(k) Users shall be able to toggle back and forth between mapping interface and other features without having to close screens.

(l) The AVL/GPS website must be capable to enter an address or select a landmark to display at a minimum the five (5) closest WMTs to that location including WMT ID and distance to the specified location. The AVL/GPS website must have the capability to create, edit, and delete landmarks and/or geofences to be displayed on the map. The landmark/geofence must be identified in the reports.

(m) The AVL/GPS website must have a User-friendly navigation sequence, including, but not limited to, navigator bar and/or tabs for easy access to various functional screens. Tools must include but not be limited to:

- (1) Map navigational tools such as zoom in/out, center, and pan;
- (2) Automatic Vehicle Location Tool;
- (3) Breadcrumbs;
- (4) Filter Tool;
- (5) Historical Data; and
- (6) Reports.

(n) Users shall have options to select from different map views to accommodate varying business requirements, desktop equipment performance and internet connectivity.

(o) The AVL/GPS website must include a playback feature allowing Users to review historical data for selected WMT(s), date(s) and timeframe. This data must be outputted via map-based (graphical) and/or text based report. When reviewing the data graphically, the playback feature must have pause, fast forward, and rewind capabilities for ease of use. Playback history must include the ability to leave tracks or "breadcrumbs" depicting progress and direction along a roadway. This function must enable the User to view data that has been collected from the WMT (AVL/GPS and telematic data).

(p) The AVL/GPS website must provide fully licensed maps as part of its solution.

(q) Reports must be available for Users by interactively selecting an area using the map interface.

(r) If available, the Contractor must provide any available Android, iOS, or Windows apps version of the MDSS website, if requested by the Department, at no additional charge.

3. AVL/GPS Reports

(a) Users shall have access to all saved historical data and reports. Reports must be exportable to Microsoft Excel, Microsoft Word, .csv format, and other relational databases, as requested by the Department.

(b) Vehicle Usage Report - The AVL/GPS must provide daily, weekly, monthly and custom usage reports to accurately display WMT utilization as well as hourly usage reports to reflect how many minutes a WMT was used in any particularly selected hour.

- (c) Vehicle Mileage Report - The AVL/GPS must provide a vehicle mileage report with User selectable date ranges showing miles traveled per day and first start/last stop times for each day in the selected date range.
- (d) Vehicle Engine Hours Report - The AVL/GPS must provide an engine hour report with User selectable date ranges showing engine hour usage per day and first start/last stop times for each day in the selected date range.
- (e) Vehicle Speed Applying Treatment Report - The AVL/GPS must provide a report of individual WMT speeds while applying treatment in the selected date range.
- (f) Custom Reports - The AVL/GPS must provide a custom input usage report with User selectable date ranges showing usage of monitored auxiliary equipment such as underbody blades, temperature sensors and additional components. Reports must be able to show all activity or be run on a single auxiliary equipment input such as plow position.
- (g) Material Usage Report – The AVL/GPS must provide material usage reports to accurately track the amount of granular material, pre-wet and/or direct liquid that applied to a predefined section of roadway, or "zone" (for spreader integrated equipment only).
- (i) The AVL/GPS must generate summary reports based on the User's input parameters. Each User shall have the ability to configure the parameters included in a report. Reports must be configurable to select a single WMT, all WMTs, or a Department configurable group of WMTs such as all WMTs in a specific garage.
- (j) Users shall have the ability to generate additional User defined reports, including, but not limited to:
- (1) Zone/Route report;
 - (2) Fleet Start/Stop Report;
 - (3) Individual Vehicle Mileage Report;
 - (4) Daily/Weekly/Monthly Asset Usage Report;
 - (5) Custom Asset Usage Report;
 - (6) Custom Input Usage Report (6 discreet inputs);
 - (7) Asset Distance Report; and
 - (8) Exception Reports.
- (k) In addition, the AVL/GPS must generate exception reports for parameters such as:
- (1) Speed;
 - (2) Idle time/ Stop Times;
 - (3) Zones;
 - (4) Input based exceptions including, but not limited to, panic buttons and PTO times; and
 - (5) Data logging exceptions, including but not limited to, mileage and odometer value.

(l) The Contractor shall send exception reports nightly to Department designated ‘groups’ via email and engine diagnostic code exception reports to be sent in real-time to district and garage mechanics as specified by the Department.

(m) The AVL/GPS must provide an easy to use reporting tool to provide WMT and material information such as date, time started, time completed, total miles traveled, total miles spread, total dead head miles, material usage per lane mile in pounds application rate, Liquid usage (gal), liquid application rate, and totals of the above information per snow event/storm.

4. AVL/GPS System Data Archiving

(a) The AVL/GPS must have short and long-term data storage. The storage process of data must not interfere with the normal operation of the AVL/GPS.

(b) Short-Term Archive - The short-term archive must consist of the latest seven (7) days of data. Data in the short-term archive must include all raw AVL/GPS data. The oldest stored data shall be routinely overwritten (scrubbed) by new incoming data, such that the integrity of incoming data is preserved. Data within the short-term archive must be viewable by selecting the date and time of interest from the display interface.

(c) Long-Term Archive - The long-term archive must consist of data sets specifically saved by the User. The long-term archive must include all summary reports. Data from the short-term archive must not be overwritten until summary reports have been generated. Once saved to the long-term archive, the AVL/GPS must not delete (scrub) data within the long-term archive. All long-term archive data must be retained in accordance with State data retention policies and procedures as identified by Department. The User shall have the capability to select the date, time, and filename for the long-term archive. The AVL/GPS must allow the User to review data from the long-term archive. This review must not interfere with the operation of the real-time AVL/GPS. This requirement may be met by having a separate AVL/GPS available to view data from the long-term archive.

5. AVL/GPS Security

The Contractor shall utilize industry best practices to ensure the security of the AVL/GPS and immediately address and notify the Department within twenty-four (24) hours of any known AVL/GPS vulnerabilities. Contractor shall house all hosted systems in physically secure facilities. Contractor shall have procedures to prevent unauthorized use or misuse of the AVL/GPS. Contractor’s security procedures shall apply to, including but not limited to, password protection and functions used to reconfigure or change the operating status of the AVL/GPS.

D. MDSS Requirements

1. General Requirements

(a) The MDSS must detect, diagnose, forecast, and display surface transportation weather phenomena, road condition information, and winter maintenance treatment recommendations for supporting winter road maintenance operations, which includes, but is not limited to, snow plowing, deicing and anti-icing.

- (b) The MDSS must integrate environmental (weather), road condition and transportation operational data in a manner that allows it to provide predictions of pavement conditions, including but not limited to, pavement temperature, precipitation accumulation and anti-icing chemical effectiveness, associated with winter road maintenance.
- (c) Using the pavement condition and environmental prediction information, the MDSS must provide decision support guidance to Department on information related to treatment options, including but not limited to plowing, deicing and anti-icing, timing of application, location of application and amount of application based on current and predicted weather conditions.
- (d) The MDSS must notify Users at the time data updates are generated such as availability of new forecasts. Updates must be uploaded only when the User accepts the update.
- (e) The MDSS must be accessible from any web browser. The MDSS must accommodate at least six-hundred (600) simultaneous Users with no impact on website performance from multiple locations. The MDSS must allow authorized Users to search, filter, export and generate reports based on MDSS data. The MDSS must assign User privileges based on usernames and passwords. User access levels must be configurable for type of User such as, but not limited to, administrator, management and various office/agency level, as defined by the Department.
- (f) All MDSS equipment and software must be compliant with NTCIP standard 1204. The MDSS must include the capability to routinely monitor MDSS status including fault tolerance with high reliability.
- (g) The MDSS must be designed in accordance with standard commercial practices for software development and have allowance for expansion of computing power. The MDSS software must run on commercial-off-the-shelf hardware commonly available with no special hardware development required. The MDSS must incorporate weather and road data from disparate sources such as, but not limited to, National Weather Service (“NWS”), AVL/GPS, WMT, RWIS and automated weather observing systems.
- (h) The MDSS (including all servers and displays) must be synchronized using a time standard and local time for all displays. The MDSS displays must use English as the default setting.
- (i) The MDSS must have the capability to modify the number of WMTs and sensors monitored.
- (j) Database - The MDSS must access, store, and archive MDSS data in a database that is used exclusively to hold only the Department’s data. The MDSS database must be designed to preserve the integrity of collected data, include a dictionary and relationship diagram for translation and facilitate access and export of data for potential use in other Department’s applications.
- (k) Database Operation - The MDSS database must operate twenty-four (24) hours per day, six hundred sixty-five (365) days per year, and be capable of managing year-end and daylight savings changes with no impact to the MDSS.

(l) Contractor, or its designated sub-contractor, must ensure all data is backed-up and recovered.

(m) The MDSS website user interface must utilize point and click features as much as possible to increase ease of use and limit input User error.

(n) Real-Time Data feed - The MDSS must include a web services API to allow read only secured access for raw data retrieval for use in other relational database applications such as GIS mapping or other Department uses.

2. MDSS Operation

(a) The weather forecasting system must include integrated MDSS functionality to support appropriate road maintenance actions that result in optimal road surface results with efficient use of resources for specific weather conditions. Treatment recommendations must be provided for each hour of the forecast when indicated by the current and future pavement and weather forecast parameters.

(b) The MDSS must support the Federal Highway Administration Pavement Recommendation Rules of Practice regime as the default treatment recommendations for specific weather situations. MDSS must allow Users to incorporate customized treatment plan recommendations to reflect individual best practices in chemical application, timing, type and rate as well as plowing actions. Users must be able to select the appropriate route cycle times or times for their routes. Treatment recommendations must be provided for the next forty-eight (48) hours to indicate required actions prior to, during, and after a storm.

(c) The MDSS must enable the Department, in its sole discretion, to share the forecast with other state agencies as appropriate. A unique forecast must be provided for each localized area/route.

(d) Maintenance decision support tools including road treatment recommendations must be provided November 1st through April 30th, unless otherwise instructed by the Department.

(e) A ten (10) day forecast must be provided once daily for the calendar year. . Forecasting parameters must be selectable enabling each parameter to be turned on or off. Forecasts must be displayed by the hour for forty-eight (48) hours and by the day for ten (10) days.

(f) Users shall be able to select customizable alerts for specific weather data or sensor data. Limits must be selectable for each alert. Users shall have the option of getting alerts via any one or more of the following methods: text, phone and email. Alerts must be able to be sent to an individual User or to a Department configurable group of Users.

3. MDSS Coverage Area

(a) The MDSS must be designed to operate (via configurable files) in any user-defined region which includes, but is not limited to, state, city, or county that has input data necessary to support its operations. The MDSS must generate weather forecasts for zones or regions around the State as identified by the User such as, but not limited to, forecast zones and maintenance zones.

(b) The MDSS must provide weather and road condition products (via configurable files) for road routes (maintenance routes) identified by the User.

4. MDSS Website Display

(a) The MDSS website display must have, but not be limited to, the following general capabilities:

- (1) Ability to view plan-view graphics, time series information and animation;
- (2) Time selection whereby the User can select the time period for data viewing;
- (3) Print and alert function;
- (4) Ability to review historical data, select viewing area, and select products for viewing, such as WMT, radar, forecasts, and weather;
- (5) Help function;
- (6) Ability to combine data on time series plots;
- (7) Ability to configure data ranges (scale) for each time series plot; and
- (8) Ability to overlay and combine graphical products such as, but not limited to, WMT, radar forecasts and weather stations.

(b) The MDSS display must be able to view plan view graphics, local radar, route specific treatment recommendations, route specific weather and pavement forecasts. The MDSS display must have the ability for WMT operators to report road conditions.

5. MDSS Map Overlays

The MDSS must make configuration files to incorporate new map data. Map overlays must be available for the following:

- (1) Roads (State and local highways and secondary roads);
- (2) Road designators including, but not limited to, route numbers;
- (3) Road control section and mile marker identification;
- (4) CTDOT Districts, CTDOT Maintenance Zones, and CTDOT weather zones;
- (5) Political boundaries including, but not limited to, states, counties and cities; and
- (6) Weather and road condition observation sites.

6. MDSS Data Archive

(a) The MDSS must include a short and long-term data storage capability. The process of saving data must not interfere with the normal operation of the MDSS.

(b) Short-Term Archive - The short-term archive must have forty-eight (48) hours of data. The oldest stored data must be routinely overwritten by new incoming data, such that the integrity of incoming data is preserved. Data within the short-term archive must be viewable by selecting the date and time of interest from the MDSS display interface.

(c) Flagged Storm Data - The MDSS must flag data in the short-term archive so that such data will be permanently saved and not automatically overwritten. The Department shall be able to

notify the Contractor to retain the data indefinitely for up to ten (10) separate storm events, until the Department approves overwriting such data.

(d) Long-Term Archive - The long-term archive must consist of data sets specifically saved by the User. The long-term archive must include all summary reports. Data from the short-term archive must not be overwritten until summary reports have been generated. Once saved to the long-term archive, the MDSS must not delete data within the long-term archive. All long-term archive data must be retained in accordance with State data retention policies and procedures. The User must have the capability to select the date, time, and filename for the long-term archive. The MDSS must provide a capability for the User to review data from the long-term archive. This review must not interfere with the operation of the real-time MDSS. The long-term archive solution may be satisfied by providing a separate instance of the MDSS application which would be available to exclusively view data from the long-term archive data sets.

(e) The MDSS must have a capability to view historical weather and road condition prediction products together with actual observational data to give the User an indication of the performance of the weather and road condition predictions.

(f) Users shall have the ability to select any of the forecasts from the previous twenty-four (24) hour period. For example, the User shall be able to select a forecast six (6) hours previous and compare the predicted conditions to the actual conditions.

7. MDSS Security

The Contractor shall utilize industry best practices to ensure the security of the MDSS and immediately address and notify the Department within twenty-four (24) hours of any known MDSS vulnerabilities. Contractor shall house all hosted systems in physically secure facilities. Contractor shall have procedures to prevent unauthorized use or misuse of the MDSS. This particularly applies to those functions that can be used to reconfigure or change the operating status of the MDSS. Contractor shall provide security to ensure that the MDSS cannot be accidentally disabled from any display device or network system.

8. Weather Forecast Products

(a) Weather forecast products refer to weather elements above the ground. A minimum of forty-eight (48) hour weather forecast must be provided. Weather forecast products must have a temporal resolution of at least one (1) hour. Weather forecast products must be updated no less than every three (3) hours; that is, a new forty-eight (48) hour forecast must be provided every three (3) hours. The below described weather forecast products are built in to the MDSS website.

(b) The weather forecast products must be geo-referenced to the Department domain using map overlays that include, but are not limited to, roads, road designators and geographic boundaries.

(c) The following weather forecast products must be provided two (2) meters above ground level, unless otherwise noted:

(i) Surface Air Temperature Forecast Product - The output of the Surface Air Temperature Forecast Product on the MDSS website display must have the following characteristics: (1) Surface air temperature in degrees Fahrenheit; (2) Time series information (text and graphical formats) of the surface air temperature; and (3) Reference lines (configurable) associated with frequent thresholds such as freezing.

(ii) Surface Dew Point Temperature Forecast Product - The output (content) of the Surface Dew Point Temperature Forecast Product on the MDSS website display must have the following characteristics: (1) Surface dew point temperature in degrees Fahrenheit; and (2) Time series information (text and graphical formats) of the surface dew point temperature.

(iii) Surface Wind Speed & Direction Forecast Product - The output (content) of the Surface Wind Speed & Direction Forecast Product on the MDSS website display must have the following characteristics: (1) Wind speed in statute miles per hour by default; (2) Wind direction in degrees with respect to true north; and (3) Time series information (text and graphical formats) of the wind speed and direction.

(iv) Surface Wind Gust Forecast Product - The output (content) of the Surface Wind Gust Forecast Product on the MDSS display must have the following characteristics: (1) Wind gust speed in statute miles per hour; and (2) Time series information (text and graphical formats) of the wind gust speed.

(v) Conditional Probability of Precipitation Type Forecast Product - The Conditional Probability of Precipitation Type Forecast Product provides the probability that a particular precipitation type will occur if there is any precipitation at all. The Conditional Probability of Precipitation Type Forecast Product must include the conditional probability of precipitation type with the ability for the User to view the probability of each type of precipitation as well as the predominant type. The precipitation type must be provided for at least the following: (1) Rain; (2) Snow; (3) Ice; (4) Mixed (rain, snow, ice); (5) Predominant precipitation type (the type that the model selects as the most likely kind that will occur); and (6) Time series information (text and graphical formats) of the predominant precipitation type.

(vi) Precipitation Rate Forecast Product - The output (content) of the Precipitation Rate Forecast Product on the MDSS website display must have the following characteristics: (1) Liquid equivalent precipitation rate in inches per hour (to a precision of a hundredth of an inch); (2) Snowfall precipitation rate in inches per hour (to a precision of a tenth of an inch); and (3) Time series information (text and graphical formats) of the precipitation rate.

(vii) Snowfall Accumulation Forecast Product - The Snowfall Accumulation Product must indicate the amount of snow that is expected to reach the surface (ground) over a specified period. Melting of precipitation due to warm surface conditions is not considered in this product. The output (content) of the Snowfall Accumulation Forecast Product on the display must have the following characteristics: (1) Snowfall accumulation must be provided in inches (to a precision of a tenth of an inch); (2) Time series information (text and graphical formats) of the snowfall accumulation; and (3) Snowfall accumulation must be provided at User-defined temporal increments out to forty-eight (48) hours including, but not limited to, 3-hour, 6-hour, and 12-hour accumulation.

9. Weather Observation Products

- (a) Weather observation products must be provided by the MDSS. The weather observations products must be geo-referenced to the Department domain using map overlays that include, but are not limited to, roads, road designators, and political boundaries.
- (b) Weather observation products must include, but not be limited to, observations from the following sources: NWS, United States Department of Transportation Federal Aviation Administration and other sources, as available.
- (c) Weather observation products must include the following parameters, where available: (1) Air temperature (degrees Fahrenheit); (2) Relative humidity (percent); (3) Dew point (degrees Fahrenheit); (4) Wind speed & wind direction (miles per hour & degrees with respect to true north); and (5) Radar Imagery.
- (d) The weather observation products must update as new data arrive. The output (content) of the weather observation products on the MDSS website display must have the following characteristics: (1) Surface observation data must expire off the screen after a configurable number of minutes; (2) Expiration time must be independently configurable for each observation product; (3) Time series (text and graphical formats); and (4) Animation of the observations.

10. Radar Product

The radar product must be based on data provided by the National Oceanic and Atmospheric Administration. Other radar data sources may be used if applicable including, but not be limited to, FAA Terminal Doppler Weather Radar and local media owned radars. The radar product must be based on the reflectivity (intensity) field. The radar product must update as new data arrive. Radar products must be provided for User-defined areas throughout the State. The output (content) of the radar product must display on the MDSS radar reflectivity (intensity) field (plus color legend).

11. NWS Watch, Warnings and Advisories Product

- (a) The MDSS must provide NWS watch, warnings and advisories to be accessed by the Department.
- (b) The NWS watch, warnings and advisories must include, but not be limited to:
 - (1) Winter storm watches and warnings;
 - (2) Flood watches and warnings;
 - (3) Flash flood watches and warnings;
 - (4) Severe thunderstorm watches and warnings;
 - (5) Tornado watches and warnings;
 - (6) High wind watches and warnings;
 - (7) Special weather statement;
 - (8) Freeze watches and warnings;
 - (9) Winter weather advisories;
 - (10) Dense fog advisories; and

(11) Snow advisories.

(c) The NWS watch, warning and advisory product must be provided in text format. Graphical depictions of NWS watches and warnings may be provided, where applicable. When a NWS watch, warning or advisory is in effect for an area (configurable) that covers the Department location coverage, the MDSS website display must provide an indicator such as a highlighted button.

12. Road Condition Observation Products

(a) Road condition observation products must be provided and shown on the MDSS display.

(b) Road condition observation products may include, but not be limited to, observations or measurements from the following sources:

- (1) Road Weather Information Systems (“RWIS”);
- (2) Mobile Road Weather Information Systems (MRWIS); or
- (3) AVL/GPS data and WMT data from the WMT fleet.

(c) Road condition observation products must include the following parameters, where available:

- (1) Road temperature (degrees Fahrenheit);
- (2) Subsurface temperature (degrees Fahrenheit);
- (3) Chemical concentration on road (percent by weight);
- (4) Freeze point temperature (degrees Fahrenheit);
- (5) Pavement condition as: Wet, Dry, or Chemically Wet;
- (6) Snow, frost, and ice depth (inches);
- (7) Blowing snow (yes/no); and
- (8) Visibility (miles or fractions of miles).

(d) The road condition observation products must update as new data arrive. The output (content) of the road condition observation products on the MDSS display must have the following characteristics:

- (1) The surface observation data must expire off the screen after a configurable number of minutes;
- (2) The expiration time must be independently configurable for each observation product;
- (3) Viewing of the road observation condition product must be User selectable;
- (4) Time series (text or graphical formats) of the observations; and
- (5) Animations of the road condition prediction products.

13. Road Condition Prediction Products

(a) The road condition prediction products must be projected to at least forty-eight (48) hours and with temporal resolution of at least one (1) hour.

- (b) The road condition prediction products must be updated every three (3) hours; that is, a new forty-eight (48) hour forecast must be provided no less than every three (3) hours.
- (c) The road condition prediction products must provide the following:
 - (1) Road temperature;
 - (2) Road chemical concentration;
 - (3) Snow depth on road;
 - (4) Blowing snow potential;
 - (5) Pavement frost potential; and
 - (6) Pavement condition.

14. Road Temperature Prediction Product

- (a) The Road Temperature Prediction Product must be provided at predefined (configurable) locations associated with each Department maintenance route. The Road Temperature Prediction Product must be based on a thermal energy balance model and/or empirically based model.
- (b) The output (content) of the Road Temperature Prediction Product on the MDSS display must have the following characteristics: (1) Road temperature in degrees Fahrenheit presented graphically at each forecast location within the chosen (configurable) maintenance routes; and (2) Time series information (text and graphical formats).

15. Road Snow Depth Prediction Product

- (a) The Road Snow Depth Prediction Product must provide information that describes the amount of snow that is predicted to accumulate on a road surface without traffic and for specific winter maintenance treatments.
- (b) The Road Snow Depth Prediction Product must take into account (at a minimum) the forecasted precipitation type and rate, and road temperature to estimate the amount of snow that will accumulate on the road surface.
- (c) The Road Snow Depth Prediction Product must be provided at predefined (configurable) locations within each Department maintenance route.
- (d) The Road Snow Depth Prediction Product must take into account treatment options including the amount of snow expected to accumulate on the road in the event of the following: (1) No treatment is performed; (2) Recommended treatment is performed; and (3) User-defined treatment is performed.
- (e) The output (content) of the Road Snow Depth Prediction Product on the MDSS display must have the following characteristics: (1) Snow/ice amount given in inches by default (to a tenth of an inch); (2) Snow depth shown for various treatment options including: no treatment, recommended treatment, and User-defined treatment; (3) Road snow depth presented graphically at each forecast location associated with the chosen (configurable) maintenance routes; and (4) Time series information (text and graphical formats) of the road contamination accumulation.

16. Blowing Snow Potential Product

(a) The Blowing Snow Potential Product must provide information that describes the likelihood for blowing snow. The Blowing Snow Potential Product must take into account (at a minimum) recent snowfall characteristics, the forecasted precipitation type and rate, predicted wind speed, local topography, and predicted air temperature. The Blowing Snow Potential Product must be provided at predefined (configurable) locations within each Department maintenance route.

(b) The output (content) of the Blowing Snow Potential Product on the MDSS display must have the following characteristics: (1) Likelihood value for blowing snow such as, low, medium, high or as a percentage; (2) Likelihood values at hourly increments; and (3) Time series information (text and graphical formats).

17. Pavement Frost Potential Product

(a) The Pavement Frost Potential Product must provide information that describes the likelihood for frost on the pavement surface (road and/or bridges). The Pavement Frost Potential Product must take into account (at a minimum) predicted pavement temperature, predicted precipitation type and rate, predicted wind speed, predicted relative humidity (considerations of dew point/frost point), and predicted air temperature. The Pavement Frost Potential Product must be provided at predefined (configurable) locations within each Department maintenance route.

(b) The output (content) of the Pavement Frost Potential Product on the MDSS display must have the following characteristics: (1) Likelihood value for pavement frost such as low, medium, high or as a percentage; (2) Likelihood values at hourly increments; (3) Likelihood values for each road forecast segment such as plow route; and (4) Time series information (text and graphical formats).

18. Pavement Condition Prediction Product

(a) The Pavement Condition Prediction Product must provide the following information on the predicted state of the pavement: (1) Percent coverage of snow; and (2) Snow, frost, and ice depth (inches).

(b) The output (content) of the Pavement Condition Prediction Product on the MDSS display must include the following characteristics: (1) Pavement condition presented in text format indicating the pavement condition of, including but not limited to, wet, dry, and chemical wet, for each road forecast location; and (2) Time series information (text and graphical formats).

(c) The Pavement Condition Prediction Product must take into account the pavement condition when the following occurs: (1) Treatment is not performed; (2) MDSS-recommended treatment is performed; and (3) User defined treatment is performed.

19. Generation of Treatment Recommendation Predictions

- (a) The MDSS must provide not less than twenty-four (24) hours in advance treatment recommendation predictions for winter road maintenance at User defined (configurable) locations such as plow routes.
- (b) The winter maintenance rules of practice used in the MDSS must be configurable, as necessary, to reflect the Department practices.
- (c) Treatment recommendations must include the following for each User defined route: (1) Recommended initial and subsequent treatment start time; (2) Recommended treatment type such as chemical, abrasives, or plow; (3) Recommended chemical type based on available chemicals as identified by the Department; (4) Recommended material rate such as amount per lane mile; and (5) Recommended pre-treatment type (solid or liquid), where applicable.
- (d) The MDSS must have a capability to incorporate constraints (configurable) for each route so that irrelevant treatment recommendations are not provided. For example, the use of NaCl must not be recommended if the User does not use that chemical. Constraints may include the following: (1) Available materials including, but not limited to, NaCl, MgCl₂, CaCl₂, and abrasives; (2) Application rate limits (based on truck spreading limits); and (3) Route cycle limits (minimum turnaround time to repeat treatments).
- (e) Treatment recommendations must be calculated from MDSS, to the greatest extent possible, using a combination of current observational data on the state of the roadway and predicted weather and road conditions. Treatment recommendation calculations from MDSS must consider, to the greatest extent possible, factors that impact treatment effectiveness including, but not limited to, chemical scatter, splatter, traffic impacts and spreader characteristics.

20. System Alert Function

- (a) The System Alert Function (the “System Alert Function”) must alert the User when specific data thresholds (configurable) have been exceeded. Users shall be able to query the System Alert Function and view the information related to an alert.
- (b) The System Alert Function must indicate that an alert is active by one or more of the following methods: (1) Highlighting an alert button; (2) Changing the color of an alert button; (3) Flashing an alert button; and (4) Audible alert (finite series of beeps or tones).
- (b) The System Alert Function must include a capability to send e-mail or text message notices to a User or a Department configurable group of Users when specific alerts (configurable) are generated.

E. Real-Time Data Feeds

1. Access to Data

- (a) The Contractor shall provide a real-time API for AVL/GPS sensor data with Camera images and MDSS data. The Camera image must include a timestamp of the image.

- (b) The location and Camera images must be available via the API with a time-based filter. The Contractor shall enhance the API with additional filters to allow for filters based on speed, status, a certain subset, and distance from geofences.
- (c) The real-time MDSS data feed must include estimated pavement condition information for all configured Department roadway segments.
- (d) The Contractor shall support server to server communication for Real-Time Data transfer.
- (e) The Contractor shall provide updated Real-Time Data at a minimum frequency of every ten (10) minutes. Update frequency must be User configurable. The Contractor must allow the Department to temporarily store Real-Time Data locally on Department owned and maintained server hardware, as requested by the Department.
- (f) The Department may interface its Advanced Traffic Management Software for reporting incidents and congestion (CRESCENT) and traveler information systems, including, but not limited to, the CT Travel Smart website, with the Real-Time Data feed.

2. Mapping Standard

The Contractor shall overlay the open streets map with GIS data provided by the Department. Alternately, if the Department provides open access to the ESRI mapping system and server used by the State, the Contractor shall integrate their map data into the ESRI map layer. As an alternative, the Contractor may take file data from the Department and create an overlay for the Department to display on other Advanced Traffic Management System (“ATMS”) application. ATMS is a top-down management perspective view that integrates technology primarily to improve the flow of vehicle traffic and improve safety.

3. Data Sharing

The Contractor shall provide full access rights to the Department and its officially designated representatives for internal Department use of all Real-Time Data. The Department and its officially designated representatives may disseminate Real-Time Data, processed Real-Time Data, and any information and calculations derived from the Real-Time Data to the general public.

4. Privacy

The Contractor shall ensure that all Real-Time Data does not contain any Confidential Information. In the event Contractor receives any Confidential Information, Contractor shall immediately notify the Department.

IV. PROJECT MANAGEMENT AND IMPLEMENTATION REQUIREMENTS

A. General

The Contractor shall provide the following project management and implementation requirements. The timeline and payment of such project management and implementation requirements are indicated in Exhibit 3 “Deliverable Implementation Schedule”.

- (a) Project Management Plan;
- (b) System Design Document;
- (c) Requirements Traceability Matrix;
- (d) Test Plan;
- (e) Test Results;
- (f) Training Plan;
- (g) User and Administrator's Manual;
- (h) Mobilization (startup costs);
- (i) WMT Equipment Installations, WMT Prototypes;
- (j) WMT Prototype test
- (k) WMT Equipment Installation, Phase 1
- (l) Integration;
- (m) Phase 1 Training;
- (n) Phase 1 Demonstration Test;
- (o) WMT Equipment Installations, Phase 2
- (p) Phase 2 Training; and
- (q) Phase 2 Demonstration Test.

B. Project Management Plan

The Contractor shall provide a project management plan (the "Project Management Plan") in accordance with the Contractor's proposal. The Project Management Plan must include, at minimum, the following:

- (a) The overall project management approach to the project;
- (b) Identification of roles and contact information for key members of the project team;
- (c) A description of major assumptions and risks;
- (d) Project progress reporting and meetings;
- (e) A detailed Master Schedule of Work; and
- (f) A detailed description of any other major project management tasks and activities.

C. Master Schedule of Work

1. The Contractor shall provide the Department a master schedule of work (the "Master Schedule of Work") upon execution of this Contact. The Master Schedule of Work must list the implementation sequence.
2. Upon receipt of the Master Schedule of Work, the Department shall review and revise the Master Schedule of Work. The Contractor shall promptly revise the Master Schedule of Work upon receipt of the Department's comments.
3. The Master Schedule of Work must identify the delivery schedule of necessary documentation, all project implementation activities including delivery and installation of WMT equipment, AVL/GPS, and MDSS, training programs, and test procedures of the equipment, with the foregoing requirements described in the Master Schedule of Work.

4. The Master Schedule of Work must be implemented in a program evaluation and review technique such as GANTT or an equivalent form indicating the Department's and any third party's responsibilities and activities.

D. System Design Document

1. The Contractor shall provide the Department the system design Document (the "System Design Document") within the deadline indicated in Exhibit 3. The System Design Document must provide the following: (i) detailed documentation of the in-vehicle equipment system architecture, (ii) data, (iii) product sheets, (iv) installation plans, (v) wiring diagrams and mounting locations, for each of the various makes and models of WMT, (vi) communications information, (vii) user guides and sample reports for the AVL/GPS and MDSS, (viii) information on the Real-Time Data feeds, and (ix) information on the AVL/GPS and MDSS hosting facilities.
2. The WMT, AVL/GPS/, and MDSS software descriptions must include functional descriptions, graphical user interface descriptions with mock-ups, database design documentation, interface descriptions, configuration details, reporting functions, query functions, and reports.
3. The communications documentation must include details on Communications Equipment and hardware, cellular data service provider selection and coverage, communications protocols, data capacity calculations, path redundancy and resiliency provisions, data backup, and MDSS and AVL/GPS recovery provisions, and network configuration details.

E. Requirements Traceability Matrix

The Contractor shall provide the Department a Requirements Traceability Matrix within the deadline indicated in Exhibit 3 to verify that the System Design Document addresses all AVL/GPS and MDSS requirements in accordance with standard systems engineering practices.

F. Test Plan

1. The Contractor shall provide a detailed test plan (the "Test Plan") within the deadline indicated in Exhibit 3. The Test Plan must include the criteria for test initiation, test equipment, detailed test procedures and expected results, and procedures for dealing with test failures and retests, and the Test Plan schedule. The Test Plan must provide a detailed information to allow test observers to follow the testing procedure, witness the expected test results, and confirm test success or failure.
2. The Test Plan must describe and include test procedures for, at minimum, the WMT Prototype Test, communications testing, the Phase 1 Demonstration Test, the Phase 2 Demonstration Test and MDSS availability Tests Results.
3. The Contractor shall include procedures for communications testing in the WMT Prototype Test, the Phase 1 Demonstration Test, and the Phase 2 Demonstration test. The

Contractor shall perform communication testing to ensure that, including but not limited to, all Communications Equipment, modems and data cards have been properly installed, configured, and are fully operational.

4. The Contractor may propose alternative testing for the Department's review and approval for verification and validation of the Test Plan.
5. The Department shall have the right to independently evaluate and verify the Contractor's Test Results.

G. Test Results

As part of every test of the WMT in-vehicle equipment, the Contractor shall provide the Department all test results (the "Test Results") on the Department's approved test report form. The Test Results must include, but are not be limited to, the following:

- (a) Detailed description of the test environment;
- (b) Each commercial off-the-shelf product including stamped quality testing documents before such product leaves the manufacturing factory;
- (c) The Requirements Traceability Matrix listing each requirement's test results;
- (d) Any additional submittals required by the System Design Document specification;
- (e) Documentation of all equipment and configuration changes necessary to meet requirements following test failures; and
- (f) Test Result logs.

H. Training Plan

1. Training Plan Overview

- (a) The Contractor shall submit a training plan (the "Training Plan") to the Department within the deadline indicated in Exhibit 3 to for the Department's review and approval;
- (b) The Training Plan must describe proposed training sessions, including information on presenters, materials to be presented, training objectives, and training facility requirements;
- (c) The Training Plan must summarize any online help tools and/or User tutorials, including, but not limited to, sample screen shots and information on accessing such items online; and
- (d) The Contractor shall coordinate scheduling training sessions with the Department.

2. Training

- (a) The Contractor shall conduct training of Department staff demonstrating the use of the WMT in-vehicle equipment for up to six hundred fifty (650) WMT operators;

- (b) At minimum, the Contractor shall provide training for all features of the WMT in-vehicle equipment, all features of the AVL/GPS and MDSS websites and software functionality including accessing the data, data analysis, report preparation, and retrieving/exporting of data;
- (c) The Contractor shall conduct training of Department staff demonstrating the use of the AVL/GPS and MDSS websites and software and accessing the online help tool and tutorials, for up to one hundred fifty (150) Department Users and administrators;
- (d) Training must be located at the Department’s facility unless otherwise specified by the Department at its sole discretion;
- (e) The training must include an overview and examples of the various reports that can be generated using the AVL/GPS and MDSS website and software functionality tools;
- (f) The Contractor shall provide all necessary training materials and permit the Department to produce unlimited quantities of such training materials for internal use; and
- (g) The Contractor shall provide annual refresher training prior to the winter maintenance season for up to one hundred (100) Department WMT vehicle drivers and fifty (50) Department Users and administrators.

3. Online Help Tools and User Tutorials

- (a) The Contractor shall provide online help tools and tutorials for the AVL/GPS and MDSS software and websites and in- vehicle equipment;
- (b) The online tutorials must provide step-by-step instructions on all functionality provided by the AVL/GPS and MDSS websites and software; and
- (c) The online help tools must provide general information about the AVL/GPS and MDSS websites and software and frequently asked questions (“FAQs”).

I. User and Administrator Manual

The Contractor shall provide a user and administrator’s manual (the “User and Administrator’s Manual”) for the AVL/GPS and MDSS. The User and Administrator’s Manual for the AVL/GPS and MDSS must describe, at a minimum, the following:

- (a) Features and functionality;
- (b) Data analysis and reporting tools;
- (c) FAQs and troubleshooting;
- (d) Inventory of WMTs outfitted and the equipment installed in each WMT;

- (e) User manual for in-vehicle systems, such as the touch screen display or any other operator-controlled equipment in the WMTs; and
- (f) Description of any recommended preventive and recurring maintenance requirements such as calibration tests, filter replacements, and cleaning for all installed equipment.

J. Mobilization (start-up costs)

The Contractor shall be responsible for all mobilization costs. Mobilization costs constitute all the work necessary for moving Contractor's project personnel and equipment to the Department's facility in order for the Contractor to complete its Performance.

K. WMT Equipment Installation, WMT Prototypes

The Contractor shall include installation, integration, configuration, and hardware testing of OBU, In-Vehicle Display, On-Vehicle Weather Sensors, Location Sensors, Equipment Sensors, Communications Equipment, Other In-Vehicle Equipment, Cameras, wiring, and other hardware on approximately five (5) WMT of various makes and models.

L. WMT Prototype Test

1. The Contractor shall conduct and participate in a vehicle prototype test (the "WMT Prototype Test"), consisting of ,integration, configuration, and hardware testing of OBU, In-Vehicle Display, On-Vehicle Weather Sensors, Location Sensors, Equipment Sensors, Communications Equipment, Other In-Vehicle Equipment, Cameras, wiring, and other hardware on five (5) different makes and models of WMT in accordance with the Department's approved installation plans. The Contractor shall submit installation plans as part of its System Design Document. The Department or their designated representative shall oversee the WMT Prototype Test. Following installation, the Department staff shall inspect the equipment installed in the WMT to identify any issues with equipment placement, materials, or installation methods. The Contractor shall then test the AVL/GPS and MDSS to demonstrate equipment operation, features and functionality, and proper AVL/GPS and MDSS configuration and integration. If any issues are found, the Contractor shall then propose modifications to its installation plans to address such issues. Once the Department determines that all installation issues have been resolved, the Department shall issue written approval of the WMT Prototype Test and the Contractor shall be permitted to proceed with installation of the equipment on the remainder of the Phase 1 WMTs.
2. The Contractor shall schedule the WMT Prototype Test at least fourteen (14) calendar days in advance. The Department and/or its designated representatives shall be invited to observe the WMT Prototype Test.
3. Upon resolution of installation issues, the Contractor shall test WMT equipment to demonstrate safe and stable operation of all equipment, all equipment required features and functionality, proper equipment integration, successful integration and transmittal of data from the WMT to the AVL/GPS and MDSS software, servers and websites, and proper configuration and reporting of data in the AVL/GPS servers and MDSS servers.

4. At minimum, the WMT Prototype Test must include the following testing categories:
 - (a) Equipment power on/power off;
 - (b) AVL/GPS signal testing;
 - (c) AVL/GPS performance and accuracy testing;
 - (d) Camera performance testing;
 - (e) On-Vehicle Weather Sensors performance testing;
 - (f) Vehicle Sensors;
 - (g) Location Sensors;
 - (h) Equipment Sensor performance testing;
 - (i) Communications Equipment performance testing;
 - (j) OBU performance and data retention testing;
 - (k) In-Vehicle Display performance testing;
 - (l) AVL/GPS website features and report testing;
 - (m) MDSS website features and report testing;
 - (n) Data integration and data quality testing; and
 - (o) Real-Time Data feed testing.

5. Data quality testing must determine if data are fit for all purposes and specifications required under this Exhibit 2.

M. WMT Equipment Installation, Phase 1

Upon receipt of the Department's written approval of the WMT Prototype Test, the Contractor shall install IMO on the remaining WMT Equipment Installation Phase 1 WMTs. Upon completion of installation, the Contractor shall conduct and participate in Demonstration Testing for Phase 1. For each WMT, the Contractor shall conduct a hardware test to ensure that all equipment has been properly installed, integrated, and configured and is operating properly. The Contractor shall demonstrate proper data flow and integration among the AVL/GPS server and website, and the MDSS server and website. The Contractor shall demonstrate that the Real-Time Data feeds for the AVL/GPS server and MDSS server are available and performing as intended. The Contractor shall then participate in a thirty (30) day operational test period to demonstrate IMO stability and reliability. Upon successful completion of this thirty (30) day operational test period, the Department shall issue written acceptance of the WMT Equipment Installation for Phase 1.

N. Integration

Contractor shall complete integration and configuration of WMT in-vehicle equipment with AVL/GPS, MDSS, and data feeds prior to training and testing.

O. Phase 1 Training

Contractor shall provide all required Phase 1 training to the Department. Phase 1 training must be completed in accordance with the Training Plan.

P. Phase 1 Demonstration Test

1. As part of the Phase 1 Demonstration Test, the Contractor shall install Deliverables in sixty-one (61) WMTs at the Department's facility located at 660 Brooke Street, Rocky Hill, CT.
2. For each WMT, the Contractor shall conduct a hardware test, replicating the WMT Prototype Test, to ensure that all Deliverables are properly installed and are operational. As part of the hardware test, the Contractor shall verify the accuracy of the following, including but not limited to, AVL/GPS, MDSS, Communications Equipment, Cameras, On-Vehicle Weather Sensors, Vehicle Sensors, Equipment Sensors, Location Sensors, In-Vehicle Display, and OBU. The Department may, at its sole discretion, observe the hardware test and inspect the installation of all the foregoing Deliverables. The Contractor shall promptly submit all test documentation for each WMT to the Department's designated representative.
3. Following the Department's approval of all WMT installations in the Phase 1 Demonstration Test, the Contractor shall demonstrate that all WMT are successfully transmitting data and are properly integrated with AVL/GPS and MDSS within seven (7) calendar days of the Department's approval of the hardware tests.
4. Once all the Deliverables in the Phase 1 Demonstration Test have been installed and the Contractor has demonstrated that all WMTs have been integrated into the AVL/GPS and the MDSS, a thirty (30) day operational test period shall commence. During the thirty (30) day operational test period, the Department shall operate the AVL/GPS under operating conditions mutually agreed upon to ensure that all requirements are met and to measure the reliability and Availability of AVL/GPS and MDSS.
5. During the thirty (30) day operational test period, the Contractor shall measure the performance of AVL/GPS and MDSS s including failures, and report the same to the Department on a weekly basis. The Department may, at its sole discretion, suspend and restart the thirty (30) day operational test period if AVL/GPS and MDSS fails.
6. During the thirty (30) day operational test period, the Contractor shall record any changes to AVL/GPS and MDSS configuration or operation and report such changes promptly to the Department. The Contractor shall update AVL/GPS and MDSS documentation as necessary.
7. During the thirty (30) day operational test period, Type I and Type II failures may occur. Type I and Type II failures are defined as follows:
 - (a) Type I Failures: A Type I failure is a malfunction resulting from conditions beyond the control of the Contractor, or failures that are minor in nature and can be corrected within twenty-four (24) hours.
 - (i) Unless otherwise approved by the Department, the thirty (30) day operational test period must be suspended for the time necessary to make the corrections.

- (ii) Time suspension must begin when the Type I failure is first reported, and it must extend only as long as required to resolve the failure.
 - (iii) Once the Contractor demonstrates that the Type I failure has been resolved, the Department shall authorize the Contractor to proceed, and the thirty (30) day operational test period will resume, continuing from the time prior to the suspension.
 - (iv) If a subsequent Type I failure occurs similar in nature to a previous Type I failure, the Contractor shall provide evidence that the Type I failures were distinct and unrelated, otherwise the subsequent failure will be reclassified as Type II.
- (b) Type II Failures: A Type II failure is a malfunction that involves conditions within the control of the Contractor including, a failure related to AVL/GPS and MDSS design, installation, or configuration, a Type II failure that takes longer than twenty-four (24) hours to correct, or a Type I failure that re-occurs following initial Contractor correction.
- (i) Unless otherwise approved by Department, the thirty (30) day operational test period must be suspended for the time necessary to make the corrections.
 - (ii) The suspension must begin when the Type II failure is first noticed, and it must extend only as long as required to resolve the Type II failure.
 - (iii) Once the Contractor demonstrates that the Type II failure has been resolved, the Department shall authorize the Contractor to proceed, and the thirty (30) day operational test period will commence.
8. During the thirty (30) day operational test period, the Contractor shall document and report all failures to the Department. A Failure Review Team (the "FRT") shall be established by the Department to review all failures. The FRT shall be comprised of one (1) member which the Department designates and one (1) member which the Contractor designates. The Department, in its sole discretion, may name to the FRT one (1) member from Department's outside consultant team; the Department shall select such member. The RFT must first attempt to settle any disputes through mutual agreement.
9. Upon commencement of the thirty (30) day operational period, the Contractor shall have sixty (60) total calendar days to complete the thirty (30) day operational test period, including all testing, suspension and restart periods. Failure by the Contractor to complete the thirty (30) day operational test period within sixty (60) total calendar days, excluding delays beyond the Contractor's control, shall be considered a breach of this Contract as determined by the Department..

Q. WMT Equipment Installation, Phase 2

Upon successful completion of the WMT Equipment Installation for Phase 1, the Contractor shall be authorized to install the IMO on Phase 2 WMTs. Upon completion of installation, the Contractor shall conduct Demonstration Testing for Phase 2. For each WMT, the Contractor shall conduct a hardware test to ensure that all IMOs have been properly installed, integrated, and configured and are operating properly. The Contractor shall demonstrate that all equipped WMTs are transmitting data successfully, and that the data has been properly integrated into the AVL/GPS server and website, and MDSS server and website. The Contractor shall demonstrate that the Real-

Time Data feeds for the AVL/GPS server and MDSS server are available and properly performing, including the data for both WMT Phase 1 and Phase 2. The Contractor shall then participate in a thirty (30) day operational test period to demonstrate IMO stability and reliability. Upon successful completion of this thirty (30) day operational test period, the Department shall issue written acceptance of WMT Phase 2. The Contractor shall maintain support for the in-vehicle equipment, the AVL/GPS and the MDSS provided in Phase 1 Demonstration Test and Phase 2 installation.

R. Phase 2 Training

Contractor shall provide all required Phase 2 training to the Department. Phase 2 training must be completed in accordance with the Training Plan.

S. Phase 2 Demonstration Test

1. Following successful completion of the Phase 1 Demonstration Test, the Contractor shall receive written authorization from the Department to commence the Phase 2 Demonstration Test. For the Phase 2 Demonstration Test, the Contractor shall install equipment on all remaining WMTs, ninety (90) additional WMTs in the total amount equal to one hundred fifty-one (151) WMTs under this Contract.
2. The Contractor shall then replicate the Phase 1 Demonstration Test for all Phase 2 WMTs and their integration into AVL/GPS and MDSS.
3. A thirty (30) day operational testing period must be conducted for the Phase 2 Demonstration Test. The thirty (30) day operational testing period for the Phase 2 Demonstration Test must have the same requirements as the thirty (30) day operational testing period for the Phase 1 Demonstration Test.

Exhibit 3

Deliverables Implementation Schedule

	Milestone:	Project Schedule	Exhibit 4 Reference
1	Project Management Plan (Draft)	Within 30 calendar days of notice to proceed (“NTP”)	Item 1
2	Project Management Plan (Final)	Within 15 calendar days of receipt of CTDOT comments on Draft document	Item 1
3	System Design Document (Draft)	Within 30 calendar days of NTP	Item 2
4	System Design Document (Final)	Within 15 calendar days of receipt of CTDOT comments on Draft document	Item 2
5	Requirements Traceability Matrix (Draft)	Within 30 calendar days of NTP	Item 3
6	Requirements Traceability Matrix (Final)	Within 15 calendar days of receipt of CTDOT comments on Draft document	Item 3
7	Test Plan (Draft)	Within 30 calendar days of NTP	Item 4
8	Test Plan (Final)	Within 15 calendar days of receipt of CTDOT comments on Draft document	Item 4
9	Training Plan (Draft)	Within 30 calendar days of NTP	Item 5
10	Training Plan (Final)	Within 15 calendar days of receipt of CTDOT comments on Draft document	Item 5
11	User and Administrator’s Manual(s)	30 calendar days prior to commencement of Phase 1 Training	Item 6
12	Mobilization (start-up costs)	On or before August 3, 2020	Item 7

	Milestone:	Project Schedule	Exhibit 4 Reference
13	WMT Equipment Installations, Vehicle Prototypes	On or before August 6, 2020	Item 8
14	Vehicle Prototype Test	August 14, 2020	Item 9
15	WMT Equipment Installations, Phase 1	September 7, 2020	Item 10
16	Integration	September 4, 2020	Item 11
17	Phase 1 Training	August 26, 2020	Item 12
18	Phase 1 Demonstration Test	September 11, 2020	Item 14
19	WMT Equipment Installations, Phase 2	December 2, 2020	Item 15
20	Phase 2 Training	November 17, 2020	Item 12
21	Phase 2 Demonstration Test	November 27, 2020	Item 16

Exhibit 4 Price Schedule

18PSX0050	Exhibit 4 Price Schedule										
TABLE 1: INITIATION & DOCUMENTATION COSTS:											
			MATERIAL COSTS				LABOR COSTS				
ITEM NO.	WORK/ITEM DESCRIPTION	UNIT	QTY	SPARES	UNIT COST	TOTAL MATERIAL COST	HOURS	AVG. RATE	TOTAL LABOR COST	TOTAL PRICE	
1	Project Management Plan, Draft & Final	LS	1	N/A	\$3,150	\$3,150	187	\$183.94	\$34,398	\$37,548	
2	System Design Document, Draft & Final	LS	1	N/A	\$0	\$0	74	\$168.24	\$12,450	\$12,450	
3	Requirements Traceability Matrix, Draft & Final	LS	1	N/A	\$0	\$0	108	\$152.59	\$16,480	\$16,480	
4	Test Plan, Draft and Final	LS	1	N/A	\$0	\$0	118	\$154.28	\$18,205	\$18,205	
5	Training Plan, Draft and Final	LS	1	N/A	\$0	\$0	74	\$181.67	\$13,444	\$13,444	
6	User and Administration Manual(s)	LS	1	N/A	\$0	\$0	152	\$168.00	\$25,536	\$25,536	
TOTAL INITIATION & DOCUMENTATION COST										\$ 123,661.55	

TABLE 2: IMPLEMENTATION COSTS:

ITEM NO.	WORK/ITEM DESCRIPTION	UNIT	MATERIAL COSTS				LABOR COSTS			TOTAL PRICE
			QTY	SPARES	UNIT COST	TOTAL MATERIAL COST	HOURS	AVG. RATE	TOTAL LABOR COST	
7	Mobilization	LS	1	0	\$5,000	\$5,000	120	\$148.50	\$17,820	\$22,820
8	WMT Equipment Installations, Vehicle Prototypes	EA	5	0	\$11,222	\$56,112	0	0	\$0	\$56,112
9	Vehicle Prototype Test	LS	1	0	\$2,050	\$2,050	110	\$196.14	\$21,576	\$23,626
10	WMT Equipment Installations, Phase 1	EA	56	3	\$7,533	\$444,449	0	0	\$0	\$444,449
11	Integration	LS	1	0	\$0	\$0	28	\$139.24	\$3,899	\$3,899
12	Phase 1 and 2 Training	LS	1	0	\$6,150	\$6,150	152	\$148.50	\$22,572	\$28,722
13	Communications Testing	LS	1	0	\$0	\$0	0	\$0.00	\$0	\$0
14	Phase 1 Demonstration Test	LS	1	0	\$2,050	\$2,050	88	\$143.04	\$12,588	\$14,638
15	WMT Equipment Installations, Phase 2	EA	90	5	\$7,451	\$707,820	0	0	\$0	\$707,820
16	Phase 2 Demonstration Test	LS	1	0	\$2,050	\$2,050	76	\$144.32	\$10,968	\$13,018
TOTAL IMPLEMENTATION COST										\$ 1,315,103.48

TABLE 3: COMMUNICATIONS COSTS:

ITEM NO.	WORK/ITEM DESCRIPTION	UNIT	MATERIAL COSTS				LABOR COSTS			TOTAL PRICE
			QTY	SPARES	UNIT COST	TOTAL MATERIAL COST	HOURS	AVG. RATE	TOTAL LABOR COST	
17	Monthly WMT Cellular Data Plan, Year 1	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
18	Monthly WMT Cellular Data Plan, Year 2	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
19	Monthly WMT Cellular Data Plan, Year 3	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
20	Monthly WMT Cellular Data Plan, Year 4	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
21	Monthly WMT Cellular Data Plan, Year 5	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
TOTAL COMMUNICATIONS COST										<u>\$0</u>

TABLE 4: SOFTWARE/WEBSITE COSTS:

ITEM NO.	WORK/ITEM DESCRIPTION	UNIT	MATERIAL COSTS				LABOR COSTS			TOTAL PRICE
			QTY	SPARES	UNIT COST	TOTAL MATERIAL COST	HOURS	AVG. RATE	TOTAL LABOR COST	
22	AVL/GPS Annual Licensing Fee, Year 1	LS	1	N/A	\$50,000	\$50,000	0	0	\$0	\$50,000
23	AVL/GPS Annual Licensing Fee, Year 2	LS	1	N/A	\$7,500	\$7,500	0	0	\$0	\$7,500
24	AVL/GPS Annual Licensing Fee, Year 3	LS	1	N/A	\$7,500	\$7,500	0	0	\$0	\$7,500
25	AVL/GPS Annual Licensing Fee, Year 4	LS	1	N/A	\$7,500	\$7,500	0	0	\$0	\$7,500
26	AVL/GPS Annual Licensing Fee, Year 5	LS	1	N/A	\$7,500	\$7,500	0	0	\$0	\$7,500
27	Monthly AVL/GPS Hosting Fee, Year 1	EA	12	N/A	\$10,136	\$121,633	0	0	\$0	\$121,633
28	Monthly AVL/GPS Hosting Fee, Year 2	EA	12	N/A	\$12,018	\$144,221	0	0	\$0	\$144,221
29	Monthly AVL/GPS Hosting Fee, Year 3	EA	12	N/A	\$12,284	\$147,408	0	0	\$0	\$147,408
30	Monthly AVL/GPS Hosting Fee, Year 4	EA	12	N/A	\$12,558	\$150,691	0	0	\$0	\$150,691
31	Monthly AVL/GPS Hosting Fee, Year 5	EA	12	N/A	\$12,839	\$154,072	0	0	\$0	\$154,072
32	MDSS Annual Licensing Fee, Year 1	LS	1	N/A	\$49,984	\$49,984	0	0	\$0	\$49,984
33	MDSS Annual Licensing Fee, Year 2	LS	1	N/A	\$41,910	\$41,910	0	0	\$0	\$41,910
34	MDSS Annual Licensing Fee, Year 3	LS	1	N/A	\$44,000	\$44,000	0	0	\$0	\$44,000
35	MDSS Annual Licensing Fee, Year 4	LS	1	N/A	\$44,880	\$44,880	0	0	\$0	\$44,880
36	MDSS Annual Licensing Fee, Year 5	LS	1	N/A	\$46,222	\$46,222	0	0	\$0	\$46,222
37	Monthly MDSS Hosting Fee, Year 1	EA	6	N/A	\$30,415	\$182,490	0	0	\$0	\$182,490
38	Monthly MDSS Hosting Fee, Year 2	EA	6	N/A	\$34,199	\$205,194	0	0	\$0	\$205,194
39	Monthly MDSS Hosting Fee, Year 3	EA	6	N/A	\$33,682	\$202,092	0	0	\$0	\$202,092
40	Monthly MDSS Hosting Fee, Year 4	EA	6	N/A	\$34,353	\$206,118	0	0	\$0	\$206,118
41	Monthly MDSS Hosting Fee, Year 5	EA	6	N/A	\$35,387	\$212,322	0	0	\$0	\$212,322
TOTAL SOFTWARE/WEBSITES COST										\$ 2,033,237.34

TABLE 5: MAINTENANCE AND TECHNICAL SUPPORT COSTS:

ITEM NO.	WORK/ITEM DESCRIPTION	UNIT	MATERIAL COSTS				LABOR COSTS			TOTAL PRICE
			QTY	SPARES	UNIT COST	TOTAL MATERIAL COST	HOURS	AVG. RATE	TOTAL LABOR COST	
42	Annual Maintenance and Technical Support, Year 1	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
43	Annual Maintenance and Technical Support, Year 2	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
44	Annual Maintenance and Technical Support, Year 3	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
45	Annual Maintenance and Technical Support, Year 4	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%
46	Annual Maintenance and Technical Support, Year 5	LS	1	N/A	N/A	N/A	0	0	\$0	Cost Plus 15%

OPTIONAL WORK											
TABLE 7: OPTIONAL COSTS											
ITEM NO.	WORK/ITEM DESCRIPTION	UNIT	MATERIAL				LABOR			TOTAL PRICE	
			QTY	SPARES	UNIT COST	TOTAL MATERIAL COST	HOURS	AVG. RATE	TOTAL LABOR COST		
Option 1	Additional Installed Weather Sensors - installed	EA	1	N/A	\$1,313	\$1,313	0	0	\$0	\$1,313	
Option 1A	Additional Weather Sensors - not installed	EA	1	N/A	\$966	\$966	0	0	\$0	\$966	
Option 2	Additional Installed OBU with Data Storage, and In-Vehicle Display installed	EA	1	N/A	\$4,089	\$4,089	0	0	\$0	\$4,089	
Option 3	Additional Communications Equipment (Cell Modem and Antennas) - not installed	EA	1	N/A	\$2,243	\$2,243	0	0	\$0	\$2,243	
Option 3 A	Additional Communications Equipment (Cell Modem and Antennas) - installed	EA	1	N/A	\$2,649	\$2,649	0	0	\$0	\$2,649	
Option 4	Additional Camera - not installed	EA	1	N/A	\$633	\$633	0	0	\$0	\$633	
Option 4 A	Additional Camera installed	EA	1	N/A	\$923	\$923	0	0	\$0	\$923	
Option 5	Additional Route Miles Integrated into MDSS	EA	1	N/A	\$500	\$500	0	0	\$0	\$500	
Option 6	Additional Weather Sensor, not Installed	EA	1	N/A	\$966	\$966	0	0	\$0	\$966	
Option 6 A	Additional Weather Sensor, installed	EA	1	N/A	\$1,343	\$1,343	0	0	\$0	\$1,343	
Option 7	Additional OBU with Data Storage, not Installed	EA	1	N/A	\$2,600	\$2,600	0	0	\$0	\$2,600	

Option 7A	Additional OBU, with Data Storage Installed	EA	1	N/A	\$3,238	\$3,238	0	0	\$0	\$3,238	
Option 8	Additional Plows Configured on MDSS over 151, per month	EA	1	N/A	\$22	\$22	0	0	\$0	\$22	
Option 9	Additional Camera, not installed	EA	1	N/A	\$569	\$569	0	0	\$0	\$569	
Option 9 A	Additional Camera Installed	EA	1	N/A	\$801	\$801	0	0	\$0	\$801	
Option 10	Additional Camera, not installed	EA	1	N/A	\$558	\$558	0	0	\$0	\$558	
Option 10 A	Additional Camera Installed	EA	1	N/A	\$790	\$790	0	0	\$0	\$790	
Option 11	Video Streaming Solution Development	LS	1	N/A	\$17,820	\$17,820	0	0	\$0	\$17,820	
Option 12	Clip Capture Solution Development	LS	1	N/A	\$8,910	\$8,910	0	0	\$0	\$8,910	
Option 13	Video Streaming Solution - Monthly Cost	MO	1	N/A	\$500	\$500	0	0	\$0	\$500	
Option 13A	Video Stream Solution - Monthly Cost - Usage Based	MO	1	N/A			0	0		Cost Plus 15%	
Option 14	On Site AVL Training	EA	1	N/A	\$7,500	\$7,500	0	0	\$0	\$7,500	
Option 15	Additional Plows Configured on AVL over 151, per month	EA	1	N/A	\$22	\$22	0	0	\$0	\$22	
Option 16	Additional In-Vehicle Display- not installed	EA	1	N/A	\$523	\$523	0	0	\$0	\$523	
Option 16 A	Additional In-Vehicle Display - Installed	EA	1	N/A	\$813	\$813	0	0	\$0	\$813	
Option 17	Additional Weather Sensor, not Installed	EA	1	N/A	\$868	\$868	0	0	\$0	\$868	
Option 17 A	Additional Weather Sensor - Installed	EA	1	N/A	\$1,216	\$1,216	0	0	\$0	\$1,216	
Option 18	Additional Weather Sensor, not Installed	EA	1	N/A	\$776	\$776	0	0	\$0	\$776	
Option 18 A	Additional Weather Sensor - Installed	EA	1	N/A	\$1,124	\$1,124	0	0	\$0	\$1,124	

Option 19	Freedom ATS Mini + B9 Monitor Cable from Certified Cirus (Freedom 2 Interface) - not installed	EA	1	N/A	\$978	\$978	0	0	\$0	\$978	
Option 19 A	Freedom ATS Mini + B9 Monitor Cable from Certified Cirus (Freedom 2 Interface) Installed	EA	1	N/A	\$1,210	\$1,210	0	0	\$0	\$1,210	
Option 20	4 channel PWM Output Module for A/S/PW/AI EZ3 and Freedom 2 + Cabling (EZ Spreader Interface) not installed	EA	1	N/A	\$575	\$575	0	0	\$0	\$575	
Option 20 A	4 channel PWM Output Module for A/S/PW/AI EZ3 and Freedom 2 _ Cabling (EZ Spreader Interface) Installed	EA	1	N/A	\$807	\$807	0	0	\$0	\$807	

TABLE 8: LABOR RATES: All labor rates must meet prevailing wage requirements. The Contractor shall be allowed to exceed the annual escalation rate cap to meet prevailing wage minimums in future years.

--	--	--	--	--	--	--	--	--	--	--	--

LABOR ITEM NO.	LABOR CLASSIFICATION	DESCRIPTION									NOTES
1	Project Manager	Services related to project management.									None
2	Administration/Support Personnel	Services related to administrative and technical support of the project.									None
3	On-Board Equipment Installer/Maintenance Repair	Services related to mounting, installation, and/or repair of equipment in or on vehicles, including weather sensors, cameras, in-vehicle units with data storage, in-vehicle displays, location sensors (GPS units), and cellular communications equipment.									Including travel in one direction.
4	IT Technician	Services related to the installation, configuration, maintenance, and repair of all computer and communications equipment to support Contractor-hosted central systems.									None
5	Software Engineer	Services related to configuration of software in response to changing business rules and preferences.									None
6	Software Developer	Services related to the development of software customizations that enhance the original software offerings provided as part of this project.									None
7	MDSS Project Manager	Services related to project management.									None
8	MDSS Administration/Support Personnel	Services related to administrative and technical support of the project.									None

9	MDSS IT Technician	Services related to the installation, configuration, maintenance, and repair of all computer and communications equipment to support Contractor-hosted central systems.	None
10	MDSS Software Engineer	Services related to configuration of software in response to changing business rules and preferences.	None
11	MDSS Software Developer	Services related to the development of software customizations that enhance the original software offerings provided as part of this project.	None
Escalation Cap	Beyond the 5-year maintenance and technical support period, the contractor shall guarantee that labor rates for these classifications provided as part of this contract shall not exceed an annual escalation rate cap of: 5 % for a minimum 5-year period following issuance of final system acceptance. The contractor shall provide justification for all rate escalations.		

1) System Availability

Throughout the Term and at all times in connection with its actual or required Performance under the Contract, Contractor shall:

- A. Provide System Availability, defined below, at least 99.5% of the Available-Time-per-Month, as measured over the course of each calendar month during the Term which the Contractor does or is required to Perform under the Contract.
- B. Calculation. The 99.5% required System Availability (Computed % Availability) for the System (exclusive of scheduled and routine maintenance) during any calendar month of productive Department use is computed as follows:

$$\text{Computed \% Reliability} = \frac{(\text{Available-Time-per-Month}) - (\text{Downtime-per-Month})}{(\text{Available-Time-per-Month})}$$

with “Available-Time-per-Month” equated to 24 hours times the number of days in the month, less the Excluded Unavailability (as defined hereinafter), which shall be deemed to correspond to POP during each calendar month and Downtime-per-Month equated to those hours of Available-Time-per-Month during which the Department or any specific site does not have System Availability.

EXAMPLE:

Given: Available-Time-per-Month was 720 hours.

Downtime per-Month was 3.60 hours.

$$\text{Then: Computed \% Reliability} = \frac{(720 - 3.60)}{720} = 99.5\%$$

C. Definitions

“System Availability” means the Hosted Services meet the System Reliability standards in 1) E below and are available and operable for access and use by Department and its Users over the Internet in accordance with the Contract and the Contract Exhibits.

“Excluded Unavailability” means: scheduled downtime, subject to Section D below and lack of System Availability due to the negligent act or omission of Department or anyone accessing the System through Department, and force majeure events as set forth in Section 20 of the Contract.

“Business Day” means the Department regular business hours, Monday to Friday, 8:00am to 5:00pm, Eastern Standard Time (EST).

“Primary Operation Period (POP)”: The days and hours of normal system operations and availability, which is to be 7 days per week, 24 hours per day.

- D. Scheduled downtime, including scheduled maintenance. Contractor shall provide monthly scheduled maintenance and notify Department via email at least five (5) Business Days in advance of any scheduled downtime of the System in whole or in part. Such scheduled downtime must be scheduled on a weekend day, the specific date and time to be determined by Department, unless otherwise agreed to by Department prior to the downtime.

18PSX0050 Exhibit 5 – Service Level, Maintenance and Support Agreement

Department acknowledges that large System Improvements, Upgrades, Updates or other maintenance including Contractor Parties' services, may impact Availability and require additional scheduled downtime. The parties will mutually agree on the date and time that such additional scheduled downtime will take place. Contractor will inform Department of the amount of time expected and to the extent possible, have the additional scheduled downtime take place outside of Department Business Days.

E. System Reliability

The reliability, at any point in time, of the System shall be determined by the System's operational capability for productive Department use as configured and hosted, as applicable within the specified operating environment. Continued acceptability of the reliability of the System's performance shall be based on System operating errors or failures that preclude productive Department use of the System according to the requirements of this Contract and Contract Exhibits.

2) Data Back Up

Data Back Up

Contractor shall conduct or cause to be conducted, automated nightly, weekly, and monthly back-ups of all System data and operating environments within the continental United States. These backups may be restored to different locations within the continental United States in the event of a geographical disaster.

3) System Maintenance and Support

A. Maintenance

The Contractor shall provide Department with System maintenance and support, including, but not limited to, Upgrades to MDSS/AVL/GPS, Updates to MDSS/AVL/GPS s, Improvements and technical support of all MDSS/AVL/GPS services, problem identification, escalation and resolution, at no additional cost to the Department. System Maintenance and Support shall commence immediately upon Acceptance. Systems Maintenance and Support shall continue for the Term of the Contract, subject to the Warranty terms and conditions set forth in Section 12 "Warranties" of this Contract.

B. On-going Support

Contractor agrees to provide email support as well as telephone support from 8:00 AM until 5:00 PM Eastern Time, Monday through Friday. Contractor will provide Department project manager with after hour contacts to address issues that may occur after hours. In emergency situations, the Contractor project manager will call out appropriate personnel to address any after hour issues that may occur. Contractor shall be available 24 hours per day, 7 days per week, 365 days per year (24/7/365) for emergency situations.